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AN

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THIS (THE NINETY-FIRST) VOLUME OF "THE GARDEN"

IS DEDICATED, BY PERMISSION, TO

MR. EDWARD HUDSON.

IT seems fitting that this, the last, volume of THE GARDEN should be dedicated to Mr. Edward Hudson, the Chairman of "Country Life," Limited, who has done so much to bring THE GARDEN to its present high standard of excellence. During the past twenty-five years THE GARDEN has been one of his special hobbies, and during that time he has endeavoured, through the medium of the journal and other publications, to raise the general standard of gardening to a higher level, and to create interest in the gardening art where none previously existed.

It was he who purchased THE GARDEN in 1902 from its founder, Mr. William Robinson, when it became a contemporary of *Country Life*, a journal whose high standing is known throughout the world, and since that date he has been a constant inspiration to all members of the staff of THE GARDEN who have served under him. Through his kindly help and criticism, so willingly given at all times, the staff has benefited greatly in an attempt to conform with his ideas and tastes on how a gardening journal should be produced to serve a useful purpose. At all times he has tried, in practice as well as in theory, to instil a love for the beautiful in gardening, and to avoid that which is harsh and incongruous. His old garden at Sonning, illustrated many times in old volumes of THE GARDEN, showed his ideas carried out extremely well.

Allied to a keen instinct for public taste, he shows a sympathetic understanding of plants and of the men and women who cultivate them. Throughout his life, he has been an enthusiastic gardener, and hence possesses a shrewd knowledge of the problems that beset his *confrères* and how these can best be met. It is this understanding of gardening that has proved of such undoubted service in the production of the gardening publications for which *Country Life* has built up so high a reputation. He loves plants for their beauty of flower and elegance of habit, but it is of the garden, wherein the plants are grouped and combined to create a richness of colour and beauty, associated with an atmosphere of rest, that he shows a true appreciation. He has always endeavoured in the production of gardening books, and in THE GARDEN and elsewhere, to make this the keynote of success in gardening. His axiom is that the garden as a whole should be the chief consideration, and not the plants within it. If the first has been successfully achieved, the second, namely, that of selection and grouping of the plants, must have already been considered.

We feel sure that all our readers will join with us in paying our tribute to Mr. Edward Hudson by dedicating this, the last, volume of THE GARDEN to him as a token of our appreciation and esteem on behalf of his untiring efforts in the publishing world in the interests of English gardening.

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INDEX TO ILLUSTRATIONS

Acantholimon venustum, 621
Acanthus, 101
Acer, Japanese, in rock garden, 750
Achillea Kellereri, 451; Perry's White, 106
Achimenes, 112
Agapanthus, in tubs, 281, 777; umbellatus, in tubs, 613
Ageratum Little Blue Cloud, 40
Allanthus glandulosa in a town garden, 765
Allotments, 379
Alpine house in spring, 575
Alpines, planting out, 342
Alstrœmeria, 513
Alyssum, 119; edging of, 274; saxatile citrinum, 352; saxatile on retaining wall, 415; spinosum, 499
Anchusa Italica, 170
Anemone Allenl, 494; apennina, 680; fulgens, 681; hupehensis, 707; japonica, 390, 638
Annuals, border of, 40; seedling, 204; sowing, 204
Anthemis, 85
Antirrhinum asarina, 687
Antirrhinums, in beds, 83
Apple, Brumley's Seedling in a pine wood, 690; canker, 26; cordon, 696; espalier, 90; Lane's Prince Albert, 753, 746; trees attacked by saw-fly, 251; attacked by scab, 237; attacked by woolly aphis, 251; in a town garden, 137; old espalier, 389; young espalier, 696
Aquilegia glandulosa, 435; long-spurred, 364
Arenaria cæspitosa, 635; montana, 313
Armeria cæspitosa, 590; edging of, 67
Artemisia, 64; lactiflora, 344
Arum lily, large, 799
Asperula odorata, 419
Aspidistras, repotting, 167
Asplenium trichomanes, 23
Asters, annual, in border, 200; bedding, 139; china, in tubs, 776
Asters, perennial, border of, 333, 648; division of, 262; King George, 648; Little Boy Blue, 248, 648; Queen Mary, 107; Queen of Colwall, 648; Sonia, 661
Astilbe Arendsii, 175; simplicifolia, 735
Astilbes, border of, 399; in shade, 712; in the herbaceous border, 712
Aubrietias, on low retaining wall, 266; taking cuttings of, 310
Auricula, a show, 308
Azalea mollis, 768; rosæflora, 407
Azaleas, in beds, 8; in formal garden, 104; in semi-shade, 104; repotting greenhouse, 192

Banks, planting shrubs on, 6; rockery, 353, 391, 455, 725; rockery, round tennis court, 388
Baskets, garden, 222; making, 29; making hanging, for ferns, 44
Bay trees, clipped, in tubs, 777
Beans, raising early, 42
Bedding, plants, display of, 593; foliage plants for, 413
Bedding plants, planting out, 278, 366; propagating, 159
Beetroot, lifting, 636
Begonia, Alice Manning, 49; Eunice, 49; Gloire de Lorraine, taking cuttings of, 304; Hilda Langdon, 98; in greenhouse, 98; Venus, 49
Begonias, bed of, 412; in hanging baskets, 49
Berberidopsis corallina, 620
Berberis japonica, 84; prepared cuttings of, 627; stenophylla, 84, 807; stenophylla, inserting cuttings under a bell-glass, 627; stenophylla, taking a cutting of, 620; Unique, 660
Bird-baths, 462; on lawn, 397, 434
Black currant, Laxton's Mite Free, 745
Bog garden, 21
Border, a well staked, 341; annual, 40; by the house wall, 536
Border, herbaceous, 106, 467, 470, 561, 569, 598, 612, 632, 713; curved, 697; double, 227; narrow, 623
Briza maxima, 45
Browallia, 75
Buddleia Colvilei, 609
Bulbs, in beds, 385; in bowls, 194; lifting, 310; mixed border of, 577

Cabbages, how to plant, 504
Cacti, exhibit of, 376
Calceolarias, greenhouse, 351; in a front garden, 531; planting out, 346; planting out for summer bedding, 366
Calendulas, 22
Callistemon speciosus, 425
Campanula, Bellardii, 520; garganica, 312; isophylla, 75; persicifolia, 407; pulla, 312; pyramidalis, 344
Campanulas, Border, 746, 806
Cannas, bed of, in New Zealand park, 584; potting, 129
Canterbury bells, 234, 306, 377
Carnations, at Allwoods' nursery, 739
Carnations, border, Bookham Salmon, 165; Gordon Douglas, 165; lifting layers and potting, 652; Paladin, 165; staking of, 432
Carnations, perpetual, cuttings of, 762; Mrs. A. J. Cobb, 373; where to take cuttings from, 761
Carnations, perpetual border, 38
Carrots, grown in well prepared soil, 125
Caterpillars, surface, 268
Ceanothus thyrsiflorus, 136; Veitchianus, 229
Celery, planting out, 318
Centaurea candidissima, edging of, 412
Cerastium, overgrown, 579; tomentosum, 53; tomentosum, edging of, 386
Chamæpeuce Casabonæ, 649
Cheiranthus Allionii, 234; alpinus, 387
Chelsea Flower Show, gardens at, 347, 348, 349, 387, 388; perennials at, 349, 369, 371
Cherry, double white, 377; Ursula Rivers, 744
Chimonanthus fragrans, 18
Chlorodoxa Luciliæ at Bath's Nursery, 550; Luciliæ in a pot, 589; sardensis, 559
Chrysanthemum Honeysuckle, 28; maximum, 53; maximum in the border, 218; maximum King Edward VII, 407
Chrysanthemums, border, 242; cuttings of, 60, 794; in a tub, 777; in bowls, 12; late-flowering, 686; lifting and potting, 624; potting, 14, 334; staking and tying, 578
Cimicifuga japonica, 808
Cinerarias in greenhouse, 441, 801
Cistus florentinus, 767; Loreti, 595, 767; inserting cuttings in a frame, 627; on a sunny bank, 535; prepared cuttings of, 627; purpureus, 767
Clarkia, 89, 596; in a bowl, 479
Clematis Henryi, 487; montana on a wall, 391; montana rubens, 297; Nellie Moser, 439; on brick wall, 702; vitalba, 328
Clethra alnifolia, 313
Climbers in an Indian garden, 629; on trellised walls, 493
Cloches, 716; protecting seedlings with, 294
Colchicums, 639
Conifers, dwarf, in rock garden, 730
Conservatory, converting, 649
Convolvulus mauritanicus, 608
Corcopsis grandiflora, 47, 85
Cornus Mas, 6
Corydalis nobilis, 25
Cosmea, 24
Cotoneaster divaricata, 660; frigida, 760; horizontalis, 66
Crinums, 577
Crocus Imperati, 526; speciosus albus, 526; Tomasinianus, 526
Crocuses grown in a pot, 543
Cucumbers in frames, 161
Cupressus Allumii, 729; dwarf, in a rock garden, 730; erecta viridis aurea, 729; macrocarpa, planting hedge of, 230
Cyclamen Coum, 71; Giant White, 528; greenhouse, 353, 527; hardy, 639
Cynoglossum amabile, 232
Cytisus albus, 378; præcox, 553

Daboecia polifolia, 751
Daffodils attacked by narcissus fly, 529; bulbs of, infected with basal rot, 529; dwarf, types of, 551; in an orchard, 519; in window-box, 217; in woodland, 225; testing bulbs for eelworm, 529; varying size of bulbs, 528
Dahlia Belle Mauve, 771; Coltness Gem, 244; Mrs. F. G. Selous, 771; Omeaan, 771; Topaz, 771
Dahlias at Cheal's Nursery, 771; bedding, modern, 812; decorative white, 260; Dobbie's exhibit of, 659; lifting and storing, 668; Mignon in beds, 290; planting out, 292; seedling, 233; single, 481
Daphne Blagayana, 466; Mezereum, 153
Datura suaveolens, 279
Delphinium Belladona, 329; Coquette, 370, 632; Mrs. Foster Cunliffe, 370; Mrs. Townley Parker, 602
Delphiniums, 385; border of, 533, 602; in a border, 196; in mixed border, 196; Wrexham, 677
Dendromecon rigidum, 483
Deutzias in shrub border, 728
Dianthus Allwoodii alpinus, 739; Heddewigii, 638; in the rock garden 650; on rockery bank, 413
Dibber, making a, 146
Dicentra spectabilis, 69
Doronicum, 53, 429
Draba imbricata, 293
Dracæna indivisa, 567
Dripping well in a town garden, 733

Echeverias, planting, 326
Echium tree, 629
Eremuri, 107; bed of, 339
Erica arborea alpina, 655
Erigeron, 7, 155
Erinus alpinus, 414
Erodium pelargoniflorum, 797
Eryngium, 135; giganteum, 700
Erysimum linifolium, 235
Erythronium, 581
Escholtzia, 41, 116, 799; Queen of the Buffs, 212
Euphorbia characias, 328
Evening primroses, 306
Exhibit at Temple Gardens Show, 616

Fabiana imbricata, 450
Ferns, in town garden, 327; in tubs, 776
Flowers, exhibition, 207
Forget-me-nots, by the pathside, 422; cuttings of, 400; in small beds, 364
Forsythia intermedia, 89
Foxgloves in shade, 397
Frames, 794; laying foundations for, 869; placing drainage in, 690; propagating, 709; types of, 172
Freesia, Apotheose, 512; in a greenhouse, 511; potting, 560
Fruit, bottling, 572; planting bush, 72
Fruit trees, grease-banding, 658; protecting, 173, 174
Fuchsias, standard, 275, 298
Funkias, 151, 687
Furniture, garden, 430

Gaillardia, 7
Galega, 135
Garden, attractive front, 755; gates, 613; hose, repairing of, 286, 287; paved front, 261; shelters and summer-houses, 536, 613
Gardens, bog, 21; formal, 250, 352; formal, at Hampton Court, 460; small, 43, 301, 317, 403, 486, 503, 585, 670; small lily pool in, 771; semi-wild, 333, 422; terraced, 423; town, 749
Garrya elliptica, 140, 221
Genista cinerea, 517
Gentiana septemfida, 595; sinoornata, 307
Geranium Mme. Cronsse, 343
Geraniums, in beds, 296; propagating, 604
Gerbera, 417
Geum Mrs. Bradshaw, 69
Gladiolus, a dormant, 182; alatus, 383; Byron L. Smith, 187; Daphne, 186; maculatus, 383; Souvenir, 207; tenellus, 383; White Giant, 187
Gladioli, basket of large-flowered, 812; bed of scarlet, 260; in bed of mixed flowers, 185; in borders, 186; large-flowered, in beds, 197; lifting and drying, 684; planting, 183; potting, 183; primulinus, 180
Gloxinias, propagating, from leaves, 592
Godetia, 188
Gooseberry, cordon-trained, 449; Green Gem, 744; Keepsake, 674
Gooseberries, mildew on, 237
Grape hyacinths in pots, 117
Greenhouse, amateur's, in spring, 240, 301; heating small, with oil stoves, 780; small lean-to, 736; small span-roof, 350; span-roofed, 736; spring flowers in, 752; steel framework, 737
Gypsophila repens, 249

Hampton Court, gardens at, 460
Hand light, 716
Heaths, winter-flowering, 55
Hedges, clipping, 276; planting, 643; planting evergreen, 230; privet, 537
Helenium autumnale, 141
Helianthemum, 151; umbellatum, 483
Helianthus rigidus, 215
Helleborus, planting, 562; orientalis, 580
Hemerocallis, 7
Herbs, drying, 514; garden of, 814
Hesperis matronalis, 22
Hollyhock, Patling Belle, 155
Hollyhocks, 363; in borders, 280
Honeysuckle, on an arch, 714
Hordeum jubatum, 45
Hyacinths, bed of, 511; cynthella or miniature, 510; grown in a shell, 543; grown in water, 562; miniature, in a bowl, 605; mixed, in a bowl, 510; pot-grown, with eight blooms, 27
Hydrangea, paniculata, 428, 48; paniculata grandiflora, 782
Hydrangeas, in pots, 854; in tubs, 317, 777
Hypericum Kalmianum, 655
Hurdles, wattle, 732

Iberis, 325; in the rock garden, 650
Inula, in a border, 396
Ipomœa rubro-cœrulea, 249
Iris, Aphrodite, 462; Delfor, 462; Dominion, 445; histrioides, 51; reticulata, 51; Rosenbachiana, 51; sibirica, 478; Souvenir de Mme. Gaudichau, 445; sibirica, 806; styiosa, 447; tingitana, 447, 532
Irises, by pathside, 445; by the waterside, 477, 569; dividing Siberian, 446; in border with lupins, 444, 574; in formal beds, 574; in town garden, 438; Japanese, by waterside, 584; massed, 502; raising, from seed, 398; Spanish, in border, 203
Itea ilicifolia, 735
Ixia, 596

Jamberry, plantation of, 597
Juniperus hibernica compressa in the rock garden, 780

Kitchingia uniflora, 93
Kniphofias, 39, 171, 638; H. G. Mills, 661

Lachenalia, 482; pendula, 74
Larkspur, annual, 41
Lathyrus, grandiflorus, 313; latifolius, 264
Lavatera, 215; white and pink, 537
Lavender, edging a path, 435
Lawn mowers, oiling, 184; types of, 284
Lawns, in town garden, 153, 247; preparing ground for, 582; treated with "Carterite," 226; trimming edges, 326; weeding, 582
Leek, Sutton's Prizetaker, 209
Leiophyllum buxifolium, 499
Leucophyta Brownii in bed, 412
Libertia formosa, 281
Lilies, Madonna, 332; planting bulbs, 36
Lilies of the valley, 682
Lilium, auratum, 493; Brownii, 492; candidum, 332, 390, 520, 612; dauricum, 476; giganteum, 492; pardalinum, 492; Philippinense formosanum Price's variety, 149; Regale, 477; Regale, raised from seed, 646; testaceum, 103, 476
Lily Pool, 331, 381, 407, 418, 423, 521, 537, 585, 599, 613, 810; constructing a, 380; in town garden, 231, 607; making a, 651; miniature, 691; planting water lilies in, 309
Limnanthes Douglasii, 116
Linum arboreum, in a rockery, 454; perenne, 122
Lithospermum prostratum, 438
Lobelia, B. Ladhams, 215; in the rock garden, 707
Lonicera, fragrantissima, 18; nitida, planting a hedge of, 643; tragophylla, 564
Lunaria biennis, 307
Lupin, Glowworm, 558
Lupins, clumps grown from seed, 202; exhibit of, 371; in border, 291, 558, 799, 808; in a border with irises, 574; massed, 423, 502; seedling, 471
Lupinus arboreus, 362
Lychnis viscaria, 783

Magnolia, on a wall, 19; stellata, 109
Maidenhair fern, 93
Mallow, pink, 154
Maples, Japanese, in a rock garden, 750
Marguerites, bordering a path, 639
Marigolds, 22
Marjoram, 50
Meconopsis integrifolia, 323; paniculata, 340; Prattii, 340; quintuplinervia, 340; violacea, 450
Megasea, 517
Mignonette, 325
Mimulus, 325
Mint, forcing in boxes, 748
Moutbretia Star of the East, 220
Morisia hypogæa, 737
Muscari, edging of, 608; in a pot, 117
Myosotis alpestris, 494
Myrica asplenifolia, 264

Narcissi, potting, 560
Narcissus cyclamineus, 117; Evangeline, 542; Firetail, 543; King Alfred, 542; Poetaz, 654; Premier, 550
Nemesia, 40; in beds, 138
Nemophila insignis, 83, 809
Nepeta, 155; at top of steps, 469; edging a path, 495; edging of, 382
Nigella, 25, 188
Nurseries, Messrs. Allwood's, 739; Messrs. Austin and McAslan's, 722; Messrs. R. H. Bath's, 550; Messrs. Cheal's, 771; Messrs. Dobbie's, 800; Messrs. Lane's, 786; Messrs. W. J. Unwin, 811
Nymphæa marliacea albida, 279; pygmæa, 380
Nymphæas in barrel, 439

Œnothera, 135; biennis, 306; Clutei, 549
Olearia chathamica, 591; Haastii, 9; insignis, 591; macrodonta, 429; semidentata, 591
Omphalodes cappodocica, 387; in border, 203
Onion Ailsa Craig, 253
Ornaments, 452, 670
Ornithogalum, 545; lacteum, 568
Osmanthus Delavayi, 149
Owl, tawny, 487
Oxalis adenophylla, 70; floribunda, 595

Pæonies, 588, 589; in border 133; single, 133; soft pink in beds, 291
Papaver orientale in a border, 558, 806; Perry's White, 298
Paths, 599; concrete slabs for, 94; designs for, 20, 21; flagged, 547; making, 127; 567; paved, 353, 487, 670; paved, edged with alyssum, 352; paved with bricks, 553
Paved front garden, 261
Paving, brick, 553; crazy, 397; 670; laying, 567; round flower beds, 718
Peach Peregrine, 518; scale, 268
Peaches attacked by leaf-curl, 237
Pear Doyenne du Comice, 784; Jargonelle, 316; Louise Bonne of Jersey, 754; Pitmaston Duchess, 113
Pears, shoots attacked by pear scab, 237; young cordon, 113
Peas, protecting early, 56; protecting with lime, 56; supports for, 256
Pentstemon Daydream, 154

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...taking cuttings, 606
...staking, 341
...456; for roses, 536; ...a small garden, 637; making, ...445; ...701; ...
...sterphyza, 424; Lemoine, ...
...t, annual, 138; Border ...137; Drummondi, bed of, ...; Drummondi, seedlings ...246; ...ssulata Sprite, ...; subulata Vivid, 471; ...mpii 331
...dwarf, in the rock ...s, 530; herbaceous, 155, ...96; herbaceous, cuttings ...
...alis, 215
...a erecta globosa nana, 218
...a japonica 217
...annual 134; edging a ...443, 746; Mrs. Sinkins, ...ing of, 391; taking cuttings ...
...of garden, 2, 13, 35, 49, ...137, 144, 189, 207, 235, ...4, 322, 358, 667, 638, 648, ...; garden, formal, ...; garden pool, 651; herb ...garden, Iris garden, 644; ...garden, 645; terraced ...garden, 144; transforming a ...conservatory, 649
...ia pedata, 52
...ia grandiflorum, 343
...ia californica, 237
...attacked by brown rot, ...; Lautrec's Gaze, 744
...ia hybrida, 611
...ia planting a shrub border, ...; in a shady garden, ...; pricking out seedling, ...
...ia alpine, 640
...construction of, 651; ...ed, 731
...annual, 64; Iceland ...; Oriental, 85, 259, 298; ...ennial, in border of lupins, ...
...Mustard Cress, 296
...ia grandiflora, 86
...Arran Comrade, 57; ...Comet, 154; Kerr's ...57; Sutton Wonder, 239 ...plants, planting, 239
...ing greenhouse plants, 52
...Bowdenii, 353; edulis, ...Lutea, 721; J. H. ...241; japonica by ...; miscoides, ...; Morreana, ...; ...; pulverulenta, 37 pulverulenta Lady ...by, 224; reflexa, 783; ...376; sikkimensis, 520; ...Jewel, 54
...greenhouse, 240; rock ...plants of, 373; thin- ...
...
...

Sweet williams, 69, 365
Sweet woodruff, 418
Syringa Pallibiniana, 594

Tennis courts, making hard, 388
Thalictrum, 22; dipterocarpum, 719
Thermopsis montana, 808
Thyme, 119
Thymus nitidus, 687
Tiarellas for border and rockery, 516
Tomatoes, diseases of, 522; early, in warm greenhouse, 30; feeding, 437; growing for winter, 642; in town gardens, 327; open air, 176; outside, 422; planting outdoor, 288; potash for, 56; ripening, 614; selecting plants of, 302; sowing seed of, 14, 803; stopping outdoor, 504; summer treatment of, 437
Tools, 4; for the amateur, 299, 315; for the small garden, 624; preventing rust on, 246
Towns, gardening in, 87, 105, 121, 137, 153, 169, 185, 201, 217, 231, 247, 263, 279, 295, 311, 327, 345, 365, 385, 401, 416, 433, 449, 465, 481, 497, 515, 531, 547, 563, 579, 593, 607, 625, 637, 653, 669, 685, 701, 717, 733, 749, 765, 781, 795, 810
Trees, autumn treatment of, 743; for chalky soils, 718; for town gardens, 766; for windbreaks in small gardens, 617; from cuttings, 484; planting, 684; summer flowering, 423; with coloured foliage, 67
Trollius, 39; growing with Darwin tulips, 564; pumilus yunnanensis, 549
Tubers for spring planting, 195; storing for the winter, 676
Tubs, plant, flowers and shrubs for, 776; how to make, 355
Tulip synonyms, 28
Tulips, dwarf, for the rockery, 544; for spring bedding, 595; for the amateur, 618; hints on planting, 622
Turnips, 335; soil pests attacking, 472

Vallota purpurea, 608
Vegetable marrows, 356; early, 112; preparing soil for, 209
Vegetables, cooking, 614; diseases of, 464; eradicating root pests of, 694; feeding, 488; for the busy man, 668; for winter use, 440; hints on growing, 86; in season all the year round, 78; modern, worth growing, 11; mulching, 272; planting out winter, 318; poultry manure for, 23; selection of varieties, 239; sowing, in July, 457; spring sowing of, 142; sowing seed of, 124; staging exhibits of, 600; thinning, 384; time of maturing, 278
Verbascums, 277
Verbena, 119
Veronica, 119; gentianoides, 451
Vincas, 281
Viburnum Carlesii, 753; rhytidophyllum, 719
Vines, grape, autumn treatment of greenhouse, 708; borders for, under glass, 210; finishing and feeding late, 538; forcing, 45; mealy bug on, 737; planting, 741; summer treatment of, 408; thinning bunches and training shoots, 356; winter treatment of, 803, 815
Vines, ornamental, 675; outdoor, 437
Viola gracilis Clarence Elliott, 403
Violas, culture of, 76; for bedding, 150; for beds, 205; for edging, 153; for the rockery, 594; from seed, 257; increasing, 700; sowing, 516; taking cuttings of, 530, 557
Violets, cultivation of, 280; culture of, in frames, 610; propagation of, 216; summer treatment of, 464
Virginia stock, 325
Virginian creeper, propagating, 764

Wallflowers, cuttings of, 887; thinning seedling, 530; sowing, 278, 324, 378; colour variation in, 305
Walls, climbers for north, 601; climbing plants for, 493; growing fruit trees on, 647; low dry, 501; making a cement block retaining, 252; plants for, 861; plants for shady, 23; retaining, construction of, 266; treatments of trees growing against, 120
Water lilies, for tubs, 279
Watering, 448, 496
Weeding, 384
White fly in greenhouse, contro of, 354
Willow herb, 248
Windbreaks in small gardens, 617
Window boxes, autumn treatment of, 625; making, 720; in town gardens, 217
Window gardening, 1
Winter greens, planting, for succession, 72
Wireworms, remedy for, 749; trapping, 120
Wisley gardens, 337; Easter flowers at, 225
Wood ashes, when to apply, 146

Zinnias, dahlia-flowered, 181; new, 54; preparing ground for, 219; sowing, 232

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THE
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THE IDEAL GARDENING PAPER

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PLANT HOLLYHOCKS IN THIS YEAR'S BORDER.

HOLLYHOCKS rank among the best of our stately border plants both in flower and in foliage. The colours of modern strains show a particularly wide range of pure tones that combine well with those of other tall border plants. The tall elegant spikes are especially suited for a background to a wide border and show up excellently well against a bank of evergreens. They are easily grown either from seed or by division, and respond to conditions which are met with in the ordinary garden. They are undoubtedly plants for the amateur and should be included in all herbaceous border schemes this coming year.

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Continued from page 66.

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THE GARDEN

VOL. XCI.—No. 2874. JANUARY 1, 1927. PRICE TWOPENCE.

NOTES OF THE WEEK.

A Good Gardening Year to all Readers.

WE extend to all our readers, both old and new, our best wishes for a most successful gardening year and abundant crops of flowers, fruit and vegetables. Do not delay, but get right ahead now by making out the seed order and, later on, attending to spring planting of all herbaceous and shrubby subjects.

Bulb Notes for January.

THERE must be thousands of amateur gardeners who never make the mental effort to distinguish between one flower and another of its class and to whom any one of a thousand varieties of daffodils or tulips is just a daffodil or a tulip, white or yellow, pink or red. Always judge flowers for yourself. Mr. P. D. Williams, to whose skilful and patient work among daffodils the world will be ever in debt, has expressed the following formula: The standard of quality and progress in daffodil and tulip culture rests upon four essential supports: (1) The flower must be a good garden flower, *i.e.*, healthy, vigorous and floriferous. (2) It must be a good flower for table decoration, *i.e.*, graceful and pleasing and cheerful to the eye. (3) It must be a good flower for market, which means that in addition to (2) it must pack and carry well, without drooping overmuch; and (4) it must be good for the show bench, when coarseness or refinement of texture and poise, purity of colour, size and vigour are balanced to a featherweight. Bearing these standards in mind, the army of thousands of more or less nondescript varieties of daffodils and tulips will melt away. Now is the time to start afresh, when flowers begin to show. Look over your neighbour's railings! look into the florists' shops.

It is not too late to make a tremendous difference in the quality of your own bulbs. Take ½lb. sulphate of potash, 1lb. super-phosphate of lime, 2lb. dried blood meal or steamed bone flour, add 1lb. kainit if your soil is inclined to be light or dry at flowering time—mix them all together and sprinkle a good dusting round the bulbs, and lightly fork it in. Repeat the dose about the middle of February. If you want to know what effect this mixture will have on your soil, sprinkle a little on part of your lawn and watch for results.

Window Gardening.

ONE of the lesser hardships attendant upon the shortage of houses is the lack of a garden. The lover of flowers, even when living in two rooms, can, however, enjoy to some extent the pleasure of their cultivation by means of window boxes. Suitable flowers can be grown successfully whichever way the window faces, but if it is due north only the hardiest plants should be chosen.

The ordinary window box has many disadvantages. It is too cumbersome and heavy to be moved easily, and when the soil in it needs renewing it can only be done by lifting it out and making a great mess. Old window boxes also harbour all manner of filth.

It is better to have an ordinary window box built, but not filled. The inside may then be painted and kept perfectly clean. Into this a series of smaller boxes or even pots may be fitted, which can be lifted in and out when they require attention and can be renewed often enough to avoid filth. The boxes are more satisfactory, as they fit together and give an ordinary surface, whereas there are bound to be ugly spaces left between pots. If there are sufficient ledges available, it is well to have one box somewhere where it will not be an eyesore to use as a "nursery" for bringing on plants. A good show of flowers can be maintained throughout the spring and summer in this way, as when one group ceases flowering they can be removed in their boxes and others brought from the nursery to take their place.

If the ordinary window boxes are preferred, they should be 9in. or 10ins. deep, perforated at the bottom, and with a 2in. layer of broken pots, stones, etc., for drainage. The soil should always be carefully chosen. As the roots cannot spread, they should be supplied with all necessary nourishment in the space available.

The crocus and snowdrop will be the first flowers in the boxes, and after flowering they should be removed to the nursery box and replaced by hyacinths, daffodils, tulips, etc. After flowering all bulbs should be left in the nursery box until the foliage begins to wither.

If the old-fashioned boxes are used, care must be taken to fill them with plants which thrive under similar conditions. It is a common sight to see geraniums and marguerites grown together, but the full beauty of both is never realised in this way. Marguerites want much water, while geraniums thrive in a dry soil, and if watered too much they produce huge leaves and few flowers. An excellent and cheap filling for a box, especially if it is at an upper window, is nasturtiums. The dwarf variety may be sown at the back and the climbing near the front, and allowed to hang over.

Many of the smaller-growing annuals and perennials, such as primroses, pansies, mignonette, dwarf clarkia and antirrhinum (snapdragon), wallflowers and rock plants may be raised in the nursery box and transferred to the others at the time of flowering. Care should be taken in selecting summer flowers for the window box, as many are inclined to run up quickly to the light and present nothing but rows of scraggy stalks to the occupants of the room.

HAVE YOU

¶ *Sent off your seed order?*

¶ *Protected your newly planted roses?*

¶ *Removed all fallen and decaying leaves from your rockery?*

¶ *Cleaned and washed down your greenhouses and cleared up your tool sheds?*

¶ *Protected with mats or sacking your tender shrubs on walls?*

¶ *Covered with boxes and litter or fallen leaves a portion of your rhubarb plantation in order to secure an early supply?*

¶ *Lifted a few roots of mint and placed them in boxes in the greenhouse? In a short time fresh young shoots will be produced.*

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 5, which appeared in our issue of December 18th, have been awarded to

Mr. John Gemmill,
Oxenward,
Kilwinning, Ayrshire.

and

Mrs. Manser,
4, Heath Grove,
Barming Heath, Maidstone.

To each of whom a cheque for that amount has been sent.

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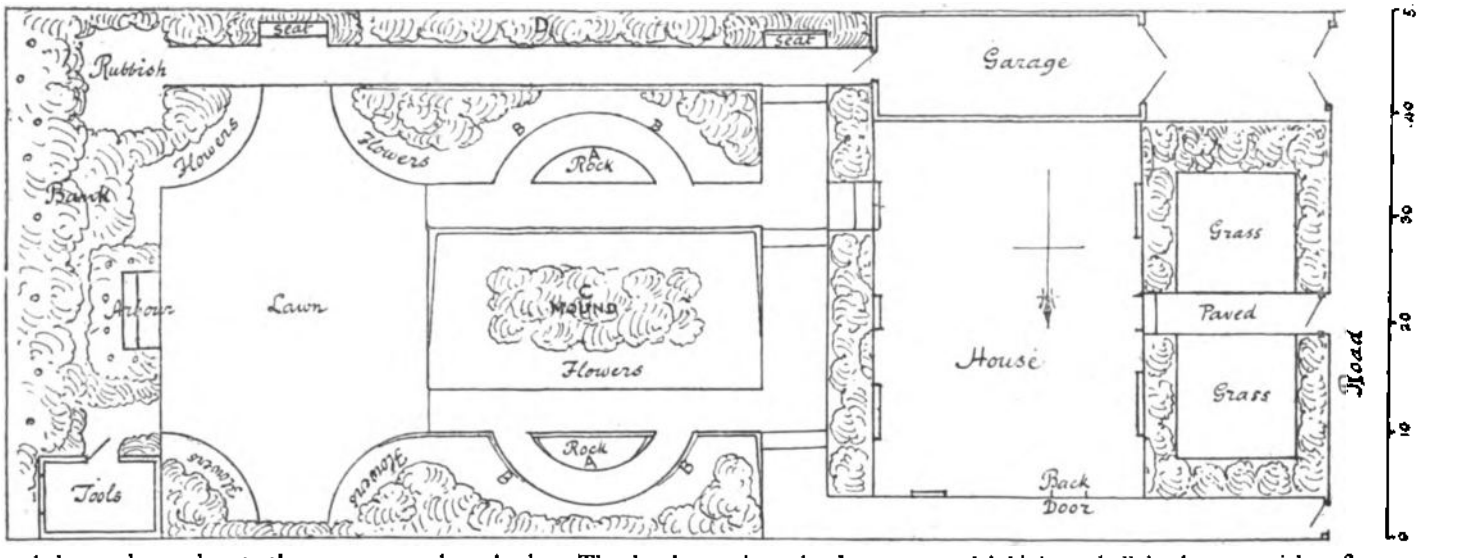
THE JOY OF MAKING A NEW GARDEN

BY GERTRUDE JEKYLL.

THIS is a small site with a frontage of 50ft. to the road and a depth of 130ft. The ground slopes across the length, being highest on the north side. The house therefore stands higher than the garage and the wall between is carried forward to the road at such a level as is necessary for retaining the soil of the small front garden. The front of the house is only about 17ft. from the road. The two little square grass plots with the paved path between are levelled across, and any further discrepancy in the levels is got over by easing the ground beyond on each side, this device being hidden by the shrubs planted to right and left.

The path on the eastern or garden side may possibly go down on one even slope, but it is much better to have three sets of two or three shallow steps as shown. There is always in building a house a certain amount of rough earth that comes out of the foundations. This can be well used to form the central mound C. To keep it fairly evenly balanced, it will have to have two or three courses of dry walling on the south side, and the southern edges to the spaces on each side will require the same. This is shown on the plan by a double line. This slight walling dies away to nothing on the returns, as it meets the higher levels. The middle of the mound C may well be planted with small shrubs, best of all with the common berberis (B. Aquifolium), which gives a quantity of bright yellow bloom in earliest summer and beautiful foliage all the year round. Then will come flowering plants, nothing very tall, but such as the beautiful purple catmint (nepeta) and some of the short-growing annuals—dwarf nasturtiums, sweet alyssum and mignonette. The little half moons, A, A, should be treated as rock beds, mounded up, and with enough stone or any rock garden material as will keep the earth in place. Anyone who is handy and inventive can make good rock stuff with bits of coke or even cinders, with a little clean sand and Portland cement and a dash of umber in powder to counteract the cold grey of the cement. Then the edges of the outer half-circles, B, should also have rock plants—aubrietia, alyssum, stonecrops, saxifrages, arabis, iberis and so on, so keeping a rock garden effect. Farther back will be flowers and then a general backing of flowering shrubs. The border against the house on this side will also need some dry walling to keep it on one level. This will suit the best things for such a place—lavender, rosemary, santolina, etc., which like nothing better than a rather high and dry position.

It would be too much of a job to level the lawn, but it is best in such a case to let it run on one easy slope from north to south; the two paths on either side of C will then run out to it at their own levels, or with such slight easing as may be required. The arbour would be notched into the base of the bank which forms the east end of the garden and which has already some well grown trees at the back. The shrubs backing the flower borders at this end should be mostly evergreen, some Portugal laurels and then laurustinus. The whole surrounding of the rubbish place had better be of the broad-leaved form of the common laurel, which would come far enough up the border D to enclose the lower seat. The seat on the same side near the house should have yews at the back and sides. The space in D between the two seats will be for flowering shrubs or bush fruit trees. Flowering plants that are too tall or bulky for the margins of C and the curved portions of B, such as delphiniums, hollyhocks, perennial sunflowers, etc., will find their places in the circular borders at the angles of the lawn.



PINKS FOR THE SMALL GARDEN

THE formation of a collection of the various species of a particular genus of plants is certainly one of the most fascinating of garden hobbies. For this purpose no group of plants is more suitable than the pink family. They are singularly easy to raise from seed, which can be obtained without any very great difficulty in quite small quantities for a very modest outlay. Most gardens will be sure to contain a few varieties of the "ordinary common or garden" pink, and there is certain to be a clump or two of Mrs. Sinkins not very far off. Then, there is the nice old-fashioned pink form of Dianthus plumarius beloved of cottagers; and need I mention the perpetual-flowering pinks which have made the name of Allwood famous? The Indian pinks, too, which are capable of making such a brave display in the mass.

But it is of the little rockery pinks that I would speak, splendid subjects for the old wall and the rock garden. All the pinks are, indeed, most suitable for these situations. The grey foliage possessed by many of them is such an attraction in winter, when there is not much to interest one between the stones.

Our own native flora supplies us with three pinks, though, apparently, one of them (D. Armeria) does not appear to be considered worthy of a place in our gardens.

The Cheddar pink (D. cæsius), which is to be found among the crags of the Cheddar gorge, forms delightful little cushions of grey foliage, from which rise rosy fragrant flowers in the spring. It loves a well drained limy soil, and is happiest on an old wall.

The maiden pink (D. deltoides) is another native with pretty, small pink flowers produced in great numbers on tall straggly stems throughout the summer months. For a good effect plant this close to one of the smaller blue harebells. The wiry stems of the campanula help to support those of the pink, and the flowers blend beautifully together.

The alpine pink (D. alpinus) is characterised by its dark green shining leaves, from which the solitary deep rose flowers project but a few inches. They are flecked with crimson, and are at times produced with such profusion as entirely to hide the foliage. There is a very attractive white form of this pink which is well worth growing.

The glacier pink (D. neglectus), with narrow grass-like leaves and cherry red flowers, is a perfectly charming little plant and, moreover, a good perennial not given suddenly to dying off for no apparent reason as, it must be admitted, so many of these small alpine pinks are too prone to do. It is a very variable plant, but all its forms are pleasing. A minute species with rosy purple flowers is D. acaulis, making the neatest of tufts. The list is a long one. Those I have singled out are certainly some of the best and, perhaps, the easiest to acquire, but there are many more for the enthusiastic collector. — EDWARD CAHEN.

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THE ROCK GARDEN

Saxifrages for the Small Rockery.

THE saxifrages are certainly the glory of the rock garden; they offer a great variety of colour and size, as well as beauty of form. For the very small rock garden, careful selection is necessary, as many are too large, or of too vigorous growth, for comfort. It may be well to mention first of all some which should be excluded where space is really limited—there are so many other lovely saxifrages that their absence matters very little. First, there is the whole megasea or bergenia group from the Himalayas and Siberia—cordifolia, ciliata, crassifolia, ligulata, Stracheyi, and so on—big cabbagy things, best in the front of the border. The American swamp saxifrages are too coarse, and not attractive—Forbesii, pennsylvanica, etc. Most of the forms of S. umbrosa and S. Geum are also too vigorous; and the same must be said of most of the mossies, especially decipiens, hypnoides, moschata and trifurcata and their varieties—though a few exceptions will be mentioned later on. Having thus cleared away a lot of unsuitable plants, we can proceeed to the selection of small, choice and not difficult forms. These belong mainly to two groups, the silvers (section Euaizoonia of Engler) and the kabschias. Of the former, the well known S. Aizoon is typical—a wide-spread alpine plant, and very variable: the Kew Hand List includes twenty varieties. All are easy, and we can vary the usual white of the blossoms by introducing the red-flowered var. rosea, the pale yellow var. flavescens, or the densely red-dotted var. balcana. S. cochlearis and its vars., major and minor, are very neat and pleasing, forming close silvery patches with graceful sprays of white flower. The same can be said of lingulata and its varieties, the one named lantoscana being a specially well flowered form. Then we cannot do without S. longifolia, with its splendid great single rosette of narrow leaves; but it has the disadvantage of dying after flowering, which makes some people prefer its perennial hybrids. S. Cotyledon is one of the finest of rock plants, and for its varieties, pyramidalis and caterhamensis, no praise can be too high: their strong silvery rosettes and great waterfalls of flower place them in the very forefront of rock plants.

The kabschias are all very small-leaved plants, forming dense, often prickly cushions, from a few inches to several feet across. They include the most treasured of the saxifrages, and while many are rather difficult, there are, fortunately, others which give no trouble, and grow and flower with delightful freedom. The easiest of all are the primrose yellow apiculata and its white variety, the similarly coloured Elizabethæ, and the deep yellow sancta. All of these will form a cushion 1ft. to 2ft. across, but they get ragged eventually, and look best as smallish clumps in niches of the rockwork. S. marginata is a good reliable plant, and the several forms sold as Rocheliana likewise: both are white-flowered. S. cæsia is one of the tinies, very dainty and also white. If we wish to get away from whites and yellows, we may venture on the lovely little pinkish Irvingii, or we may try one of the larger fluffy-flowered "red kabschias," such as Stribnryi or media. Last but best of all, the January-flowering S. Burseriana should have a choice place high up on the rockwork: the big pure white flowers of it and its varieties, and its grey spiny foliage, place it in the forefront of the group. We cannot altogether omit the mossies or the Robertsonias, previously referred to. The red mossies, of which there is now such a wealth, are essential in the smallest garden, and a selection will be found in the catalogue of every nurseryman who touches alpines: but plant them away from the smaller treasures. Of the Robertsonias, one species, S. cuneifolia, is quite neat and well behaved, and one variety of the London Pride, S. umbrosa var. primuloides is small and especially pleasing, with pink flowers set on red stems. Of saxifrages of other kinds, the flat trailing S. oppositifolia and its smaller ally retusa bring in a rosy purple colour which is very welcome among so much white; and S. aizoides var. atrorubens has flowers of a unique orange red that is most effective: a comparatively damp place is the best for this last. Finally, if we have a moist niche protected from autumn frosts, S. Fortunei with its delicate butterfly-like blossoms will furnish us with a delightful surprise in October. The Saxifrages which may, therefore, be recommended for the beginner in rock gardening, and with a limited space at his disposal, are as follows:

Saxifraga Aizoon and varieties rosea and flavescens.
S. cochlearis and varieties minor and major.
S. longifolia, S. lingulata.
S. Cotyledon.
S. apiculata, S. Elizabethæ
S. marginata, S. Burseriana.
S. cuneifolia, S. oppositifolia, S. aizoides and varieties. S. Fortunei.

R. LLOYD PRAEGER.

THE ARCHING SPRAYS AND WHITE FLOWERS OF SAXIFRAGA LINGULATA ADD MUCH BEAUTY TO EVEN THE SMALLEST ROCK GARDEN.

DRIFTS OF MOSSY SAXIFRAGES MAKE FOR GORGEOUS EFFECTS IN EARLY SPRING.

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THE BUSY MAN'S PAGE

Garden Resolutions for the New Year.

GARDENERS should not only make good resolutions for the New Year, but should take care to keep them. Here are twelve rules which it pays to bear in mind:

Make a practice of digging deeply, for the more the soil is broken up the better will be the crops.

Carry on a continual war against the weeds and never allow any to flower and set seed.

Use the hoe frequently to keep the surface soil well broken and so let plenty of air into the ground.

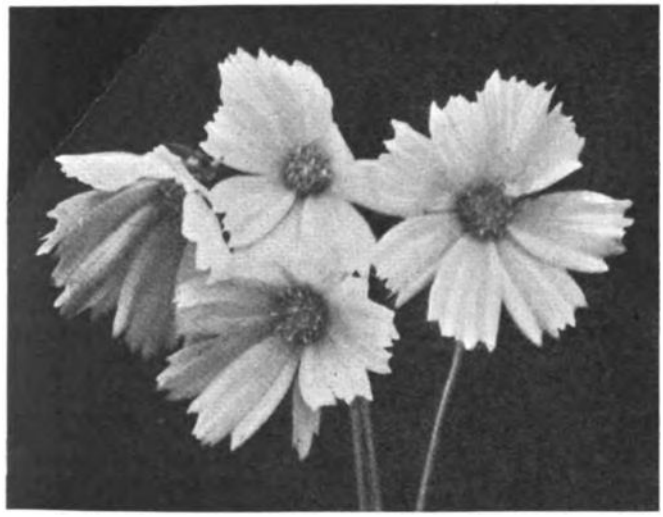
Give manures and fertilisers which are best suited to the particular crop.

Buy only the best seeds and place your order in good time.

Choose plants and varieties which are most likely to thrive in the soil and conditions of your particular district.

Sow rather thinly and thin out all seedlings in good time.

Keep a sharp look out for all pests and never lose an opportunity to destroy these.



THE STARRY FLOWERS OF COREOPSIS GRANDIFLORA. A DECORATIVE, EASILY GROWN PLANT FOR THE SMALL GARDEN.

Make good use of all your land, but avoid the mistake of anything like overcrowding.

Plan for a succession of crops of the quick-growing vegetables.

Gather all crops when they are ready and so allow the plants to continue producing.

Whenever possible employ rotations of crops and avoid growing the same kinds of plants on the same land for two successive seasons.

A Sure Rat Trap.

A RAT trap which hardly ever fails to make captures is easily fixed up in the following manner: Get a wooden tub or anything similar and a sheet of stiff brown paper which is big enough to tie right over the top. It is important for the success of the trap that the paper should be stiff and springy, the soft paper that is easily torn not being suitable. Place the tub in the position where the rats are most likely to be, and then pour in water to about two-thirds of its capacity. Now stretch the paper right over the top, tying down firmly at the sides with string. Take a sharp knife and in the middle of the paper cut two lines crossing each other at right angles. The lines might be about 6ins. long. Round about where the cut has been made in the paper sprinkle a little grain, bread crumbs or anything that would act as a bait for the rats. Rest a short plank from the edge of the floor to the rim of the tub to provide a means by which the rats can pass upwards. The workings of the trap are simple enough. A rat smelling the food scrambles up to the top of the tub and is soon over the cut part of the paper. This naturally gives under the weight of the rat and the creature is let down into the water. The stiff paper springs back to its original position, so that the trap is self-setting and is at once ready for another capture.

Limewashing Fruit Trees.

THE limewashing of fruit trees is a good way of ridding them of moss, lichen, insect and fungoid pests. By far the most convenient and effective wash is lime-sulphur of 1.3 specific gravity, which can be bought ready made in drums from any of the insecticide firms which advertise in the pages of THE GARDEN. All one has to do is to dilute the substance with water just before use according to the directions given by the makers. Choose a fine dry day to apply the wash, which must always be used before the least movement in the buds of the tree has started. Apply the wash with a brush or a spray, working downwards from the branches to the trunk. Probably a brush is really the best thing to use, especially in the case of older trees, for it is then possible to work the wash into all cracks.

Some Perennial Coreopsis.

ONE of the finest of subjects in the herbaceous border is the coreopsis in its perennial varieties. They bloom for a long period commencing as early as May and providing the house with cut blooms as late as the end of August.

The shortest-flowered variety is Coreopsis verticillata, blooming from July to August. It is a very showy border plant, however, of a fine yellow colour, and grows to a height of 2ft. The variety C. grandiflora is one of the finest sorts, producing many flowers of a very bright yellow and reaching a height of 2ft. to 3ft. This variety, which is illustrated, may be grown from seeds sown in March. These will flower as early as July.

For a large semi-double sort, the C. grandiflora Perry's variety is truly charming. It bears semi-double flowers of a deep golden yellow, and of a size larger than the others.

For a dual-coloured sort, one may choose the C. oculata, which is a yellow flower with a crimson centre.

The plants may be purchased now and planted any day when the soil is nicely workable and not in the least frost-bound.

Some Uses for Cotoneaster Simonsii.

AMONG the shrubs often offered at a cheap rate by the trade, few of these which can claim to be ornamental are at the same time so useful as Cotoneaster Simonsii. In the first place, it makes a very serviceable and ornamental hedge, for it is rigid, stands clipping well, and this does not prevent it berrying, for the fruit appears on the old wood, even right down the stems. The berries, moreover, which are nearly as large as a kidney bean, are a bright scarlet, and they remain on the branches long after the leaves, which turn a blood crimson and orange, have fallen. The fact that C. Simonsii is a very fast grower is in its favour as a hedging plant, and it is robust enough to hold its own with quick, beech or myrobalan, to all of which it will lend the beauty of its autumn-winter colour. This cotoneaster is a first-rate wall shrub, growing rapidly and closely in almost any aspect. It also affords an admirable support for clematises, Tropæolum speciosum and other climbers.

Removing Putty.

PUTTY tends to become extremely hard with age, and its removal from a pane of broken glass is usually a difficult matter. One of the quickest ways of softening putty is by means of a hot iron. A bar of iron like a poker is made hot but not red hot, and this is passed slowly over the putty, the heat so softens the putty that it can be easily worked away with the fingers. Any of the putty which resists the first application of heat may be easily softened by a second use of the hot iron. A lump of unused putty that has been placed on one side will become very hard. This may be rendered soft and workable by beating with a hammer on a hard surface.

The Garden Tools.

IT is impossible to garden successfully without a fairly complete outfit of tools. At this time of the year it pays to overhaul one's implements to see if these are in good condition and to make replacements where needful. A proper outfit of garden tools should include all, or nearly all, the following:

A spade of fair size and with a long blade which is not too heavy.
A smaller spade for light work.
A five-tined fork.
A fork with four broad tines.
A hand fork for dealing with small plants.
A trowel.
A 10in. rake.
An 8 n. draw hoe.
A 6 n. push hoe.
A pair of shears.
Pruning secateurs.
A syringe with jet, rose and spraying nozzles.
A garden line on reel.
A 1½ gallon watering-can, also one of double this capacity with roses.
A wheelbarrow.
A lawn mower.
A roller.
One or two besom brooms.

How Far Apart?

WHEN fruit trees are being planted the spacing should allow for the full growth of the trees and bushes. The following table indicates the space which should be given in the case of the commonly grown fruit trees and bushes.

	Feet.
Standard trees (apples, pears, plums, cherries)	30
Pyramid and bush apples and pears	8–12
Pyramid and bush cherries and plums	7
Gooseberry and currant bushes	5
Espalier or wall-trained trees	15

Of course, pending their full development, standard trees may be grown in association with gooseberries and currants of small size. As the trees extend and shut out the light the bushes will have to be thinned starting with those nearest to the trunks.

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THE FLOWER GARDEN

The Flowering Currant.

IN these days we have so many choice flowering shrubs to choose from that one is tempted to underestimate the value of some of the kinds introduced many years ago. Among the latter will be found R. sanguineum, or flowering currant, a charming shrub, even superior to many modern introductions. It never fails to produce its numerous drooping racemes of deep rosy red blossoms during the month of April. This, the best of the ribes, is deciduous, and will grow into a fine bush from 6ft. to 8ft. in height.

R. sanguineum is a variable plant, and a number of named varieties can be found in catalogues. In addition to the type there is a white form known as album; also atrorubens, with deep red flowers, but less free in its habit of growth; and splendens, no doubt the finest variety known. This form produces longer racemes of larger flowers, while the brilliant colour is a great improvement on the type. It is a most desirable and ornamental ribes, and if only one form is grown this should certainly be selected. Although an old-fashioned shrub, it deserves the renewed attention of every one interested in spring-flowering plants, for which many gardens are noteworthy. Furthermore, it is not fastidious regarding either position or soil. In the front line of the shrubbery, their brilliance will furnish a welcome bit of colour in an otherwise sombre place. There are often open spaces in the garden where R. sanguineum would be quite at home, and very attractive in the spring; while hedges could be formed, to divide one part of the garden from another, but not of sufficient strength to keep out cattle.

In fact, the various forms of flowering currant can be planted almost anywhere, and are sure to give a good account of themselves annually.

Any pruning or cutting back should be done immediately after flowering, but this is only needed if the plants are exceeding their allotted space.

THE GRACEFUL CLUSTERS OF ROSY RED BLOSSOMS OF THE FLOWERING CURRANT.

Propagation is by cuttings made from well ripened wood during the autumn months, and set out in lines in the open ground.—T. W. B.

Weeping Roses.

AT all times beautiful, the rambler rose is exceedingly pretty when grown from the top of tall standards to form what are known as "weeping roses." Such roses are expensive, and that fact alone renders care and attention imperative both at planting-time and afterwards. In the first instance, it must be understood that weeping roses require plenty of space to look their best. Planted in an open lawn or open flat border with little round them to detract from their appearance they will give delightful artistic effects, but even a single specimen in a good site lends enchantment to the general aspect. Weeping standards always require firm planting and equally firm staking; the placing of the stake must be done with care, also, to avoid injury to the roots. After that is done see that long streamers are secured so that gales may not blow them to tatters or tear them away from the crown. I do not like those wire umbrella-frame trainers which some growers use; nothing can excel the beauty of a rose where the long, slender branches droop in a natural cascade of artistic beauty. During winter, especially the first winter, a little protection may be given to the point where the rose has been budded. A handful of ferns or straw twisted round this vital spot does quite well, although more careful growers tie up the branches, thatch them with straw or ferns and leave them thus till all danger from severe weather is past. The question of variety or varieties is a difficult one. Personally, I pin my faith to the old "tried and true" kinds, from which selection some of the very finest specimens may be grown. What pretty and delightful things are Excelsa, the old pink Dorothy Perkins, White Dorothy, Blush Rambler, Albéric Barbier, American Pillar and many others well known in gardens in some shape or form! Less common, but glorious things when they are well grown, are Joseph Billard (early), Delight (late), Auguste Barbier (early), Aviateur Bleriot (saffron yellow), Léontine Gervais, Sweetheart, Troubadour, François Foucard (lemon), Gardenia, Tausendschön, Longworth and so on.—CLYDESDALE.

Lobelia cardinalis and its Allies.

THE cardinal flower—Lobelia cardinalis—a perennial plant of North American origin, is valued by reason of its distinctly coloured flowers, which are considerably enhanced by coppery green foliage in autumn. It is a plant that strikes an amateur as something out of the ordinary — something that compels admiration — and desire for possession is usually followed by acquiring young ones in spring and planting them in the garden. But unless he understands that the term "perennial" does not always carry with it hardiness, and if he leaves the roots out of doors to the tender mercies of the winter, the probability is that all or, at any rate, most of them will die. No species of perennial lobelia is more popular once its requirements are understood and carried out. It loves shade and moisture, a rich soil in which leaf-mould and decayed manure form part, and needs to be lifted and placed in a cold frame for the winter to ensure its existence. Even then it is not wise to rely solely on old plants, but to sow seed occasionally in pans of light soil in a frame in spring. The seed, being very fine, should be mixed with a little of the compost to ensure its better distribution in the pan. There is a variety bearing scarlet flowers and red leaves and stems, known by the appropriate name of Firefly. L. fulgens is a species native of Mexico, with mulberry red flowers and deep metallic stems and foliage. It is at its best in autumn. Queen Victoria is a variety having handsome scarlet flowers and purplish foliage. L. syphilitica, also of North American origin, has many varieties, blooming from early summer to autumn. It is the hardiest of the species, giving us blue and rose and white blossoms. A number of hybrids, too, such as Feltham Beauty, Rosalind, and Sam Barlow, are worthy of the attention of all interested in the family. One very striking species, L. Tupa, from Chile, with broad green leaves covered with white down, has reddish purple flowers, which always command admiration. This, to my knowledge, stands the winter in north Wales without protection, but the situation is a sheltered one.—W. L. L.

Planting Shrubs on Terraced Banks.

WHERE banks are very wide and gently sloping, shrubs, trees and other plants may be successfully grown on them without forming terraces. But it is almost useless to attempt to establish shrubs on steep banks

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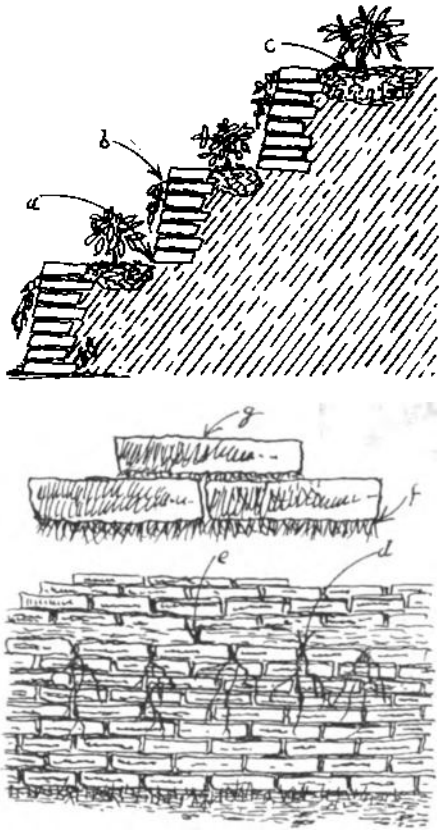
unless such banks have been converted into a series of terraces. On the steep bank shrubs may grow freely and do nicely for several years, then we experience a very hot, dry summer and the specimens suffer so much



that some may die, while others do not properly recover for a long time afterwards and their general appearance is not attractive. I have had much to do with the terracing and planting of steep banks and have found that the plants never suffered during dry summers like others in gently sloping borders. Of course, the work should be well done in the first place. The front portion of each tiny terrace, in the case of a very steep bank, should be shored up with turves laid brick-fashion and with the face slanting backwards a little. A shoring wall of peat is better than one of turves from a meadow because, in dry weather the peat becomes very dry and prevents water running away from the roots of the plants behind them. The turves should be uneven in size so that some will be laid farther back than others, as shown in the sectional sketch, and become wedged, as it were, and not likely to bulge outwards. At *a* the turves are shown, at *b* trailing plants which will, in time, serve the purpose of binding together the turves forming the retaining walls. At *c* the main plant, the shrub, is shown and for the benefit of all such plants good loam should be placed there. At *d* and *e* the front of the wall is shown and terrace. At *f* and *g* the right way to arrange the turves is shown, grass side downwards and as bricks in a wall are laid.—G. G.

Pyrus Vilmorini.

THE planting season is now in full swing, and those who contemplate including a few berried subjects would do well to include the plant quoted above. Seeds were sent from western China by the missionary, Père Delavay, in 1889, to M. Maurice de Vilmorin, who raised plants in his garden at Verrières. For the greater part of the year this small tree or shrub is most attractive. Its chief feature will be found in the pale rosy red fruits which are produced in abundance, and are most conspicuous during the autumn months if the birds leave them alone. The elegant pinnate foliage is most pleasing, and during June the trees are practically covered with corymbs of white flowers. P. Vilmorini belongs to the Aucuparia section of pyrus, which includes the mountain ash or rowan, and it is a plant worthy of wider cultivation. It is hardy, and will thrive in ordinary garden soil. If it is decided to place a group or a few plants in pasture land or similar position, the ground should be trenched, and if the soil is poor a dressing of manure will be an advantage. This plant is increased by seeds, grafting and budding. It is always interesting to raise a batch of seedlings, as some may be an improvement on the type.—T. B.

Lady Larpent's Leadwort.

THIS very beautiful plant came to us from China some seventy-five years ago. It used to be known as Plumbago Larpentæ, Sir William Hooker contending that its name should be Valoradia plumbaginoides. However, no sooner had we become accustomed to the former name, than someone who did not flinch from adding to the terrors of life came along and rechristened it Ceratostigma plumbaginoides. In spite of this, Lady Larpent's leadwort continues to be the delightful little shrub that it always was. Making a little thicket of 1ft. leafy shoots, these terminate in August in a close-set cluster of blossoms in a deep, pure azure. Thence, for a month or more, a succession of these lovely flowers will be maintained, when the leaves assume rich shades of orange and crimson before they are shed.

This species loves the hottest, driest and poorest of gritty soils in full sun, and if it has some half-sunken stones under which the roots may run to put up fresh shoots on the other side, it will be so much the happier. It never spreads far or fast with me, a clump some fifteen years old now only covering some 2–3 sq. ft. No attention is ever given or needed, but the growths are cut back to the ground level every spring. By leaving these untouched the flowering season would certainly begin rather earlier, but the clipping encourages a denser growth and larger leaves and flowers.—A. T. J.

The Cornelian Cherry.

SEVERAL years ago Cornus Mas, or the Cornelian cherry, was a popular plant, and was held in high esteem as an early-flowering shrub or small tree. The cornel tree is a native of Europe, and has been in cultivation in England for a large number of years. If planted in a situation that suits it, a height of 15ft. or 20ft. will be attained, and such a specimen in full flower is a welcome sight in February or March, according to the mildness of the season. The illustration shows cut branches of this pretty cornel, and not only does it illustrate the habit of flowering, but also shows how desirable it is for vases at the dull period of the year, when flowers are scarce. The individual flowers are small and yellow, and are most conspicuous against a dark background, especially when the sun is shining during the afternoon.—B.

Daffodil Disease.

"FUSARIUM," "Basal Rot," "Bulb Rot," or "Bolziek." Although this is a well known infectious complaint the general apathy shown by people who should know better is nothing short of astounding. The disease has been described both in this country and in Holland, but it has not been made the subject of any extensive research. The affected bulb goes brown and "roxy," like an over-ripe pear. The inner scales under a strong handglass appear as brown granulated jelly and frequently teem with mites (Rhizoglyphus echinopus), not unlike cheese mites. Under the glass they are easily discernible, feeding on the diseased substance of the bulb scales. The burning of all affected bulbs is the only known method of preventing the complaint from affecting sound bulbs. Bulbs apparently unaffected, but liable to be so by reason of their contact with affected ones, should have their outside scales removed and be dipped in a solution of one fluid ounce formaldehyde to three pints of water. The bulb, while damp, should be well dusted with flowers of sulphur and planted as soon as possible. The throwing of diseased bulbs into adjoining dykes—a practice common in Holland—is greatly to be deplored. Sterilising by heat is useless as a cure for Fusarium.

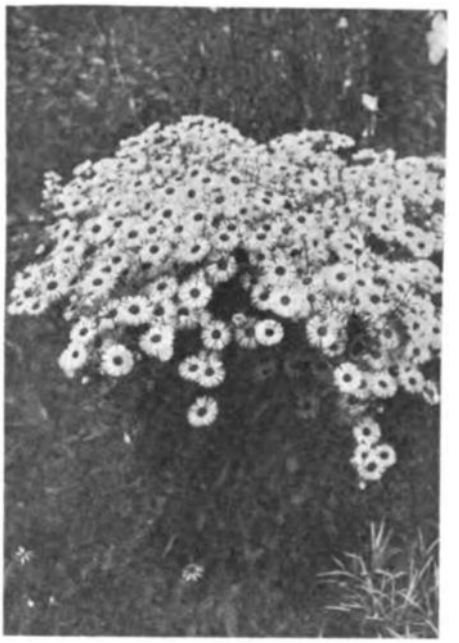
This complaint should not be confused with "eelworm," which is capable of definite control by hot-water treatment. Bulbs affected by "eelworm" parasites only go brown as succeeding healthy scales become affected and the base retains its vitality and is capable of regeneration and healthy growth after treatment, if any life at all remains, whereas in basal rot the base is the first part to become affected.—HERBERT G. LONGFORD.

THE FLOWERING SPRAYS OF THE CORNELIAN CHERRY MAKE ADMIRABLE INTERIOR DECORATION IN EARLY SPRING.

THE ELEGANT AND GRACEFUL DAY LILY.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow in the garden.



THE SUN-LOVING FLEABANE.

Hemerocallis (Day Lily). GRACEFUL, stately plants, yielding quantities of blossoms from June to September, and succeeding in any garden, provided they are given a generous, well manured soil. They vary in height from 18ins. to 4ft., and are most attractive in a border. Flowers are fragrant, and follow each other quickly. When planted in a border, they need to have plenty of room, not less than 2ft. to 3ft. apart, and have mulchings of manure in early summer. Hemerocallises should be taken up, divided and replanted every three years or so, an operation best done in late autumn. Propagation can also be from seed sown in April in a frame in light sandy soil.

Nepeta Mussini (Catmint). IS a perennial herb, aromatic and absolutely hardy. It is one of the best plants for edging. If used in the rock garden, care must be taken to keep it in check. The smoke blue flowers are borne in great profusion from May to September. Plant in March and April. Propagate from cuttings, 2ins. to 4ins. long, taken at a joint in July, which will be found to root easily in sandy soil in a frame, or in the open ground. Remember that the more sun it gets, the more profusely it will flower. It prefers light, sandy soil and if planted in clay, the latter should be well worked and broken with gravel or road scrapings and wood ashes.

Campanula pyramidalis (Steeple Bellflower). AMONG the numerous species of campanula, pyramidalis, the steeple bellflower, is one of the most vigorous. It is tall, often rising to a height of 5ft., and makes a splendid plant for the back of a border or for growing in pots in a cool house. Flowers will give practically three months beauty from July, provided the spent blooms are picked off. A moderately rich soil is best for campanulas, and staking is essential. They are increased by dividing the roots immediately after they have bloomed, also from seeds sown in spring either in a cold frame or house, in pans of light soil. Replanting can be done during the month of March.

Gaillardia (Blanket-Flower). VERY showy hardy perennials that are highly prized for the brilliancy and liberal output of their blossoms, which are most useful for cutting; moreover they bring a deal of colour in the garden, and flower practically from June to early October, and longer in a mild autumn. Gaillardias should be given the advantage of the sunniest positions and a soil that is light and rich. It is of assistance to the plants if some ashes are spread around the roots in late autumn. Their height is about 18ins., and that space should be given between the plants. There are three methods of propagation which amateurs can easily practise, *viz.*, by dividing old plants in April; from seed sown in boxes of light soil in a cold frame or house in April or May, and from cuttings taken in late summer and set in pots of sandy soil and kept in a cold frame during winter.

BRIGHT AND COLOURFUL GAILLARDIA BLOSSOMS.

Erigeron (Fleabane). THESE plants are lovers of sun, and should be given a position where it will reach them. They are easy to grow and will give good results in any moderately rich soil so long as the position is not too dry. Their blooming extends over several months, and they are very effective if planted in groups about a border. None is much over 2ft. in height. They can be increased by dividing the roots in autumn, or in March, or by seed sown out of doors in light soil in April.

Annual Larkspurs. THESE very showy hardy annuals have come to be recognised in quite a number of gardens as essential to a summer display, and every year they are gaining in popularity. One may have them in dwarf plants, or about a foot in height, to those of three feet, and the best of it is there is scarcely a garden where they will not grow. There is no need to nurture them beyond being careful to sow seeds on a warm, sheltered border about the end of April, and if this is done thinly, the young plants can be transferred straight to their flowering quarters when two or three inches tall. Larkspurs like a somewhat light, yet rich soil, and if a little spent hops, or old manure is worked in the border, one may have a gay display. The taller sorts should have the benefit of support by a few sticks. They bloom most profusely during July and August, and in present day sorts there is a splendid variety of colours.

Lunaria (Honesty). THE silvery pods of honesty are very acceptable to all who make a point of growing flowers for winter decoration, and though the purple and white flowers of this biennial are not without value in a border in summer, it is really the shining inner seed pods which, when dried, are the more sought after. Lunaria is a simple hardy biennial, needing to be sown out of doors in a sunny position in ordinary soil in May or June, pricked out and planted in its final quarters in autumn. It commences to bloom in the following May or June, and the stems should not be gathered until quite dry, which will not be before August. Plants grow about 2ft. in height and should always be planted in a warm position.

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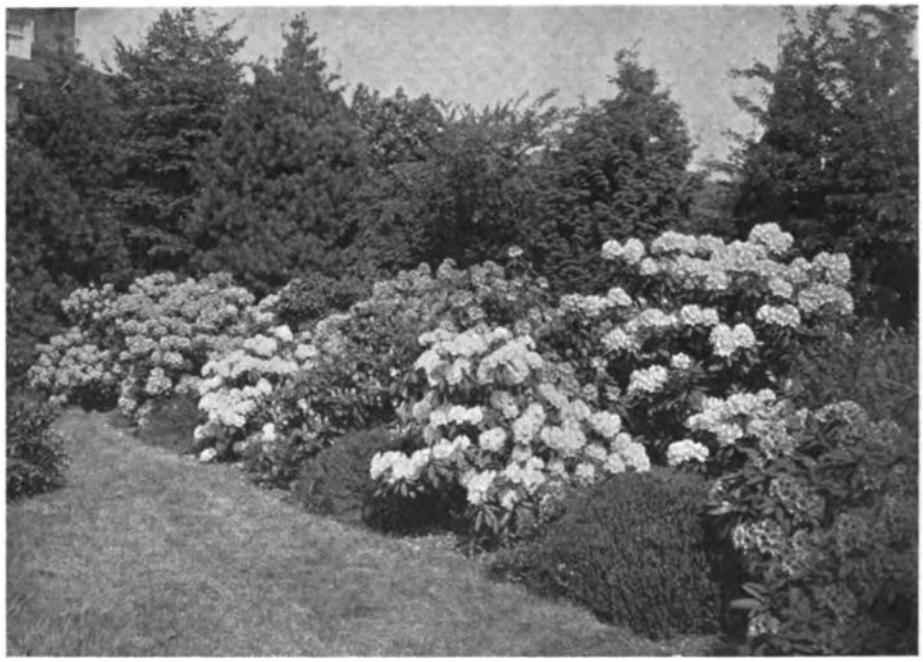
CHOOSING SHRUBS FOR SPECIAL SOILS

One of the most difficult problems which confronts the amateur gardener is the selection of plants for special soils. The accompanying lists of shrubby plants should prove most helpful to those who are faced with this difficulty and will greatly assist them to make a choice of subjects for spring planting.

MANY gardeners do not give sufficient attention to the point that, to a considerable extent, the nature of the soil should control the actual plants which are grown. Soils vary a great deal in different districts, and even in the same localities differences in the character of the land are to be observed. Of course, there are certain plants which will thrive in almost any situation, but, generally speaking, the majority are not so accommodating. To get the best results it pays to give plants those rooting mediums which experience has shown to be the most suitable. Of course, where the ordinary flowering plants of bed or border are concerned, it is usually a simple matter to bring the soil into almost any desired condition. In the case of shrubs and trees such adjustments in the soil are not possible to any great extent, and here it is really important to choose subjects which one knows will flourish in the natural soil. The following lists will help in making a decision as to what shrubs and trees to grow in the particular types of soil. In some cases it will be noted that the plants are repeated in more than one of the lists and such subjects can be relied on to give good results in varying conditions. On the other hand it cannot be too strongly emphasised that there are large numbers of plants which would give excellent results in one kind of soil but fail badly in another.



RHODODENDRONS SHOULD FORM A PART OF EVERY SHRUB BORDER WHERE PEATY SOIL CONDITIONS OBTAIN.

Clay Soils.

Land of this nature will contain upwards of 50 per cent. of clay, and, although it may be improved by digging, drainage and the addition of light sandy material, the soil remains relatively stiff and cold. Suitable subjects for a clay soil may be selected from the undermentioned :

Acer dasycarpum and A. platanoides, two really striking maples.
Amygdalus communis (almond).
Aucuba japonica.
Berberis Aquifolium and B. Darwinii.
Betula alba (silver birch).
Buddleia globosa.
Cerasus Laurocerasus (laurel), C. lusitanica (Portugal laurel), C. Avium and C. Padus (flowering cherries).
Clematis Flammula, CC. Jackmanii and vitalba.
Colutea arborescens (the bladder senna).
Cornus Mas (the Cornelian cherry).
Corylus Avellana.
Cotoneaster buxifolia and C. microphylla.
Cratægus (hawthorns) in variety.
Cytisus (broom) albus, CC. biflorus, purpureus and scoparius.
Deutzia crenata and D. gracilis.
Diervilla grandiflora.
Euonymus in variety.
Garrya elliptica.
Genista hispanica.
Hamamelis arborea, HH. japonica and virginica
Hypericum calycinum.
Hollies.
Jasmines.
Kerria japonica.
Laburnum.
Magnolias in variety.
Philadelphus coronarius.
Pyrus japonica.
Rhus Cotinus and R. glabra.
Ribes (flowering currant).
Robinia Pseudacacia.
Rosa repens.
Sambucus racemosus (elder).
Spartium junceum.
Spiræa ariæfolia and S. Lindleyana.
Tamarix gallica.
Viburnum Lantana, VV. Opulus and Tinus.
Yucca filamentosa and gloriosa.

AZALEAS MAKE A MOST BRILLIANT DISPLAY OF BLOSSOM IN EARLY SPRING.

Plants for Chalk and Limestone.

In these soils there will be an abundance of lime, and a selection might be made from the following subjects :

Acers in variety.
Amygdalus communis.
Berberis in variety.
Buddleia globosa.
Caragana arborescens and C. spinosa.
Ceanothus azureus, CC. dentatus and Veitchianus.
Cistus ladaniferus and C. villosus.
Clematis in variety.
Cornus Mas and C. sanguinea.
Cotoneaster microphylla and C. rotundifolia.
Cratægus in variety.
Cytisus albus, CC. biflorus, purpureus and sessifolius.
Deutzia crenata and D. gracilis.
Diervilla.
Escallonia macrantha, EE. Phillipiana and rubra.
Euonymus.
Fraxinus (ash).
Garrya elliptica.
Genista.

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Hamamelis arborea, HH. japonica and virginica.
Jasmines.
Juniperus communis.
Kerria.
Laburnum.
Lavender.
Ligustrum.
Lonicera (honeysuckle).
Magnolia.
Philadelphus.
Phillyrea spinosa.
Pyrus.
Ribes.
Spartium junceum.
Spiræa.
Syringa (lilac).
Viburnum.

Plants for Peat Soil.

As a rule, a peat soil is deficient in lime and, on this account, is not suitable for many

SPANISH BROOM (SPARTIUM JUNCEUM) DOES WELL ON A DRY SANDY BANK.

plants, although some species show a distinct preference for ground of this nature. Here is a list from which a selection might be confidently made:

Andromeda polifolia.
Arbutus Menziesii and A. Unedo.
Arctostaphylos alpina and A. Uva-ursi.
Azaleas in variety.
Ceanothus.
Clethra alnifolia.
Colutea arborescens.
Cornus florida.
Daphne Cneorum and D. pontica.
Epigæa repens.
Erica.
Euonymus.
Fothergilla.
Gaultheria procumbens.
Hydrangea arborescens.
Kalmia angustifolia and K. latifolia.
Koelreuteria paniculata.
Ledum latifolium.
Magnolia conspicua, MM. glauca and stellata
Olearia Haastii.
Pernettya mucronata.
Philadelphus.
Rhododendron.
Skimmia japonica.
Spiræa.

THE DAISY BUSH (OLEARIA HAASTII) IS NOT PARTICULAR AS TO SOIL. *It is free flowering, hardy and easily grown.*

Staphylea colchica.
Ulex europæus and U. nanus (furze).
Vaccineum in variety.
Viburnum.

Plants for Light Sandy Soils.

Trees and shrubs that flourish well in light soils will be found in the following list:

Artemisia.
Berberis in variety.
Ceanothus in variety.
Cerasus (flowering cherry).
Cupressus in variety.
Cytisus in variety.
Elæagnus in variety.
Euonymus.
Forsythia suspensa and F. viridissima.
Fremontia californica.
Genista anglica, GG. pilosa and tinctoria.
Hamamelis.
Hibiscus syriacus
Hypericums in variety.
Hollies.
Junipers in variety.
Kerria.
Laburnum.
Lavender.
Ligustrum (privet).
Magnolias.
Ononis fruticosa.
Osmanthus fragrans.
Phlomis fruticosa.
Pyrus.
Rhamnus alaternus.
Rhus typhina.
Ribes.
Rosmarinus officinalis (rosemary).
Rubus fruticosus.
Ruscus aculeatus (butcher's broom).
Sophora japonica pendula.
Spartium junceum.
Symphoricarpus (snowberry tree).
Syringa (lilac).
Tamarix.
Ulex europæus and U. nanus.
Viburnum.

L. B.

THE DECORATIVE VIBURNUM TOMENTOSUM IS WORTH GROWING IN MEDIUM SOIL.

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THE FRUIT AND KITCHEN GARDEN

About Pruning Trees.

THE following are a few hints on the way fruit trees and bushes should be pruned. The work of pruning causes much anxiety to amateurs who have not had any previous experience and find themselves the possessors of fruit gardens. Fruit buds are plumper and rounder than the wood buds and are formed as follows on the branches: on apples, on spurs of the last or previous year's wood; on apricots, on spurs, mainly; on blackberries, near the end of the current year's wood; on red and white currants, on every part of the bush, but mainly on spurs or the side shoots; on the young wood of black currants; on filberts on the sides of last year's wood mainly, some being on the previous year's growths. Gooseberries, on spurs and also on the last and some previous year's branches; on peaches and nectarines, on spurs, but mainly on the young wood of the current year's growth. Pears are similar to apples; plums, on spurs of the last year's wood, mostly. Raspberries should be treated as blackberries. When pruning shoots growing from spurs, all but one should be cut out entirely and the retained shoot pruned back, generally, to two basal buds. Leading shoots are treated in a similar way where the trees are trained on walls or on a trellis and have filled up the available space, but where there is room for extension the leaders should be cut back one-third their length. There are some varieties of apples which bear fruit buds on the current year's shoots—one bud at the extreme point—and as these shoots vary in length from 4ins. to 9ins. or so, they are frequently cut out by the inexperienced grower, thus cutting away practically all the blossom-to-be of the tree. Young trees over-burdened by fruit buds should have some of them cut out the first year or the specimen will not make much young wood for future development. Morello cherry trees bear on young wood of the last season and these young shoots should be laid in at approximately 4ins. apart. If there is any danger of overcrowding, young weakly shoots should be removed, also close attention should be paid to disbudding in the spring. Usually, we leave a pruned base of a shoot bearing three or four buds. Very strong shoots should have more buds left than weak ones. Thinning out is sometimes better than any severe pruning back.—G. GARNER.

Early Treatment of Newly-planted Fruit Trees.

IN practically all cases where cultivators were able to plant their young fruit trees while the soil was fairly dry—before it had become sticky—the soil has settled down firmly around the roots. Specimens that are to be trained on walls or wires may now be made secure to the supports. It is a mistake to plant a tree and forthwith secure the branches to walls or wires, because the tree will be prevented from settling with the soil; the branches are held securely and the soil sinks down, leaving the roots in a suspended position in the soil. In planting young trees a check to growth has been given, so there need be no delay in tying up the shoots to walls as the flower buds will be a little later in opening on account of the check. I am referring to flower buds on newly-planted trees several years old and in cases where the owners wish to have a few fruits the first year. Personally, I do not trouble about fruit the first year, except when I am in doubt as to the variety being true to name, and two years means a long time to wait. Where the soil is of a very retentive nature, refrain from standing on it when engaged in tying up the shoots. It is almost as injurious to put down a long board to stand on unless the board is raised above the soil on two bricks. Young shoots swell freely on healthy trees, so be sure you leave room for the growth of the branches when fastening them to the walls or wires. If tied too tightly, especially in the case of apricots, peaches, nectarines and plums, there is great danger of bruising the bark, when gumming results.—CHRISTCHURCH.

Cutting Down Stems for Grafting.

ALTHOUGH shoots may be successfully grafted when cut direct from a tree at the time when grafting work is being carried out, it is much better to heel-in the shoots in the autumn when the pruning is done. The sap should be more active in the stock than in the graft at the time. It is also wiser to cut down the stems, intended for the grafts, several months before the latter are inserted in them. The edges of the bark on the stems will be thoroughly healed and there will not be any loss of sap at the time of grafting. Before any stems are cut off, you should note their position, the direction in which they are growing, so that the heading-back will be done with a view to forming a good tree in the future. I am, of course, referring to rather large trees with many branching stems and not now to young stocks. A standard or half-standard tree possessing three or four stems forming the head should be so cut down that the stumps of the stems left will be about 9ins. long, this length allows for free insertion of the grafts in the various forms of carrying out this operation. After sawing off the branches, cut the ends of the stumps left smooth with the aid of a sharp knife. Later, if young shoots grow from these old stems, carefully rub them out, taking a small heel of older wood and bark with each one, then there is not much likelihood of more shoots growing. —HANTS.

Growing Early Potatoes.

IT is always harvest time with the gardener, the real, enthusiastic gardener, who tries to get as much as possible out of his garden. Almost before the year's potato crops are stored for the winter months, new "sets" are being prepared for the production of the earliest crop of young tubers. Where there are frames, litter and leaves with which to build hot-beds, and some nice mellow loam, light for preference, potato planting may begin early in the New Year. If no frames are available, the leaves and litter can be utilised all the same. It is not difficult to keep out frost with the aid of dry straw, mats or fern where there is a gentle heat arising from a hot-bed. The planting should take place early in the New Year, but, in the meantime, sprouts are growing on the earliest tubers and the latter should be placed in a box about 7ins. deep and half buried with leaf-soil; then, not only will the sprouts grow, but the roots as well. When the time comes for planting the tubers should be carefully lifted, with leaf-soil adhering to them and planted in the new, warm beds. The new growth will continue steadily. The tubers so treated should not be buried more than 2ins. deep. Later on, a top-dressing of loam and leaf soil in equal proportions should be applied, and this extra soil will cause the young tubers to swell more rapidly. In a frame, atmospheric moisture must be regulated and this can be done by judicious ventilation. In the frame lettuces and radishes can also be grown, but not on the outside bed, because the necessary straw or mat coverings would exclude light. To follow this early crop another one should be grown at the foot of a wall or fence. These are catch crops, of course, but valuable ones where they are well managed. Potatoes may be grown in pure leaf-soil without the addition of loam and manure.

Forcing Asparagus.

EARLY asparagus is always much appreciated. Open air beds yield "grass" early or late, according to the character of the soil, drainage position of beds and the part of the country in which the garden is situated. Thus we see that heat has much to do with the early growth in a natural way and we must provide it, mainly for the benefit of the roots, when we force the growth. Asparagus cannot be forced very satisfactorily in the bed in which the plants grow. The roots must be lifted and replanted in the most suitable quarters. The latter are frames on hotbeds, greenhouses or forcing structures where there is room for hotbeds or where hot-water pipes are available to heat the soil from the bottom upwards. I always found hot-beds in frames and houses answer better than heat from hot-water pipes solely, because the pipes dry up the bottom soil so much. The best time for the inexperienced grower to begin forcing is early in January. In the meanwhile it is necessary to collect materials for the hot-beds and to build them; to collect the soil and sift it. Litter, leaves and any littery rubbish that will, when heaped, engender heat, may be used in the beds in houses or in frames. Shake up the litter and spread it out evenly; do not place it in a lumpy state on the new bed; allow the whole to settle down gradually, without treading, but with the weight of the soil on it. A good bed should be 4ft. high when first built up, then it will settle down to a little more than 2ft. high. The total depth of soil should be 16ins.; 10ins. below the roots and 6ins. above them—above the crowns. Only the lower 5ins. or so of soil should be unsifted, the top layer should be passed through a half-inch mesh sieve, and this soil should be rather dry, then it will close in tightly around the roots. When the top layer has been placed on the crowns, apply tepid water liberally through a rosed watering can. In the case of a frame, close the lights and keep them closed until the first "grass" appears then ventilate judiciously, according to the weather. In frosty weather mats or sacks may be needed night and day to prevent sudden changes of weather causing checks to the growth of the plants in the frames. Even if the soil needs water, do not apply any during frosty weather, but try to keep the soil just moist all through. It is not advisable to force younger roots than those three years old and all crowns selected must be strong, plump ones or the resultant "grass" will not be of any use for cooking, only for placing in vases with flowers. Wherever the bed may be, have it quite ready before the plants are lifted from the borders. Lift them without unduly breaking off the roots, and plant and water before the crowns and fleshy roots have had time to become quite dry. The roots may be planted quite close together.—B.

Planting Horseradish.

LIKE rhubarb, horseradish is often delegated to some out-of-the-way corner of the garden; the roots are planted in badly prepared soil, allowed to become a thicket of roots and leaves and rarely given any detail attention. January is a suitable month in which to plant where light and medium-light soils obtain and the end of

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the month or early in February in the case of heavy loams. The position should be an open one, that is, an open quarter of the garden. Trench the soil quite 30ins. deep, 3ft. would be better, and loosen the sub-soil below that point. Good, half rotted manure should be buried 18ins. to 2ft. below the surface. Do not place the manure in the trench in lumps, but incorporate it in the soil generally. The reason for deep burying of the manure is to induce the horseradish roots to go down straight and deeply in search of the moisture and nutriment. Select straight roots, young ones, about 9ins. long and place them in an upright position, 1ft. apart in the lined trench. Bury the crowns—single crowns to each root—2ins. below the surface. The rows should be 18ins. to 2ft. apart, as the resultant leaves from strong plants will entirely cover the whole of the space by August next and by the end of the year very fine roots will be available for lifting as required. The only attention needed during the summer is to hoe between the rows frequently to keep down weeds and maintain a loose surface soil.—G. G.

Soil Pests in Winter.

IT is important that the gardener should distinguish between his natural friends and foes. A good instance is to be found in the case of millipedes and centipedes. These strange creatures—which, by the way, are not insects—hide in cracks and under stones, in which positions they are often discovered during the winter. Now, millipedes feed on vegetable matter, such as roots, tubers, bulbs, etc., and should always be destroyed; on the other hand, centipedes live on insects, grubs, worms, slugs, etc., and, to a certain extent, render the grower many a good turn.

The differences between millipedes and centipedes are as follows: Centipedes have long feelers on their heads, while millipedes have much shorter ones. In the case of centipedes the body is flat, but with millipedes it is rounded and not unlike the familiar wireworms. Centipedes are usually reddish brown in colour and have a curious twisting way of moving about; they have twin legs on each segment of the body, that is, one on either side. Millipedes do not twist about so much when they move, and have four legs to each segment or two on either side.

Happily, there are plenty of easy ways of destroying millipedes. Soot or lime, employed as top-dressings or forked into the soil, are excellent. One or other of the well known soil fumigants, like Vaporite or Kilogrub, are sure remedies if the directions given on the packages are carefully followed. Millipedes are particularly likely to lurk in leaf-mould. Here a very excellent method is to pour some carbon disulphide (a tablespoonful to every bushel of mould) right down into the middle of the mound. Protect with sacks and leave for three days. The poisonous liquid will permeat the whole mass and kill millipedes and other pests as well. In the end the carbon disulphide will simply pass off in the form of a vapour.—L. B.

SOME MODERN VEGETABLES WORTH GROWING

TASTE and discrimination in the choice and enjoyment of good vegetables are not, I fear, attributes of the inhabitants of the British Isles, but few will deny the wholesome benefits derived from their consumption.

I suppose that less serious and systematic cross-breeding has been done with vegetables than has been the case with flowers and fruit, and yet, within the memory of most of us, the improvement and development of vegetables have advanced enormously and surprisingly I wonder what our fathers and grandfathers would have said to that superlative exhibit of modern vegetables that was staged by my friend Mr. Beckett at the Royal Horticultural Hall on October 19th this year. I will take it upon myself to go so far as to say that no such fine exhibit of vegetables has ever before been staged, and that nowhere but in Great Britain could it have been staged: that is the great point. Our climate, with all its so-called drawbacks, is, without doubt, eminently suitable for the cultivation of all vegetables, with, perhaps, the exception of certain tropical subjects, and even these offer no difficulties to men with such glass-house skill as Mr. Beckett and some of his contemporaries possess. Perhaps it would be better if I qualified a little the remark I made just now about less breeding having been done with vegetables than with other subjects. I should, perhaps, have said that a greater advance had been made all along the line in vegetables by selection and re-selection of stocks rather than by cross-breeding, for although I am, of course, well aware that a great deal of this latter work has been done with peas, beans, potatoes and certain other things, yet I consider that a great deal still remains to be done in this direction in vegetables generally. Let me give a few instances of what I mean. In lettuces, I should like to be able to find a cabbage lettuce or self-folding cos that tasted like the old black-seeded Bath Cos, for, to my mind, that is the only lettuce that possesses real flavour. I would like to find more of the newer productions in peas with the flavour of Ne Plus Ultra; breeders appear to be working for size alone, without consideration for flavour. Then, again, the tomato should be bred more for flavour than for crop, which latter appears to be the only object at present. To anyone with a discriminating palate, the enormous range of tomatoes now on the market differ in flavour to a remarkable degree, the yellow ones being, as a rule, the most delectable of all, and in this connection I may, perhaps, be allowed to draw attention to one called Orange Sunrise, which I raised some few years ago, and which a number of good judges still tell me they consider the best for flavour.

What applies to tomatoes as regards colour undoubtedly applies also to turnips, for a yellow turnip exceeds in flavour and quality the others, an outstanding example of this being the delicious little root named Golden Ball, a comparatively recent introduction.

The vegetable marrow, in its now numerous varieties, may justly be described as a rather tasteless and insipid thing, but the custard marrow does possess real and characteristic flavour, and some years ago it was my good fortune to hit upon a cross beween this and another variety from which was evolved the little orange-shaped marrow called Rotherside Orange, which I find, both for flavour and shape, seems to be popular with all who grow it.

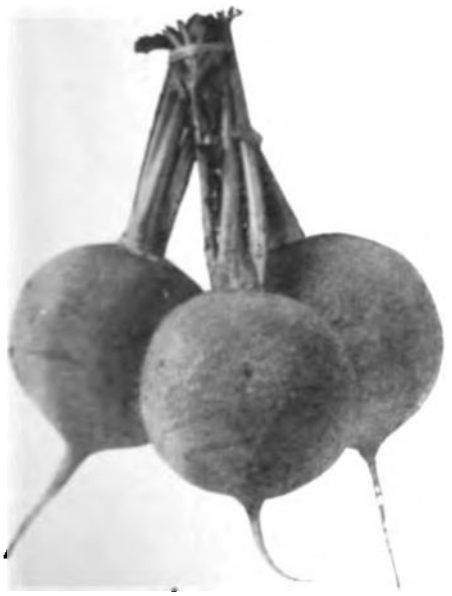
Harking back to tomatoes, I received some seed last year from America of a fruit denominated "Pepper-Tomato," which was claimed to be the result of a cross between the capsicum and tomato: from this seed I raised and fruited a number of plants. I do not doubt that the raiser *tried* to make the cross, but the result of his efforts is a rather curious fruit with no apparent trace of capsicum. It is just to all intents and purposes a tomato, but of a pinkish-purple colour, varying in shape, and a very poor cropper. It has the merit of being firm and very fleshy,

THE NEAT ORANGE-SHAPED VEGETABLE MARROW ROTHERSIDE ORANGE.

and is, I find, excellent grilled with bacon, as a breakfast dish.

Carrots are a vegetable I have not as yet named. When quite young and pulled from an early frame and cooked whole, they are a delicacy to look forward to and enjoy; but later in the season I find there is little demand for them in the kitchen except for flavouring purposes. The little long carrot, Carter's Holborn Forcing, gives good results if sown in a frame as early as November and taken care of. I find the roots mature and are ready for the table about a fortnight in advance of those sown in early spring, not a great gain, perhaps, but I think well worth it.

Broad beans are another crop that we always sow here in November, on the lightest piece of soil we can find on our rather heavy loam, and here also there is a gain in time on the spring-sown ones. Here let me note, and call readers' attention to, a new variety called Sussex Wonder; it has only appeared in the seed lists this year, but I have been fortunate enough to be able to sow and grow it for several seasons past, and for cropping, size of pod and early maturing it beats easily any variety I have yet seen. And let me add that early maturing



SUTTON'S GOLDEN BALL. A TURNIP WORTH GROWING.

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is, with the broad bean, a very important point indeed. What I mean is this: One notices that, as soon as ever peas come in, very few broad beans are asked for, and Sussex Wonder, sown either in November or early spring, is, at any rate, a good time ahead of the earliest outdoor peas.

Coming to peas, and continuing my remarks on earliness, we find Sutton's Bountiful the favourite here. It gives a large and heavy crop of well filled pods, and the flavour, for a round-seeded pea, is excellent. This pea we sow in December, outside, and, although there is always a certain element of risk in sowing before Christmas, I find on looking through records, that we have had an excellent crop from Bountiful in nine seasons out of ten. In this variety I found a sport some years ago, growing rather taller, and the pods rather smaller and deeper green in colour, but these are almost invariably borne in pairs, and the plants give an immense crop, standing up against any sort of weather, and giving plentiful supplies when other sorts are scarce. For this reason I would not be without it for anything, but I have hesitated to introduce it and send it out, for, very possibly, the same thing may have already appeared and been sent out from other quarters, and there is little use in multiplying varieties in these days unless the article is quite top-notch.

F. HERBERT CHAPMAN.

WHAT OUR READERS SAY

HARDY CYCLAMEN.

SIR,—I note in your issue of December 18th, page 734, that Mr. Ralph E. Arnold has fallen into the error of stating that C. africanum is sometimes known as C. hederæfolium. I would call his attention to the fact that C. africanum is known under the name C. algeriense macrophyllum, and that C. neapolitanum has usurped the name of C. hederæfolium. Many writers have muddled the name of these three varieties. I have in front of me several leading catalogues, and there are not two alike in their description of C. hederæfolium. Reginald Farrer in "The English Rock Garden," Vol. I, writes: "C. repandum has often wrongly been called hederæfolium, a name to be dropped," but he does not state the reason. He gives C. neapolitanum the description of C. hederæfolium. I cannot conceive that C. repandum can be mistaken for hederæfolium, for repandum flowers in the spring and hederæfolium in August, September and October. In my possession there are some old books, and I find the name C. hedcræfolium, but I cannot trace C. africanum or C. neapolitanum. One book dated 1745 mentions autumn cyclamens and spring cyclamens. I use the plural because the book gives it, and to me it appears there were different varieties, most likely C. europæum and C. vernum. I am entirely of the same opinion as Mr. W. Robinson, author of "The English Flower Garden," in his second edition, page 364, where he states the great difficulties of our botanists in clearly defining the species of cyclamen. Another book I hold says Gerard cultivated C. hederæfolium in 1596. In the "Hand List of Herbaceous Plants Cultivated in the Royal Gardens, Kew," 1895, this description is given: "C. africanum, *Boiss & Reut.*, North Africa. C. hederæfolium, *Ait.*, South Europe. C. neapolitanum, *Tenore*, Europe." The authorities there evidently considered there were three varieties. I have come to the conclusion that C. hederæfolium can be traced back farther than C. africanum or C. neapolitanum, and should therefore stand before us as firmly as C. europæum continues to do.

At Croydon we have grown hardy cyclamen for twenty-nine years, and we have raised countless seedlings. In digging up an old bed lately we lifted a corm of C. hederæfolium 9ins. across. I have replanted this giant, and it has started well. It was one of the original corms planted at the time we made the bed twenty-nine years ago, so the age of a corm is great.—MARK MILLS, *Croydon*.

THE RATHER HANDSOME STAPHELIA GRANDIFLORA.

CHRYSANTHEMUMS ABROAD.

SIR,—I enclose two photographs which may interest your readers. The chrysanthemums, a white incurved variety, were picked growing out of doors on November 18th in a bed in the kitchen garden. During August and the first fortnight of September, very little growth takes place, but they develop with astonishing rapidity as soon as the first rains fall and the temperature cools, usually towards the end of September. Even single chrysanthemums, owing to the great heat during the summer months, when the temperature has been known to reach 110 degrees in the shade, never flower before the second or third week of October.

All staphelias do well here, where conditions greatly resemble their native haunts. S. grandiflora is a particularly handsome variety and the odour is less offensive than in many of the family, though sufficiently attractive to flies, which visit the open flowers, deceived by the resemblance of the scent to decaying meat, and lay their eggs, fertilising the flowers in the process.—CHRYSTOPHER SANDEMAN, *Jerez-de-la-Frontera, Spain*.

A NEGLECTED ROSE.

SIR,—Recently some readers of THE GARDEN have drawn attention to certain varieties of roses whose merits seem in danger of being overlooked, and I am glad the Editor has thought fit to publish their remarks. I in turn should like to draw attention to a variety which seems to be neglected unjustly. It is a rose of French origin, with a pretty and well deserved name, Gerbe Rose (Rosy Sheaf). It was raised by Barbier in 1905, and the National Rose Society catalogue says: "Pale pure pink. Climber. Pillar, bush, screen, wall. Dense glossy foliage. Nearly thornless. Large flowers for a wichuraiana. Flowers again in the autumn. Fragrant." That sounds to me cold, official sort of language. I grew it as a pillar in Cheshire some years ago on damp clay soil. It grew with extraordinary luxuriance, sending out so many fine growths I had to reduce if frequently to keep it within bounds. The foliage alone would make it worth while growing: a beautiful bright glossy green, always clean and healthy. The blooms are rather flat and not very shapely, but they come in such quantity and so continuously, are of so good a colour

A BOWL OF DECORATIVE CHRYSANTHEMUMS.

and so deliciously scented that one overlooks the lack of shape, which in any case is hardly looked for in roses of this type.

Wishing to plant this variety in my new abode in Yorkshire, I found difficulty in ascertaining where it could be had. It seems to have dropped out of some of the leading catalogues, but at last I found it advertised in THE GARDEN by a Yorkshire firm. It is a mystery to me why such a splendid rose should be given the go-by. I asked the firm from whom I got my original plant, but got no very clear answer. I think it is perhaps one of those not infrequent cases where the layman or amateur can exercise a healthy influence on the exuberance of the expert. After all, experts raise and propagate roses, and no one is more grateful to them than I, but in the main it is the ordinary folk who grow them on to maturity and often to honoured old age. It is we who know them in civil life, so to speak.

All this prompts me to ask—where are we getting to in the rose world? Perhaps the Editor will allow me a little more space later on.—H. F. J.

THE GARDENER'S LOG [BOOK.

SIR,—Your Editorial of December 4th, 1926, prompts me to suggest the advantages of using the card index system for the garden record. The card index is in very common business use and can, with ease, be adapted to one's garden. It consists merely of a series

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of cards, which are always kept in alphabetical order. The blank cards are very cheap and can be bought in several sizes from any stationer. Cards tabbed with the letters of the alphabet can be had to subdivide the bulk under letter headings. Each card should have the name of the plant or shrub in large letters at the top and be filed alphabetically.

The system is most elastic. The gardener can give as much space as he needs to any variety of plant. Each variety of, say, pyrethrum, might have a separate card, but each one would, of course, be placed under the heading "Pyrethrum," behind the letter "P."

All comments on any particular plant should be written on its own card. Soil preparation and rotation could have cards to themselves.

Hosts of variations suggest themselves. For my tiny garden all the cards are together, but a large place could have separate files for flowers, vegetables and shrubs; a gladiolus enthusiast may prefer to keep those cards apart from the general record, etc.

The advantages of the method are (1) that it is never finished. As plants are added, cards are put in bearing their names. As plants or strains of seed are discarded the card remains to say why; (2) that the record of years is always present. Instead of having to search through a number of diaries, the behaviour of a plant during several seasons and in varying conditions is under the eye on one or two cards.

The idea has no doubt already been applied to many gardens, but probably other enthusiasts may welcome a simple way of recording their observations. One must be careful to return each card to its proper place in the file, that is the only point to watch.—JAMES W. HARKER, *Durham*.

A NOVEL MUSHROOM BED.

SIR,—Stable manure is very expensive, not easy to obtain and often of extremely uneven quality. In some quarters it seems no longer fashionable to feed horses on oats or hard food, with the result that the would-be grower of mushrooms who has no stables of his own is often faced with failure to a greater or lesser degree when attempting to grow this succulent fungus. Have any of your readers attempted to grow mushrooms on an "Adco" bed; and, if so, with what success? If successful, any hints on the preparation and treatment of such a bed would be of great value.—C. J., *Enfield*.

[We should be pleased if any readers who have experimented with Adco (a chemical material which greatly assists in the decomposition of all garden refuse and transforms it into synthetic stable manure) in this connection will give us their experience. There seems little doubt that this idea of our correspondent could thus be made extremely useful.—ED.]

STORING APPLES ON STRAW.

SIR,—My experience does not confirm your correspondent's method of keeping apples on a dry shelf on a layer of clean straw as by any means the best method of procedure. However clean the straw may be it will undoubtedly communicate its peculiar smell to the apples and, moreover, the dry shelf will hasten evaporation from the apples and soon leave them in a shrivelled condition. For those who have no special facilities for storing apples, I have found far and away the best method is to wrap each apple carefully in soft paper, perfectly greaseproof, pack them in a wood box closely, one layer on the top of another, having first lined the box with paper and then put the lid on and leave them severely alone until they are wanted. It is, of course, essential that only perfect apples be packed in this way; any with even the smallest insect bite in it will go bad. If, however, an imperfect fruit has inadvertently been packed up and goes bad, the wrapping of paper will effectually prevent it infecting any of the others.

In this way I have kept Cox's Orange in perfect condition without a sign of shrivelling until April; other apples have given equally good results.—A. T. MAW, *Leatherhead*.

SIR,—If Mr. H. A. Day wishes to store a few pounds of choice apples until Christmas and has no fruit room, ice house, etc., then why mess about with straw? Why not wrap each apple in tissue paper, they will keep quite well and certainly will not become tainted. Apples sweat and in so doing exude an oil; if this oil touches straw the musty flavour will at once be apparent when eaten. The state of my mind, I am glad to say, is not such that I cannot distinguish between an apple stored among straw and one that is not.—GEO. STUART.

THE MAKING OF LEAF-MOULD.

SIR,—I read in the issue of THE GARDEN for December 18 the correct method for making leaf-mould, and suggest my simple plan to those readers who also run a pen of poultry. From October till after the breeding season is over I run my young fowls in a roofed-over wire netting enclosure. When the leaves begin to fall I fill up this enclosure—4ft. or 5ft. deep—with leaves and add to this from time to time. I fling all grain fed to the birds among the leaves, which make excellent scratching litter. I fork the litter now and again, and by springtime the leaves have all disappeared and I have a beautiful fine mould for my seedlings.—N. F.

TRAPPING MICE.

SIR,—May I suggest that your correspondent should add to his instructions for the trapping of garden mice, the suggestion that the trap should be covered by a box or large flower pot, slightly tilted, to allow free passage to the mouse; but inaccessible to birds. I once set an unprotected trap and caught a blackcap and have never left one open since. I always find protected traps quite efficacious. —ANNIE J. HOBBS, *Lympstone*.

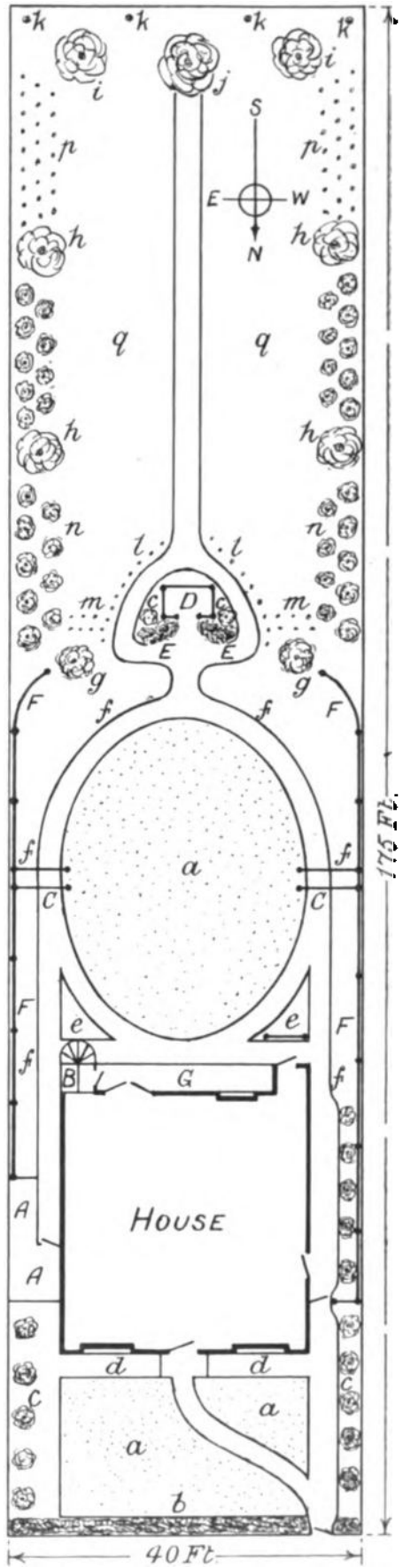
A REMEDY FOR ROUGH HANDS.

SIR,—I was interested in the paragraph, "A Remedy for Rough Hands," on page 705 of THE GARDEN, December 4th. Personally I have discovered a very fine remedy in a hand cleanser called "Adcol." It thoroughly cleanses the hands and keeps them very soft after the grimy toil in the garden and incidentally it contains a harmless disinfectant which cleanses skin wounds. I have also found it a cure for chilblains, if unbroken. Myself I have difficulty in purchasing it. The makers are Alexander Duckham and Co., Limited, of 6, Broad Street Place, London, E.C.2.—G. T. J.

THE DESIGNING OF A SMALL GARDEN.

SIR,—Garden design being the order of the day, I venture to enclose a sketch of my newly formed garden in the hope that it may interest your readers. In working out this design I had two main objects in view, to enclose the garden as much as possible and yet to keep the centre open and visible from the house.

The accompanying design may prove of use to those readers who desire to form an enclosed garden with a fair sized lawn for children to play on, etc. The herbaceous border, with the rose covered trellis at the back, looks very well indeed and a rustic summer house with a thatched roof and small rockeries on either side gives a finishing touch to the flower garden. The whole looks very pleasant from the house. The sketch sufficiently explains the scheme of planting.—L. B. PYCROFT, *Essex*.



A Shed and coal box. B Greenhouse. C Two arches. D Rustic summerhouse. E Two small rockeries. F Trellis or other trellis. G Veranda. a Lawn. b Hedge. c Shrubs. d Flower borders. e Two beds of dwarf roses. f Herbaceous border. g Bush cherries. h Half-standard apple and pears. i Standard plums. j Standard apple. k Loganberries. l Early-flowering cherry and clematis. m Standard lilacs. n Currants. o Gooseberries. p Red berries. q Space for vegetables. The trellis and summer house are covered with climbing roses.

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THIS MONTH IN THE GREENHOUSE

The Heliotrope as a Winter Flower.

FLOWERS of delicious fragrance are welcome at all seasons, but never more so than during winter. In this connection one has a word of praise for heliotropes that at one time were more commonly grown for winter blooming, than is the case to-day. Some plants in my greenhouse have now been in bloom since November. In plants for winter flowering buds must be pinched out in summer, and the plants grown on specially for their later value. It is mainly a question of sacrifice and not heat. Just as one prepares cuttings of zonals in spring, and potting on the plants subsequently until, finally, pots of 5ins. are reached, so a similar line may be followed with heliotropes. The same compost suits either, *i.e.*, old friable loam, leaf-mould or spent hops, with a dash of bone-meal, and every flower bud discarded until autumn when plants are removed from frame to greenhouse. It is when heliotropes are so dealt with, and their blooming retarded, that one may count on a show of blossoms in a house the minimum winter temperature of which does not fall much below 55 degrees. Heliotropes make excellent plants for the back walls of lean-to houses, and, if reserved specially for winter blooming, provide quantities of sweetly scented clusters. Planted out in a border within a house, they will soon occupy a desired space if trained out.—CLAREMONT.

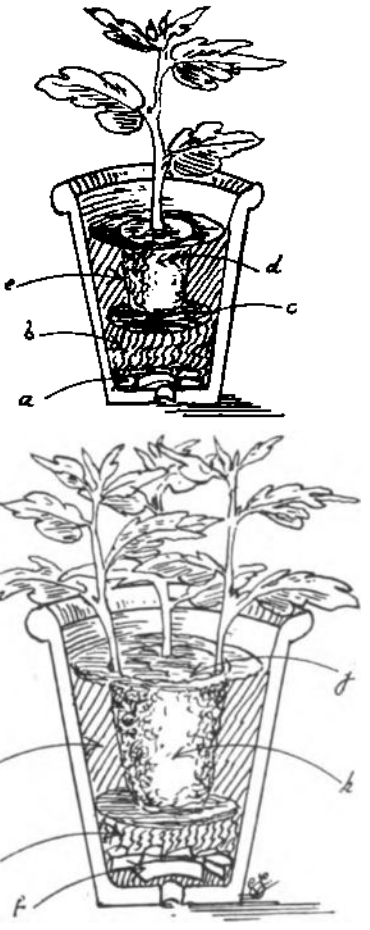
The Cool Orchard House.

IN this country, even in the southern counties, hardy fruits often fail to crop satisfactorily in the open air. They do not require any artificial heat, but the protection of a cold structure, that is, a house unheated, generally ensures good crops if the trees receive proper attention and, in such structures they do require more attention than in the open air with regard to watering, feeding and cleanliness. There is no better time than the present for carrying out certain work, cleaning the branches, the interior of the house, the renovation of borders and the top-dressing of those specimens that require extra rooting soil. The roof of the house should be cleaned first, the glass with clear water, the wood portion with soapy water, any wires existing with paraffin, the trees should then be cleaned, then the walls, the latter being whitewashed and the surface of the borders last, and before any new compost is added to border, pot or tub. After the trees are pruned wash the bark with tepid water and, whether scale or mealy bug be found, wash with a proper strength solution of Gishurst compound, but not touching eyes or buds with the mixture. Surface dressings should be of extra good materials. Fibrous loam, two parts; rotted manure, one part. To each bushel add a 6in. potful of bonemeal and for stone fruits an equal quantity of finely powdered lime. Make all new additions very firm with the aid of the blunt rammer and water at once to settle the new compost further.—G. G.

Potting Chrysanthemums for Exhibition and Greenhouse.

THE successful cultivator of the chrysanthemum decides what to do with his plants right from the cutting stage. If he grows for exhibition and also for procuring great quantities of bloom for cutting or furnishing the greenhouse, he should keep the plants separate from the start. Of course, odd plants, in a very young stage, being a surplus from the collection for show purposes, may be treated differently so as to bear many blooms finally, instead of the orthodox three or so.

From early in January until the middle of February, there will be batches of newly-rooted cuttings that must be potted singly or in threes, as shown in the sketches. The pots for the plants should be selected accordingly so that the shift to each one will be a suitable one. Early potting is essential to success. Never allow a young plant to remain too long unpotted when the roots need more soil to permeate. If young plants are once stunted, their stems, near the base, always remain thin and unduly hard, thus impeding the free flow of sap and nutriment later in the



season. Do not decide to pot up all young plants at once, whether they require this attention or not, but deal with a few at a time just as they do need potting, even if you are potting some several times each week.

Pots and crocks should be clean, of course. The compost need not be of a fancy mixture. Fibrous loam, two-thirds; leaf-soil, one-third, with a nice addition of silver sand or, better still, if available, builder's mortar rubble. A 5in. potful of bonemeal to each bushel of the combined parts is all the manure needed now.

The single plant shown is intended to bear exhibition blooms. At *a* a few crocks only are needed for drainage; at *b* a little of the roughest of the compost; at *c*, this is firmed, the ball of soil and roots placed in position; and at *e* the remainder of the compost is added sufficiently to fill the small pot. The three plants shown should be repotted from time to time, as required, without being disturbed at their roots. At *f* and *g*, drainage and rougher compost, respectively; at *h* the ball of soil and roots; at *i*, the new compost; at *j* the right depth to pot is shown, no new soil being placed over the roots and space is left for effective watering.—GEO. GARNER.

Begonias Under Glass in Winter.

THE great masses of flowers, borne by the winter-flowering section, are greatly appreciated at a time when the weather is, mostly, dull and cold. In the opening year there are few kinds of available flowers—even those from bulbs—that afford a more pleasing and brilliant display. The foliage of Begonia Rex is, too, a charming feature in the warm greenhouse. A glass structure with a summer temperature is ideal for both plant leaves and flowers. Then it is necessary to pay close attention to the atmospheric conditions and the watering. Feeding is not necessary as stimulants should be applied while the plants are growing and the pots filling with roots after the final potting. Excessive moisture and a low temperature spoil the flowers and often cause the leaves to damp at the joints and fall off. The winter-flowering plants do not possess tubers, but very swollen or thickened root stems and great numbers of fibrous roots; so we see how necessary it is to be careful as regards atmospheric moisture and water in the soil at this season. Probably Begonia Gloire de Lorraine, pink; Turnford Hall, blush; Elatior, rosy carmine; Emily Clibran, orange-salmon; Winter Glow, bright red and the hybrids resultant from the Socotrana crosses are the general favourites. Plants of the last-named class possess larger leaves and flowers than those of the Gloire de Lorraine class and are more susceptible to damp. In a short time, now, the flowering strength of the plants will fail and then they should be allowed to dry off a little at the roots and be subjected to a slightly lower temperature. A shelf about 2ft. from the roof glass will be a suitable position for them until the very early part of spring, when the influence of more moisture and a higher temperature will induce the growth of basal shoots suitable for propagation.—CHRISTCHURCH.

Sow Tomato Seed Now.

GROWERS who have special facilities, as, for example, a suitable greenhouse, a good source of heat and time to attend to the work, may raise tomatoes in December, but most people do not make their first sowings until January. The lack of sufficient daylight is a drawback with early sowings, for it is very difficult then to keep seedlings short and sturdy. It is always a wise plan to prepare a good compost beforehand. I am a firm believer in the efficacy of sterilised soil and, as has often been pointed out, sterilisation is best carried out some time in advance of actual needs. The compost must not be a rich one; good loam is required, a little sand and, perhaps, a little leaf mould, well rotted. At this time, however, seed must be ordered—and this is probably the most important point in tomato growing. Good seed, seed saved from pedigree and healthy plants, is distinctly essential—seed from a source that has proved itself reliable in past seasons. Good seed may cost more, but it is cheap at any reasonable price. Sow it when the correct time is determined on; seedlings will appear in a week and these may be got into small pots, deep down, as soon as they are a couple of inches high. He would be a daring man to list the "best" varieties; really there are many first-class kinds to be had and the difference is very small. Let us name a few—a good catalogue or catalogues will describe them—Market King, Sunrise, Selected Ailsa Craig, Matchless, Devon Surprise, Champion, Leigh Park, Everyday, Best of All, Aldowrie and so on.—LANARKSHIRE

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Damping in Frames.

Apart from the continual rain and sunless days, this season generally brings much fog and to all who have frames of various plants, such as lettuce, cauliflower, etc., damping off is one of the worst things to contend with. A quantity of unslaked lime, however, about the size of a coconut, put in a flower pot or small box and placed under each light will be found to absorb all the moisture which would otherwise settle on the plants. This answers the same purpose in a greenhouse where chrysanthemums are grown, firing being clear at this time and not a necessity.—C. E. J.

To Obtain Skimmia Berries.

Most garden lovers know that, owing to the unisexual nature of the flowers of Skimmia japonica, an isolated plant of this species cannot produce berries without artificial fertilisation—an operation which busy people generally overlook. It is not generally known, however, that by planting S. Fortunei, an equally attractive species, it is neither necessary to purchase male and female plants, nor to fertilise the flowers by hand, for every plant produces its crop of berries annually without the intervention of the gardener.—A. J. I.

Failure of Clematises.

When large-flowered hybrid clematises are planted against a hot, sunny, south wall, trouble often ensues if the sun is allowed to beat upon the base of the plant. Weak puny growth that is apt to shrivel and collapse is the usual form the annoyance takes, and often the plants will die off altogether in a year or two.

To obviate this nuisance, assuming, of course, that other conditions are favourable, moderately tall growing shrubs or perennials should be planted in front of the clematises. The benefit of the shade thus given is soon apparent, and strong healthy growth, with abundance of blossom, is the natural result.

We were troubled in just this way for two or three years, but since providing shade we have had no further difficulties. Curiously enough, C. montana, planted at the same time and along the same wall as the Jackmanni hybrids, forged ahead without the least check, and has long since reached the top of the house. Probably this and similarly vigorous species are immune from the trouble as they develop woody bark-protected main stems.—B. D. S.

An Efficient Method of Manuring Runner Beans.

This method I have found successful for many years. Choose the required position for the current year's sowing. Dig out a trench 2½ft. to 3ft. deep and 18ins. wide. Use this cavity all the winter for garden rubbish, such as leaves, old greens, even the stems of Brussels sprouts and household refuse may be deposited. Sprinkle with lime at intervals. When spring comes, fill in the trench and sow the beans in the usual way, a dusting of superphosphate at that time being beneficial. The trench proves a useful dumping ground and also provides in due course the necessary humus required for the roots of the bean plants to feed on. Pea trenches may be treated in the same manner.—S. H.

A Good Way to Get Early Peas.

Take some rough turf, cut it into strips about 6ins. wide and about 1½ins. to 2ins. thick. Turn the turf so that the grass is at the bottom. Then take a small dibber and make the holes big enough for a pea to go in, making three rows in each turf and 3ins. between each pea in the rows. Place in a cold frame and when the seedlings are about 6ins. high harden off and plant out. When planting, draw out a drill as if for potatoes, seeing that it is even at the bottom. Take the turf containing the peas and place it along the drills, then draw the soil up so as just to cover the turf. I find that the Pilot pea is the most hardy. A good time to sow is about the middle of January.—E. M. H.

An Economical Means of Using Lawn Sand.

Owing to the price of lawn sand, I find the following method most economical: Mark off with a garden line a strip 6ft. wide of lawn and with a large cocoa tin (1lb. tin) filled with lawn sand squeeze the tin so as to form an oval shape and just drop sufficient sand on each weed. Follow with successive strips until the whole lawn is dealt with. It is surprising how far a hundredweight of lawn sand goes if used in this manner.—A. W. M.

Forethought When Planting.

When forming plantations of trees and shrubs, it is always advisable to look into the future and allow of ample growing room. This is neglected in many gardens owing to the craze for immediate effect. When ample room is allowed good use can be made of the section planted with trees, in that, to form an undergrowth and to protect the shrubs, many varieties of cuttings can well be grown without difficulty. What shade is afforded by the trees will serve to protect the cuttings during the dry spell of their first summer. I have found that all varieties of poplar, willow and dogwood do well, while Buddleia variabilis and B. globosa, philadelphus, deutzia, ribes and elders are just a few of many others that can be treated successfully in this way. The advantages of this method are that the ground is fully occupied by permanent trees and by cuttings which after one or two seasons' growth may be lifted for planting elsewhere. In the meanwhile extra protection is afforded to the young shrubs by the growths of the cuttings.—R. B. H.

PROTECTION FOR GARDEN FRAMES

The Brick Frame.

THE garden frame may be termed the miniature greenhouse; it is a valuable asset, of which great care should be taken. Throughout the summer months it is only necessary to put on coverings to screen the plants from the sun's rays. But from November to mid-May coverings are needed, not only to exclude frost but also cold air and damp. If a frame is kept closed and covered for a considerable time the plants inside will suffer from excessive damp. But it is a fact that occasional covering with mats, bags or sacks will exclude fog and atmospheric moisture when the air is heavily charged with it. I strongly advise cultivators to use their discretion and put on the covering material at such times even when there is no likelihood of frosts occurring.

Brick frames are better than wooden ones for preserving plants during a severe winter because of the thickness of the walls, and, as frost strikes downwards, the owner of the frame or frames can concentrate on the top covering mainly. Frost follows air, so that one must be careful about the close fitting of the glass lights and see that the wall-plate fits well on the brickwork, and that the mortar is sound immediately under it. It is good policy to form a mild hot-bed against the walls in cases where any plants or vegetables are being forced. Strawy litter, freshly gathered leaves and old grass, the trimmings of banks and rough ground should be mixed together and piled against the walls of the frame. A mild heat will be engendered which will keep the walls warm and also the air immediately around the frame. I have used such materials for this purpose and seen the snow melt as it fell on the bed. With a mat placed directly on the glass and on the mat a foot-deep layer of dry litter 20° of frost can be excluded for two or three weeks. This is of considerable importance where there is tender growth inside the frame, which would perish if frosty air gained access. It is of the utmost importance, too, that all protecting material be kept dry. Litter, when on the frame, should be carefully raked straight down to form a thatch and thus convey most of the water to the ground, then the under layer will remain dry.

Wood Frames.

These are more common in gardens than brick ones; few of the latter are built now. The same principles can be applied, however, as in the case of brick frames except in regard to forming mild hot-beds against the walls. The heat and moisture combined would soon cause the wood to decay. But I use a lining, nevertheless; it is one of quite dry litter, which does not engender heat. The perfect covering for a wood frame—which, by the way, should not contain plants as tender as those in a brick frame—is one used as follows: Large, dry mats or sacks are first placed on the glass lights with their ends well extending over the sides of the frame, then a layer of dry litter and, finally, mats or bags on the litter. A few rather heavy sticks or boards placed on the mats will prevent the wind blowing them off and the straw too. Sometimes winds do in the night dislodge the covering material and then frosty air enters and kills or harms the plants. Furthermore, the mats keep the litter within bounds and tend to general neatness. Always put on the coverings, in case the nights are likely to be frosty, before the sun sets—one hour approximately. Do not remove the material too soon the following morning when frost occurs only during the night. Wait until the temperature is about 6° above freezing point.—G. GARNER.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumtances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Sowing Gardenia Seed.

I have been sent some seeds of gardenia from South America. They are hard, oval fruits about the size of a nutmeg. Will you kindly tell me if they should be planted whole, or how? Also in what soil and if now or in the spring?—A. G., Freshwater, I.-of-W.

The hard wood fruits of gardenia should be broken open before sowing the seeds. You can sow them now as they usually take a long time to germinate, sowing them in light, sandy soil, such as you would use for most seeds. After sowing, the pots should be plunged in a warm propagating case with plenty of heat at command. There are, of course, quite a number of species, most of them native of South Africa, China and Japan.

Establishing Mistletoe on Oak.

I want to graft mistletoe on an oak tree and I see in one of my bound volumes of THE GARDEN *that full directions are given; these I will follow. But it says, "Sow the seed on a bough three or four years old"; as the oak tree is fully grown, I cannot do this. Do I stand a fair chance of succeeding, if I sow the seed on an old bough of the oak? I have excellent mushrooms this year in a field and a few days ago I found them on a heap of old grass with sand and leaves mixed with it. Ought I to keep this patch undisturbed for another year or can I transplant it—so to speak—to another part of the field, so that I can dig the rest of the heap of rubbish into the garden? Owing to some slight alterations which I am making to my rose garden, I find that many of the roses will need transplanting and, incidentally, that some of the beds will have to be drained. The roses have been in their present positions for six years and I want to know if they will transplant successfully? I should like to say how much I enjoy your paper and what valuable hints I get from it.—E. N. C., Buckhurst Hill.*

The three or four years old oak branches are preferable, but older ones may be selected for sowing seeds of mistletoe on. Sow the seeds at the end of February, when they will be sufficiently ripe, in slits of the bark on the underside of the branch. Wrap some thin muslin over the branch and seeds, to protect the latter from the birds. Keep Christmas mistletoe berries until that time—February—in a cool, dry shed, retaining them on their branches. Mistletoe grows best on apples, poplar, mountain ash, thorn and lime. You may succeed with the mushrooms if you remove the heap carefully in large lumps to a well drained part of the field, but the mycelium may perish if disturbed now. It will be quite safe to transplant the roses now.

Camellias in the Open.

About fifteen years ago I planted out in an old sandstone quarry a small camellia from a pot. It has grown well, till now. It is fully 4ft. high and a fairly large size round. Up to the present it has never bloomed, but this summer I find it covered with large and healthy flower buds. Will you kindly inform me whether the bush should have any protection during the coming winter, and if so, whether it should remain covered or have the covering removed from time to time? I think my recollection of camellias at the Italian lakes and elsewhere is that they remain covered the whole of the winter, but I am not sure of this.—E. M. A. H., Lichfield.

The great difficulty with camellia culture in the open air is this country is that, though the plants are perfectly hardy, they flower in winter and early spring, being invariably damaged, if not destroyed, by frosts. The best arrangement is to fix up a light skeleton framework of wooden battens surrounding the plant, and over which frigidoma or some similar cloth covering can be placed during frosty weather. Remove the covering during mild spells, and, if possible, for a few hours in the middle of the day when the nights are cold.

A Lettuce Pest.

Early this summer a plague of small beetles attacked my lettuce beds. They demolished completely every sign of a lettuce, went on to the parsley and demolished that, and so on to thyme, tomatoes and dahlias, of which they only attacked the flower. They smothered in all about a quarter of an acre, doing great damage to other things beside the above, such as seedlings of cabbage, cauliflower, etc. I tried various washes, etc., without success. I showed the creatures to many local gardeners, who had never seen such things and could not help me. The beetles have a long proboscis and are about as large as a large flea, black and fairly hard. Can you tell me what these are and how to get rid of them?—G. A. H.-Y., Yoxford.

Judging from the description which you give of the small beetle-like insect, it is probably one of the phyllotreta, perhaps P. concinna. They are allied to the turnip flea beetle and do a great deal of damage to crops. All weeds, especially charlock, should be cleared off the ground and as much autumn tilling of the soil done as possible. Winter dressings of lime and summer dressings of soot keep down this insect considerably, also paraffin emulsion sprayed finely on the crops. The poorer and drier the soil, the more the pest attacks the crops.

Unhealthy Vines.

I am writing to ask if you will, through your paper, THE GARDEN, *give me some advice what to do with the Black Hambro vines here. They are quite all right as regards foliage and wood and they set quite well and stoned, but many of the berries neither swelled nor coloured properly, but turned quite red. The border is an inside one and I think the drainage is all right and the vines are not old, planted in 1923. I was wondering if lime would do any good as there is none in the soil here. If you can help me in any way I should be extremely obliged to you.—A. O. S., Mallaig.*

Young vines do, sometimes, behave in the way yours have. Undoubtedly some lime and lime rubble, mixed with the surface soil and watered in during the autumn, would prove very beneficial. Two or three ounces of bone meal per square yard would also do good. But your young vines may be over-cropped; if so, the berries would fail as you state; they even shank at this early stage. Attend to the watering in due season, avoid over-cropping, take care of the main leaves, allowing them room to grow in and get the wood thoroughly ripened.

Weeds on Lawns.

I have recently had a lawn made by a local firm of nurserymen gardeners, but find the turf full of weeds, as enclosed root. I have already pulled out several bucketfuls, but if I keep on pulling it out the turf will be spoilt, as there is so much of this weed impregnated in the turf. Can you tell me if the weed will die off during the summer if I keep the lawn cut close? The lawns here burn up in the summer through having no depth of soil. My garden was virgin sand six months ago. All the soil has to be imported.—G. F. H., St. Anne's-on-Sea.

It is unlikely that the weed in your lawn will be destroyed by the use of the mower, although constant cutting will undoubtedly weaken it. Docks, of which the weed appears to be a species, are rarely troublesome in lawns, but when they do appear they can be totally eradicated only by cutting out the roots. Have the weeds spudded out periodically.

Manure for Asparagus Beds.

I should be very glad to receive information as to the best manure to put on asparagus beds. My beds have been for years annually dressed with seaweed only. The result generally is a good quantity of very spindly "grass," and I should like some bigger and fatter growths, such as grow in the neighbourhood. I propose getting some agricultural salt this year and also some manure of a suitable kind. Some of the beds are old beds, and one was made three years ago, with three year old roots, which were said to be of the large variety.—L. T., Bembridge, I.-of-W.

The nutriment contained in seaweed is good, but not very lasting. Some light farmyard manure, applied now, as a top-dressing, and removed in March, would help Established beds can be improved wonderfully by feeding with diluted liquid manure during July and August—two soakings each week. The agricultural salt, judiciously applied, will be beneficial, too. Avoid over, and late, cutting.

Alpines for a Greenhouse.

I want to grow about twelve varieties of alpines in my greenhouse. They must be varieties and preferably of good botanical interest. Your suggestions would be much appreciated.—W. L. C., Birmingham.

With reference to varieties of alpines to grow in your alpine house, we should suggest a few of the following: Saxifraga Grisebachii, S. lilacina, Tecophylæa cyanocrocus, Dryas octopetala, Primula Winteri, P. Veitchii, P. Forrestii (Omphalogramma vincæflora), P. Chionantha, one or two of the meconopsis, one or two dwarf irises, Campanula Allionii, C. Zoysii, Androsaces, such as sarmentosa, villosa, carnea, one of the Celmisias from New Zealand, Eritrichium nanum (very difficult), Oxalis enneaphylla, and Shortia uniflora. From these you should be able to make a choice collection.

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Continued from page iii.

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THE GARDEN

VOL. XCI.—No. 2875. JANUARY 8, 1927. PRICE TWOPENCE.

NOTES OF THE WEEK.

Disease Among the Hyacinths.

DURING the growing season of 1926 Dutch bulb growers have experienced a widely spread and disastrous epidemic of disease among hyacinths. Hyacinths have been grown commercially in Holland for two or three hundred years and probably during all this time the disease has been known, but it has been held in check by planting the bulbs each year on land which has not been occupied by hyacinths for several years. During the war, growing stocks were reduced to a minimum and resulted in sensationally high prices being charged. This, naturally, led to a rush of production. Hyacinth bulbs of saleable size take three or four years to grow and there is very little doubt that land has been, in many instances, kept in hyacinth cultivation and used over and over again, with the result that disease has sprung up on every side. Very few, if any, Dutch growers of importance grow all the bulbs they sell; none can claim stocks entirely free from infection and, as the disease cannot be detected in dormant bulbs without destroying them, they may buy in good faith but with disastrous results to the purchaser. Holland is blessed with richly fertile soil, and the skill and industry of her horticulturists are well known, but there is little doubt that there is a very widespread laxity in regard to diseased stocks and the disposal of affected bulbs. It is only fair to add that Dutch exporters of repute are deeply concerned with the present widespread outbreak and have suffered extremely heavy losses in the endeavour to stamp it out. There is at present no known cure for hyacinth disease. Its progress is rapid and is evidenced by the flower spike rotting within the bulb. The spike appears sometimes to grow an inch or so and then stop. On examination it will be found like a loose tooth and pulls easily out of the bulb, the lower end being a mass of rottenness. If you have the misfortune to find this trouble in your bulbs, do not hesitate to take the matter up with your dealer.

Information giving particulars of the date of purchase and source of origin of the bulbs is of interest to the Ministry of Agriculture, Whitehall Place, S.W.

The Temptation to Sow Old Seeds.

SEED lists, which are beginning to be circulated, remind us that shortly it will be time to decide what seeds we shall order for the coming season. In all probability, some of us at least will go to a certain drawer or box and there find remnants of last year's supply, and—perhaps for the sake of economy—we shall say to ourselves "it is a pity to waste it," and begin to debate within as to whether some of these old seeds cannot be turned to good account. In a word, "whether they will do." The questions which naturally arise are these:

(1) Are we ever justified in using old seeds in preference to buying new?
(2) Supposing they germinate, will they give just as good results as fresh seeds?
(3) Is it a paying proposition to make shift with old seeds?

These are questions which cannot be answered in the negative or affirmative without qualification, as so much depends upon the variety of the seeds and, incidentally, the source from whence they were procured.

Experienced gardeners have no hesitation in saying that, speaking generally, it is unwise to sow seeds kept over from the previous year without first subjecting them to a test, as it is well known that some hold their vitality much longer than others, which cannot be depended upon. In the case of brassicas—Brussels sprouts, kale, cabbage, for instance—while one sometimes finds their germinating power little diminished, "softer" seeds, such as parsnips, parsley, beet, celery, fail in the test. Again, in the case of flower seeds, the same difference will be experienced. Stocks, primulas, lobelias, asters, mimulus, helichrysums and rhodanthes may be instanced as having little "staying power," and should not be depended upon without first applying a test. On the other hand, seeds like sweet peas, balsams and wallflowers have been known to retain their vitality for a year or two.

Testing Seeds.—If one proposes sowing a bed, say, of carrots in March, it would be unwise to rely on old seeds unless, a few weeks before, a sample of the seed had been sown in pans in the warmth of a house or frame to test their vigour and germinating power.

Things that Matter.—After all, what is it that the average amateur gardener really needs? It is a fact that he requires very little so far as *quantity* is concerned—then why run any risk? Many gardeners do not believe that, supposing old seeds do germinate, the plants which are the outcome are as strong as those from fresh seeds! It seems to us there are three cardinal virtues in connection with the purchase of seed which the buyer would do well to bear in mind. They are these: quality, purity and freshness, and we submit that the last is as important as the first.

HAVE YOU

¶ *Dug and manured all vacant flower beds?*
¶ *Pruned and cleaned your late vines?*
¶ *Repaired the edges of your lawn and grass walks?*
¶ *Propagated your perpetual carnations by striking cuttings in a warm greenhouse?*
¶ *Lifted and stored in a cool cellar a quantity of Jerusalem artichokes? These will be ready for use during rough weather.*
¶ *Cut back decaying or overhanging branches of your deciduous trees?*
¶ *Examined your dahlia roots, gladioli corms and begonia tubers which are now in store? Diseased or rotting specimens should be removed.*
¶ *Washed and graded all dirty flower pots, and repaired and made new seed boxes?*

Secretaries of Horticultural Societies.

WE would again ask secretaries of horticultural societies who may not have seen our notice of December 25th last to send in to the Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2., a list of their meetings and shows for the coming year. In this way we shall be able to print week by week a complete diary of events in the horticultural world.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 6, which appeared in our issue of December 25th, have been awarded to

Mr. C. Brooke,
2, Overhill Road, Purley,

and

Mr. Charles Pine,
7, Villiers Road, Oxhey, Watford.

To each of whom a cheque for that amount has been sent.

We are indebted to Messrs. Sutton and Sons of Reading for the use of the illustration which appeared on the front cover of our last issue. It shows a group of hollyhocks growing in their trial grounds at Reading.

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A NEW YEAR'S NOSEGAY

Even during the winter months there is no reason why there should not be some colour in every garden, though, naturally, winter flowers will be more numerous in favoured situations.

MANY amateurs seem to lose interest in their gardens during the winter months. The fact that some of them—the wage earners—practically only have a chance of seeing their gardens at the week ends may in some measure account for this. It is, however, surprising how many different flowers one may cull to form a New Year's nosegay, if the small garden is carefully planned.

On the wall or climbing over the porch the winter jasmine is in full flower, displaying its bright yellow spikes and mingling with the winter-flowering clematis (C. calycina). This is a native of Minorca and Corsica and in this country is better for the shelter of a wall. Not only are its large yellowish-white flowers very handsome, but the leaves turn a beautiful bronze colour to set them off to even better advantage.

The delightful little yellow bells of Forsythia suspensa may not open quite so early in the year, but there is the pleasure of watching the buds and waiting for them to open on the long leafless shoots.

In a sunny sheltered spot the winter-flowering honeysuckle (Lonicera fragrantissima) perfumes the air with its insignificant, but numerous little flowers. This was introduced from China by Fortune and, like the forsythia, flowers before the leaves appear.

Another shrub with deliciously scented flowers is the winter sweet (Chimonanthus fragrans). The flowers of a brownish-yellow, decorated with purple inside, are likewise produced on the bare leafless stems. If possible it is best to afford it the shelter of a south wall.

The laurustinus, or to give it its correct name, Viburnum Tinus, must not be forgotten among these rarer things, for, though it is so common, there are few shrubs that that are more beloved than this old garden favourite. Among the very much smaller shrubby plants the daphnes must take first place. Daphne Mezereum, with its bare woody branches clustered with its pink or white fragrant flowers, which do not attain their full beauty till a little later in the year, may, however, be counted on to open a few flowers here and there. The other daphne (D. Laureola), which flowers somewhat later, is, like Mezereum, a native shrub. Though not a showy plant, its green flowers are half hidden under its dark glossy leaves; it is of interest, for it was held sacred to Apollo. Ovid tells us how Daphne, the daughter of a river god, was turned into a laurel in order to avoid the pursuit of Apollo.

The neat little bushes of Skimmia fragrans will be in bud at the turn of the year, even if they do not open their fragrant white flowers till somewhat later. They hail from Japan and the sexes are on different plants, so if berries are desired, both the male and the female must be planted in close proximity.

Of smaller plants which can can be relied upon to enrich our New Year's nosegay, there are quite a number. The violet, which comes up so bravely even after a severe touch of frost; the polyanthus, with a stray bloom here and there; the primrose and more especially the blue primrose; the Christmas roses in variety; violas, and here I must make special mention of a winter-flowering pansy. Sown about August and pricked out when large enough to handle, this pansy will make fine plants by the time winter sets in and will furnish a succession of brightly coloured flowers throughout the winter months.

Then there is the Algerian flag (Iris stylosa, or unguicularis as it is now more properly called), growing at the base of a south wall and producing its lovely pale mauve, blue and white flowers half hidden in the long, grass-like leaves. If these are cut when they are still in bud and placed in a vase of water in a warm room, the flowers will be spotless and quite unblemished. I. stylosa makes a most effective house decoration, and yet one rarely sees it used for this purpose.

There are many dwarf iris species which are likely to be in flower at this early season. I. Histrio, a charming species from Palestine, is an early flowerer; and the winter-flowering crocuses, such as C. Imperati or C. Sieberi, may be showing bloom.

Galanthus Elwesii, an early-flowering snowdrop, is a dainty flower for a New Year's nosegay, and nestling at the foot of an old tree one of the hardy cyclamens may be carrying a few flowers.

Of bulbous plants one may look for a snowdrop or two, the winter aconite, with its pretty green collar and the great autumn daffodils (sternbergia), which will still be in bloom.

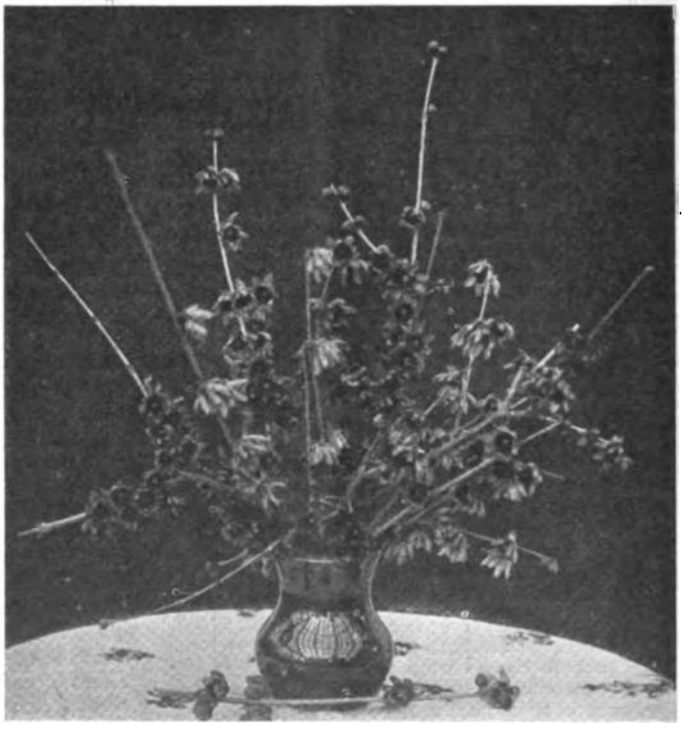
Lungwort (pulmonaria) should at least be showing buds, if not a stray parti-coloured flower. The double perennial wallflower, known as Harpur Crewe, should also be opening its buds. One is sure to be able to find a late marigold and perhaps a lingering red-hot poker.

On the rockery there are certain to be a few what we may call freak flowers. A big blue cup of Gentiana acaulis, a few blue stars of the training stems of Lithospermum prostratum (Heavenly Blue). The self-sown seedlings of the violet cress (Ionopsidium acaulis), which was sown last spring, will, as likely as not, be flowering again.

Perhaps I have named sufficient winter-flowering shrubs and plants to awaken the interest of the enthusiast of the small garden, but doubtless there are many more that could add colour and fragrance to our New Year's nosegay.

EDWARD CAHEN.

THE SWEET SMELLING BLOSSOM OF THE WINTER-FLOWERING HONEYSUCKLE.



THE WINTER SWEET (CHIMONANTHUS FRAGRANS) IS AN OLD FAVOURITE.

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FLOWERING CLIMBERS FOR HOUSE FRONTS

Useful hints for clothing the house front, a problem that puzzles many gardeners who wish to have colour on their walls for at least a month or two of the year.

THE charm of flowering plants covering the walls of so many English homes is a source of comment from visitors abroad, and calls forth not infrequently much praise. The practice of enveloping walls with creepers and climbers is on the increase, and in certain districts we know there has sprung up a friendly rivalry in this direction. That plants beautify the walls of a house, making the most unpretentious dwelling very attractive, there is no gainsaying, and the best of it is, there is scarcely a wall where it is not possible to grow something that will bloom. At the risk of appearing prejudiced, we are of opinion that scarcely any flowering creeper has become more popular than various forms of the clematis, notably those in the Jackmanni and lanuginosa groups. Whether the wall to be covered is facing south or east, one cannot go wrong in planting these prolific blooming plants, and, when once established, they will improve as the years go on. But there is no lack of variety in the selection of suitable plants for the covering of any house. Roses were never more popular than they are to-day, and certainly there were never so many sold. Ramblers continue to enjoy a large share of patronage; American Pillar, with clear pink clusters, is to be seen everywhere; Albéric Barbier, with deep glossy foliage and creamy yellow buds and blossoms and Paul's Scarlet Climber are representative of the Wichuraiana group, while the old-fashioned Gloire de Dijon has countless admirers. Another useful climbing rose is R. sinica Anemone. For draping a house wall during May it is hardly possible to conceive a more beautiful subject than the old Wistaria sinensis, with its long racemes of blue flowers.

ROSE SINICA ANEMONE ON A HOUSE FRONT.

Another hardy climber, which seems now to be receiving much more attention, is Polygonum Baldschuanicum, noted for its exuberant growth and its myriads of white flowers, which are succeeded in autumn by red fruit. Another member of this family is to be found in P. Aubertii, stronger and more vigorous than the preceding, also producing masses of white flowers.

Two yellow-flowering shrubs that are not always associated with climbing plants, but which are quite amenable for training, are forsythias and kerrias. In the former, we have Forsythia suspensa, the blossoms of which appear some time before the leaves, and if this is planted on a south wall one may have its beauty in the early year. Kerria japonica, more often met with as a bush, is also suitable for a wall or a doorway and, trained out, will envelop with its pleasing foliage and orange yellow double blossoms in early summer. Handsome, both from the point of view of a flowering climber and for its immense laurel-like leaves, few things are more beautiful in their season than magnolias, and, for a sheltered position and a south wall, one could not have anything more attractive. M. grandiflora has large white waxy flowers, sweetly scented. M. conspicua, also white, bears blossoms in the greatest profusion in early May, if planted in a sheltered place. More consideration is being given to climbers on house fronts, that have a certain value for their flowers, but the chief charm of which lies in the berries or fruits which follow in early autumn. One such will suffice: it is the pyracantha, and the several members of the family have each a claim on the would-be planter for autumn effect. P. Lalandei bears, in summer bunches of hawthorn-like flowers followed by brilliant scarlet berries. P. crenulata has orange scarlet fruit; while P. Rogersiana, a comparatively new sort, yields orange red berries. All the pyracanthas are serviceable for planting at the foot of a north wall. They are evergreen.

Ceanothus azureus Gloire de Versailles is a beautiful shrub which can be trained up a house front. It bears clusters of rich blue flowers during the early summer, and is quite easily grown, succeeding in most districts. Cydonia japonica is well known as a wall shrub. There are several varieties of this shrub, but the most commonly grown is the scarlet-flowered variety. The best clematises to plant are the white-flowered montana, and, of the named varieties, Nellie Moser, silver white tinged with mauve and splashed with carmine rose; Prince of Wales, a deep bluish mauve with a satiny surface; King Edward VII, a beautiful violet; Queen Alexandra, large pale lavender flowers; Belle of Woking, double, silvery grey; Albert Victor, deep lavender; and Duchess of Edinburgh, a free-flowering, sweetly scented double white.

A MAGNOLIA THAT IS ALLOWED TO GROW FROM A SHADY POSITION UP TO THE SUNLIGHT.

Planting and Soil Preparation.—As weather serves, one may plant the subjects named at the present time. Due regard should be paid to the fact that, as they are intended as a permanency, more than ordinary care should be taken in providing suitable soil—loam for a basis—removing rubbish, which is so often found close to the foot of a wall, and substituting two or three feet of rooting material.

Climbers that are Self-Clinging.

THERE are not a large number of hardy climbers that will cling to a bare wall by means of stem roots or tendrils. Of course, in the forefront of the self-clinging climbers will be found the ivies and, indeed, in many situations, these can hardly be equalled. Some varieties of ivy cling more freely than others, but the majority will usually get a good hold when they are well established. Some ivies will grow where little else would succeed, and in an unfavourable situation there is nothing to equal the common large-leaved Irish ivy. This will grow almost anywhere, and it is easily kept in check by hard cutting in the spring. Other green-leaved ivies which are good include algeriensis, amurensis, atropurpurea, Caenwoodiana, corrugata, crenata, deltoidea, dentata, digitata, himalaica, minor, sagittæfolia and venosa. These varieties differ in the sizes of their leaves: for instance amurensis and dentata have very big foliage, while Caenwoodiana and minor have extremely small leaves. Silver and golden leaved ivies offer attractive forms. Good variegated silver-leaved sorts are to be found in marginata media, Crippsii, marginata rubra and maderiensis variegata. Some fine golden forms include aurantiaca, aurea elegantissima, chrysomela, chrysophylla, flavescens and palmata aurea. Practically all the ivies benefit by hard pruning in the spring.

After ivy the most important self-clinging plant is the well known Ampelopsis Veitchii

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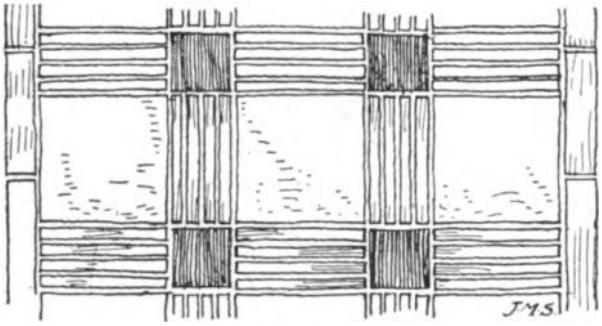
or Vitis inconstans, as it is at times called. As is well known, this plant clings by means of tendrils which secure a very firm hold on the wall. Another ampelopsis is called A. Lowii, which has very distinct foliage. Other self-clinging vines connected with the ampelopsis section include Vitis semicordata from the Himalayas, with foliage that is divided into three parts and is well coloured in the autumn, and V. Henryana, which is remarkable for its reddish silvery marbled leaves. The North American Vitis cordifolia is a very handsome plant, but this climbs by twisting its tendrils round branches, etc.

A climbing hydrangea from Japan is known as H. petiolaris, and this mounts upwards by means of aerial roots like ivy. The species should be used more extensively on walls, as it has an extremely neat habit of growth. In a sunny position it will flower freely during the summer. Every year, after flowering, the plant should be well pruned back. Two other related plants are Schizophragma hydrangeoides and S. petiolaris. Both these flower freely and attach themselves to walls by means of aerial roots. An evergreen plant known as Ercilla volubilis or Bridgesia spicata is sometimes offered as a self-clinging climber, but experience shows that the species is somewhat unreliable. Now and again it will cling well by means of aerial roots, but on other occasions it fails in this direction and needs support.—S. LEONARD BASTIN.

NOVELTIES IN GARDEN PATHS

AT this time of the year more than at any other gardeners realise any deficiencies that there may be in their garden paths. The rains of late autumn may have turned a grass path into a miniature morass, and the turf has suffered in consequence; while ordinary earth paths may be a sticky mass of mud. Therefore, some suggestions may be timely of a few novelties in garden paths.

It is as well, however, to remember that working paths, those which are in constant use and along which barrows are often trundled, should be entirely practical and made, if possible, of gravel, ashes or brick, or even, in very wet gardens, of concrete or asphalt. A fancy paving, however well it may be laid, cannot be expected to stand up against constant hard wear. It is amazing how often paving stones will be cracked or broken under the weight of a heavy barrow unless they are laid on a concrete foundation. The reason is obvious: if they are laid on earth, in time the foundation may be weakened or washed away under one corner, with the result that pressure on that particular corner of stone means an undue stress and consequent breakage. Utility paths are particularly necessary throughout the main vegetable garden, where most heavy work takes place.



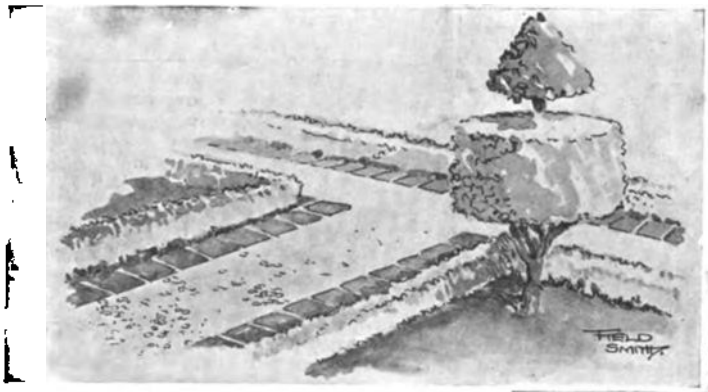
A PATH FORMED OF BRICKS AND TILES.

Made with 9ins. square tiles bordered by tiles on edge, 4ins. dark tiles at the junctions, and bricks on edge at the sides.

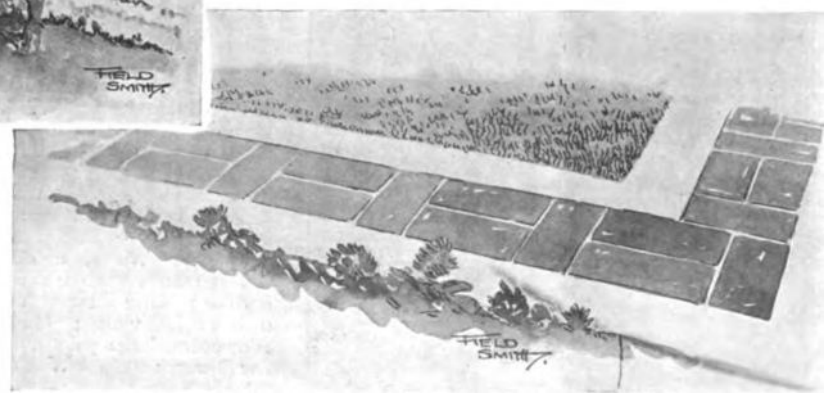
A STONE PATH BORDERED WITH GRASS.

It is in the flower garden that various designs in garden paths are so effective. The best path is undoubtedly that made of flags or old paving stones, but stone nowadays is so expensive that most gardeners find its extensive use out of the question. However, where a small quantity can be afforded, a most attractive path can be made either by using stone as a border for grass, or the converse—grass as an edging for a central stone path. In this way the quantity of stone required is not large; also, small pieces are suitable, which lessens the cost considerably. The only warning that should be given is to see, in both cases, that the grass is wide enough allow to a hand mower to be run over it, otherwise it will be difficult to keep neat and tidy. Although in the accompanying illustrations only stone is shown, yet an equally attractive path may be made out of grass edged with brick. For some reason or another bricks are not much used for garden paths, and this reason is difficult to find, for their mellow colouring combines well with grass, and, in addition, there are few neighbourhoods where bricks are not used extensively and where they are not made locally, which means a saving in carriage. They are easily laid without the help of skilled labour, and they are very permanent. They can be used in various designs; one of the most attractive is the herringbone, and this has an added attraction on the outside with its serrated edge.

An excellent brick and concrete path can be made where the inside is composed of bricks laid in parallel, each pair ended



A GRAVEL PATH EDGED WITH BRICK AND BORDERED WITH BOX.



A PATH FORMED OF GREEN OR BLUE SLATES BEDDED IN CEMENT, WITH CONCRETE EDGING.

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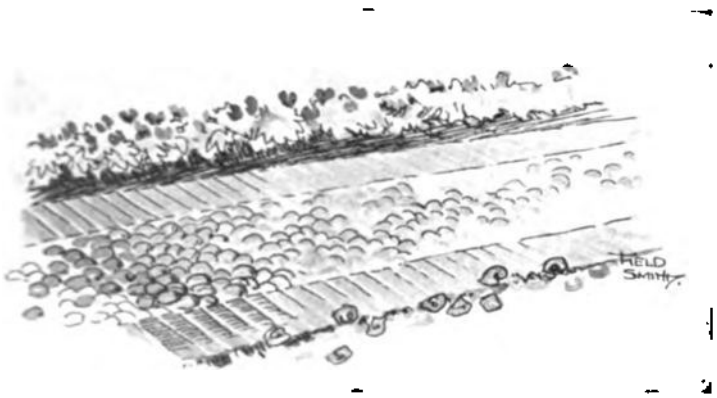
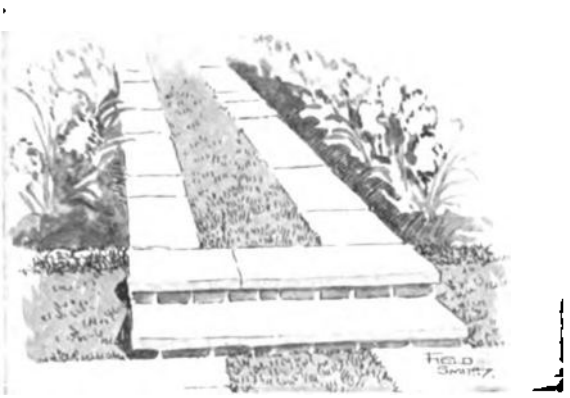


A COBBLE PATH EDGED WITH RED BRICK.



A TURF PATH WITH STONE BORDER.

with a brick laid across, while the outside edge is made of concrete. Here is a path that an amateur can make at little cost, provided he can spare the time. Still another attractive combination may be made by lining an ordinary gravel path with single bricks which have an edging of box on the outside. Gravel paths are often dull in appearance, and by means of a little ingenuity, as in this case, a novel and becoming path can be made, particularly at the side of a herbaceous border. In areas where tiles or slates are produced locally, and so carriage is cheap, there is no reason why they should not be used to give a little originality to the garden path. Readers can use their own imagination, but two examples of their use are shown on the opposite page which may help them in their choice. In all cases should gardeners make sure that the foundation is firm. Only too frequently are paths seen, excellent in design and execution, but which have become ragged and uneven through the ground sinking. It is not sufficient to level the soil; it must be beaten down and made perfectly hard before the finishing material is laid. In soft land it is always better to make a good foundation of old rubble, ashes or clinker. R. H.

THE LITTLE BOG GARDEN

An Interesting Experiment that Some of Our Readers Might Like to Try.

ONE of the most interesting additions to any garden is a small area of bog land. Of course, hardly ever will there be anything in the way of a natural site, and it is necessary to make the position artificially.

Situation and Size.

The situation for the bog garden should be fully exposed, as most of the plants which will be grown in the situation are sun lovers. The size of the bog garden will depend upon circumstances, but if the available space is limited the patch need not be more than 5ft. or 6ft. across. Here a basin is opened up in the ground to the depth of about a foot. The soil should be well beaten down and then coated with a layer of cement 2ins. or 3ins. in thickness. At the sides of the basin bricks will be found useful, but these should be covered with cement in order to keep back the water. Make an opening about 4ins. from the top of the basin to carry off superfluous water. It is also a good plan to have another opening in the bottom at the lowest point, which in the ordinary way is closed with a cork. This is useful should it ever be necessary to clean out the bog garden and drain away the moisture.

How to Proceed.

The filling of the basin is a matter calling for some care. Five or six inches of stones or bricks are first laid in, and these are succeeded by good peat soil. The surface of the rock garden should be raised into uneven banks and hillocks with large pieces of stone embedded in it here and there. In this way drier and wetter spots suitable for plants of different requirements will be provided. One side of the bog garden, which might be called the back, could be raised with rock-work, the stones being embedded in peat. Here, owing to capillary action, there will be plenty of moisture to sustain ferns and many other peat-loving species.

In most natural bogs there is at least a small trickle of water passing through the mass. This effect can be secured by filling in to the basin a few gallons of water each day, particularly during dry summer weather. It is very important to make sure that the bog garden never dries up—a happening which, in the case of a small basin, without natural water supply, is a real possibility. The retention of moisture is very greatly helped if, in the early days, the surface of the boggy tract is planted with sphagnum moss. The presence of the moss makes it much more easy to establish many of the typical bog plants than would otherwise be the case.

A LITTLE BOG GARDEN.

Suitable Bog Plants.

Many native plants form most interesting subjects for the small bog garden, and in addition there are some extremely handsome exotics which can be made perfectly happy in the wet patch. In fact, the number of species available is so large that there is a real danger of overcrowding. Among native plants one might mention pinguicula, drosera, parnassia, menyanthes, Viola palustris, Primula farinosa and the lovely marsh orchises. At the side of even the smallest bog garden a position should certainly be found for the osmunda fern, which will grow better in such a situation than anywhere else in the garden. Apart from British species attention may be directed to the interesting sarracenias, which, when once established, will develop their curious pitchers on an extensive scale. Trillium is another subject well worth growing and even the tiniest bog garden should not be without a plant of the moccasin flower (Cypripedium spectabile). In addition to the regular bog plants, practically all the choice alpines will thrive well in the drier or more elevated positions.

One of the great charms of the bog garden is that everything grows with vigour, no matter how dry the summer may be. In fact, one of the chief things on which to keep an eye is to make sure that the stronger plants do not overgrow and eventually destroy the weaker.

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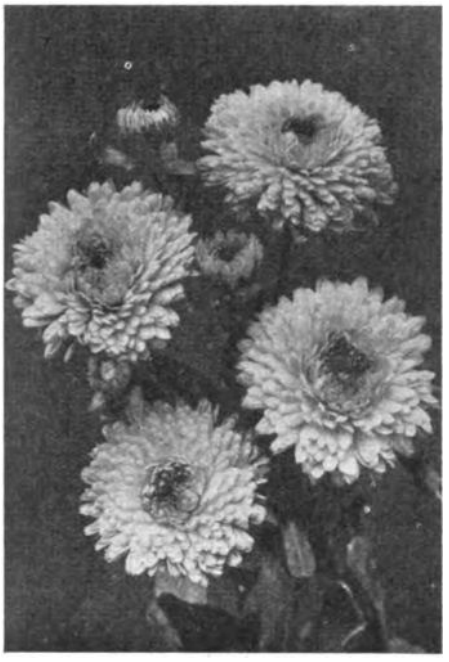

THE POT MARIGOLD.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow in the garden.

THE FAVOURITE SWEET ROCKET.

Calendula (Pot Marigold). ONE of the old-time hardy annuals, which of recent years has commanded a deal of attention owing to the introduction of improved strains. Flowers, both single and double, are of a deep orange and yellow, freely borne, and are much in request for cutting. Planted in groups in a sunny border, they make a brave show and continue in bloom for months from June onwards. They grow about a foot in height, and need but the simplest culture in quite ordinary garden soil to gain success. Seed can be sown out of doors in April, in a bed, from whence they can be transplanted, when a couple of inches high, to their blooming quarters. They are most effective when grown in groups. It is sometimes overlooked by those who have cold greenhouses—or houses where little heat is given—that calendulas may be had in flower late in the year, by sowing a couple of seeds in a 6in. pot of light soil at the end of August, retaining the strongest plant, and bringing them under cover a month or six weeks later.

Thalictrum (Meadow Rue). THESE hardy herbaceous perennials are very popular. Some are prized on account of their blossoms, and all because of the charm of their maidenhair fern-like foliage, which is of service for cutting, lasting in good condition for some time. A sunny or partially shaded position in the garden suits thalictrums, and any ordinary soil to which has been added leaves or vegetable refuse, to provide humus, will meet their requirements. A site should be selected where it will not be necessary to disturb them too frequently, and if it be half shady, as under a pergola, it will be found that, both in bloom and foliage, they will give the longest display. Their height varies from 9ins. to 5ft. In planting the clumps, which may be done in March, care should be taken to give each plenty of room for development, 3ft. between the strongest growers being none too much. Propagation is by seeds, which can be sown in April in pans of light soil in the greenhouse or frame, or by division of roots in October or April.

THE FEATHERY THALICTRUMS ARE ALWAYS POPULAR.

Hesperis matronalis (Sweet Rocket). IT would scarcely be accurate to include the double rocket, with its fragrant spikes of white and purple flowers, in a list of popular plants without qualification; but the fact is that, though once in high favour, particularly in Scotland, it is not grown as much as it deserves to be. Its neglect may be attributed to it being a somewhat peculiar plant, as, though hardy, it depends for its perpetuation on being taken up every second year and replanted in a fresh place. If this is not done, canker invariably sets in and it dwindles away. Even with this proviso, it is unwise to rely upon it mainly, but to propagate fresh plants from cuttings secured from healthy plants in early autumn, wintering them in a cold frame, either in pots or dibbled in a bed of sandy soil. The perennial forms grow about 2ft. in height, bloom from mid-May to July, and make good plants for the middle row of a hardy plant border. They are highly fragrant at night. When planted out they should be given a rich soil, in which old manure and sand have been incorporated. They love a sunny place, but like moisture at the roots in the form of humus.

Polygonatum (Solomon's Seal). ONE of the best of our hardy perennials for a shady position in the garden on the margin of shrubberies, doing well in town or suburban garden so long as it is planted in soil which contains a fair amount of humus. The flowers—seal-like appendages borne in clusters under their arching leaves—are singularly pretty. The plants grow from 2ft. to 3ft. in height, and if planted out singly should be given ample space. The best method of propagating Solomon's Seal is by dividing the roots in late autumn or March.

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THE BUSY MAN'S PAGE

Cropping the South Border.

IN every garden there should be an early border where vegetables and salads may be sheltered and their growth advanced. To get the best effects this border should have a southern aspect, and it is a great advantage if it can have a sheltering background such as a wall, hedge or belt of shrubs. If nothing of this kind is available it is worth while fixing up a rough fence with hurdles, or forming one of laths between which straw is packed. Early produce is so valuable that it is worth while making an effort to get it, and if the south border is well sheltered, the first sowings can safely be made in January. Except in the case of extremely light soil, special attention should be paid to the drainage of the early border. In the case of a heavy clay it is an advantage to take it out to the depth of 18ins. and place in a layer of brick rubble and stones. When once the bottom is made dry the condition of the soil above can be gradually improved as opportunity offers. The surface of the border should have a good slope to the south to catch every ray of sunshine. Burnt earth, the sweepings from potting sheds, and any odd lots of compost should all be worked into the early border until a fair rooting depth is secured. The aim should be to get a depth of from 2ft. 6ins. to 3ft. and then it will be possible to grow anything.

On this border early vegetables of all kinds (peas, broad beans, turnips, carrots and even potatoes can be grown), but where the amount of space is not large, it is best to concentrate on salad plants, such as radishes, onions, lettuce, mustard and cress, etc. Should sharp frosts come along the early border must be protected. Fern, straw or any dry litter may be used, but sheets of newspaper answer every purpose. Spread the paper lightly over the plants and keep in place with stones at the corners. Have fresh paper every night so as to keep everything as dry as possible.

One great advantage of the early border is that it is practically in use all the year. Later in the season it will provide an ideal position for tomatoes, marrows, cucumbers and New Zealand spinach. Then, in the fall, the culture of salad plants will start again. One point should be borne in mind, and that is that the free drainage makes the border dry up very quickly. In the summer, copious waterings will be required if the crops are to be kept in a state of active growth.

January Reminders.

IN the flower garden and shrubbery any tender subjects should be protected with moss and fern. When the weather is open deciduous trees and shrubs may be planted. Manure and dig beds and borders. Any bulbs that are still out of the ground should be planted, except ranunculi, which are best kept over until next month.

In the fruit garden the planting of young trees may be continued. Wall trees should be pruned and trained. The growth of all fruit trees should be regulated, the branches, where badly placed, being thinned out. Mossy trunks should be dressed with quicklime. New plantations may be made for currants, gooseberries and raspberries. Old beds of strawberries should be mulched with manure.

In the vegetable garden protect broccoli and celery in frosty weather. Rectify all defects in drainage and trench, dig, and manure vacant plots. Early peas may be sown in a cold frame for transplanting into the open later on. This method yields better results than are secured by sowing out of doors at this early season. On a very sheltered border radishes may be sown. If a hot bed is available, mustard and cress, onions for salad, lettuce and carrots may be sown.

Plants for the Shady Wall.

ON the shady side of a rock wall it is important to select the plants with care as many subjects would not do at all in such a position. In the joints and courses of the wall flowering plants like willow gentian, ramondia, haberlea, Erodium Reicheri, Saxifraga longifolia, and most of the mossy kinds, Asperula hirta, Hutchinsia alpina, Campanula pumila, Omphalodes verna, Tiarella cordifolia and Viola gracilis would succeed. Such ferns as Asplenium trichomanes, A. nigrum, polypodium, ceterach and most

ASPLENIUM TRICHOMANES IS AN EXCELLENT FERN FOR CRANNIES IN A SHADY WALL.

kinds of polystichum would do well. If the wall presents a surface which is continually damp, one might insert Primulas viscosa alba, Cockburniana, latifolia, Bulleyana, Beesiana, and farinosa. At the foot of a shaded wall plants which would do well include trilliums, Lenten roses and Primulas rosea, japonica, pulverulenta and sikkimensis. The dodecatheons are useful subjects for such a position and, of course, many kinds of ferns might be employed with good effect.

Among the Shrubs.

THIS is the time of the year when fungus growths of many kinds are likely to appear on shrubs and trees. These growths, if not checked, are likely to do a great deal of damage and may even kill the specimen in the end. The attack always starts on some damaged or dead branch, from whence it may rapidly spread to the healthy tissues. Several times during the winter one should go through a shrubbery and examine trees, removing any dead wood. Branches and twigs that have fallen from trees should never be allowed to lie about on the ground, as these are sure to be the starting point for fungoid activities. Any abrasions on the bark should be treated with Stockholm tar, which will destroy any fungus spores that may have settled. After a strong wind or a snowfall, boughs may have been broken and, here again, exposed surfaces should be at once protected with tar.

Bracken in a Shrubbery.

THERE is no doubt that the bracken fern is an attractive addition to almost any shrubbery. Quite often attempts to establish the bracken in the garden are unsuccessful, and even if a few fronds come up at first, the plant disappears altogether the second season. Failure is largely due to the way in which the removal of the specimens from their original positions is carried out. The underground stems from which the plants arise should never be torn up from the soil as they hardly ever settle down happily in a new situation. The only way is to lift a good chunk of the soil in which it is known that the stems are present. Of course, the brown fronds of last year's growth indicate where the stems are likely to be. Mark out a rough square on the surface and then dig away round the outside of this to a depth of 8in. or 9in. Cut away the under part with an old knife and remove the whole lump. This should be settled in the new position so that the top part is level with, and is not covered by, the surrounding soil. A number of plantings of bracken may be made in this way, allowing about 6ft. between each clump. In the late spring the new fronds will come up and these will be of good size and generally not inferior to those borne by plants which have not been moved. When the bracken has become established it should be watched as it may spread to parts of the garden where it is not wanted. Fortunately, bracken may soon be cleared from land by the steady cutting down of the fronds when these are at the height of their summer growth. This practice so weakens the underground stems that they soon die.

Poultry Manure for Vegetables.

MOST gardeners realise that poultry manure is a valuable fertiliser, but they do not always use the material to the best advantage. On poor soil the poultry manure is an excellent stimulant for almost all kinds of vegetables and is especially useful in the case of celery, leeks and onions. As a rule it is better not to dig the material into the soil, for the best results are secured when it is employed as a top-dressing. It is well to make a practice of gathering the droppings from the shed at least once a week, and these should be placed on a large metal tray. The drying process may be hastened by placing the tray in any position where there is heat, such as on the top of a boiler. The manure is stored away in bags and it may be finally pounded with a hammer and passed through a sieve so that a fine powder is secured. In this way a good stock of the poultry manure is accumulated and it will prove of great service during the summer growing season. In use the manure is mixed with twice its bulk of sifted wood ashes or fine soil, and about once a fortnight this is sprinkled between the rows of plants. Use enough just to cover the soil with a fine coating, a large tin with a perforated top being employed as a sprinkler.

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THE FLOWER GARDEN

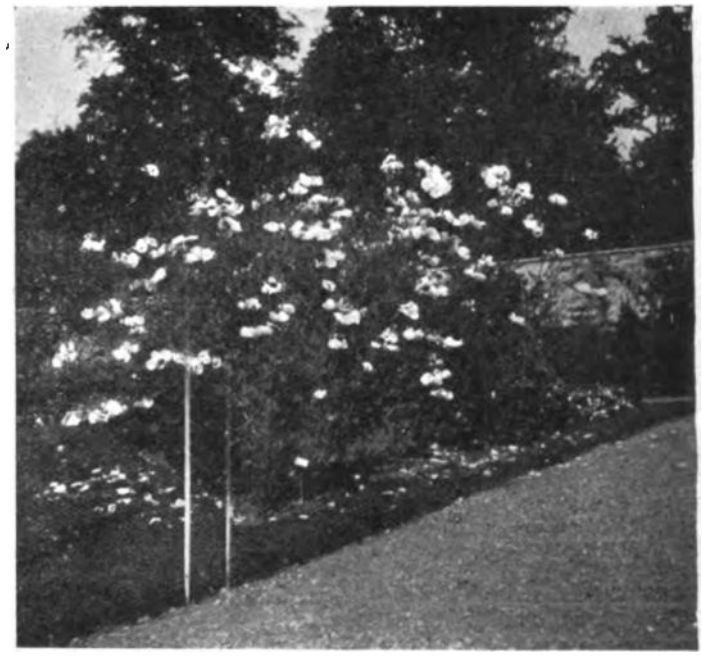
Cosmeas.

COSMEAS fell from favour for a time simply because they had too short a period of flowering; but matters have improved considerably of late, and they are sure to increase in popularity. They are among the very finest flowers for vase decoration, their slender stems, elegant and attractive "light" flowers and feathery foliage are a delight in the hands of those who can set them out daintily. Growers, when purchasing seed, should prefer the early-flowering hybrids; of these the singles are generally favoured, but the doubles are also very fine. The doubles are not fixed in any strain I have had, and, consequently, those who cannot grow as many as they would like may get plenty of singles from a strain of doubles. I should estimate that almost 75 per cent. come true to the double nature. Even with early varieties, early sowing is essential where the utmost has to be made of this flower. We advocate sowing in February in the usual way; from the seedlings select a number which are to be potted up in small pots. The latter, allowed to get pot-bound in April and May, flower as soon as they are put in the open, early in June. From the bulk of the plants, grown on in boxes, flowers can be had by the end of that month. Flowers will then be plentiful throughout the whole summer and the plants will remain in bearing right up till the first spell of frost. I do not urge too rich a soil for the cosmeas; they are at their best in a medium loam inclined to be dry, and, as everyone knows, they love the sun. An uncommon form is the Miniature Yellow, which bears small, star-like flowers in great plenty. Express, Pink Beauty and Lady Lennox are notable varieties of early-flowering nature. —CLYDESDALE.

COSMEAS ARE AMONG THE BEST ANNUALS FOR INDOOR DECORATION.

The Californian Tree Poppy.

THE Californian tree poppy has been described as a herbaceous perennial of the first water, and such praise is none too high for this noble member of the floral kingdom. Its succulent herbaceous stems attain a height of 4ft. to 6ft., and the leaves have a pleasing glaucous hue. The fine showy flowers are 4ins. to 6ins. in diameter, pure white, with crinkled petals and a central mass of golden yellow stamens. They are freely produced near the top of the shoots, and a well flowered example is a glorious sight. This tree poppy is much hardier than many imagine and it ought to be freely planted, except in the coldest parts of Britain. The best place for R. Coulteri is where it can get plenty of sunlight and away from overhanging trees and shrubs. Many corners on the south or west side of the dwelling house could be filled with a plant which would prove a thing of beauty from July to October.



THE CALIFORNIAN TREE POPPY, OR ROMNEYA COULTERI.

A deep, rich, sandy loam is an ideal rooting medium, but it will thrive in almost any garden soil providing it is well drained. This plant is an ideal subject for amateurs, and for those living in cold districts the near ally R. trichocalyx should be chosen, because this is the hardier of the twain, although from a floral point of view there is little or no difference. On one occasion I raised a batch of romneyas from seeds which were sown directly they were ripe, but the usual method of propagation is by root cuttings, which can be obtained at this period of the year.

It is not necessary to dig up a plant for this purpose, especially when only a few cuttings are required. With the aid of a spade or trowel it will be an easy matter to find a few thick, fleshy roots around the plant which can safely be removed without any undue disturbance of the specimen selected. These roots are cut up into pieces from 2ins. to 6ins. in length and then placed in pots or boxes filled with loamy soil. Cover the roots to the depth of half an inch and set the receptacle in a cold frame or shed till growth begins, when they are placed singly in pots or transferred to their final quarters. These tree poppies transplant badly, so young plants should be kept in pots till their final stations are ready. Purchased plants should also be pot grown.—T. W. B.

Geum Mrs. Bradshaw.

THIS is an indispensable plant and it is such a fine border subject that a large patch will be highly appreciated, while a bed filled with it would be a great attraction from May till July or even later. It is extremely popular, and when in bloom will be from 18ins. to 2ft. in height. The semi-double flowers are a brilliant crimson-scarlet and produced on stout branching stems, which render them ideal for vases and house decoration. Even when not in bloom the strawberry like foliage is always pleasing to the eye. This plant and others of its type will thrive in any garden where the soil is moderately good. A fine companion to G. Mrs. Bradshaw is G. Lady Stratheden; it is a glorified counterpart of the former bearing large clear yellow semi-double flowers, a strikingly handsome plant that is sure to give every satisfaction. It is extremely free-flowering, slightly more robust than Mrs. Bradshaw, and grows about 2ft. in height. A more recent addition is Orangeman, a characteristic feature of this acquisition being the flowering season, which is spread over a longer period than the two varieties already quoted. The flowers are semi-double and clear orange in colour. It is similar in growth and habit to the better known Mrs. Bradshaw, but a little taller.

The trio dealt with in this note are first rate border plants, they are quite distinct in colour from each other, and ought to be represented by several plants. Seeds are occasionally offered and this is a good method

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by which the stock can be increased. I have raised a batch of G. Lady Stratheden in this way, and there was little variation in the colour of the flowers or habit of the plants.—T. BANCOS.

Nigella Miss Jekyll (Love-in-a-Mist).

THESE delightful annuals have always found favour among garden lovers, and especially those who often are forced to sow the seeds where the plants are intended to bloom. The nigellas are admirably suited for this purpose, but to secure the best results the seedlings must be thinned early to 6ins. apart. The thinnings can be transplanted to other beds or borders if the weather is showery.

The charming nigella illustrated is known as Miss Jekyll, and its easy culture, together with its free-flowering qualities, place it among the first dozen of our hardy annuals. The plant varies in height from 15ins. to 20ins., and the clear cornflower blue blossoms are produced on stout long stems, an attribute which makes them useful for cutting purposes.

The flowers are more or less surrounded with graceful, elegant foliage, and as a whole, particularly in beds or large patches they are most attractive.

In addition to the type, there is a dark blue variety of N. Miss Jekyll, well worthy of a place in the garden; while another counterpart of this annual has white flowers.

Although spring sowing is generally advocated, I would strongly advise readers to try an autumn sowing and note the difference between the plants. The latter will invariably produce by far the best specimens.—T. W. B.

Saxifraga aizoides.

OUR native Saxifraga aizoides must not be confounded with the silver saxifrage, S. Aizoon. It is of totally different character, and has, moreover, cultural needs of a distinct kind from those of the saxifrages of the Euaizoon section of this great genus. It is a moisture-loving plant, frequently found by the margins of runnels and streamlets on some of our mountain ranges. It has neat leaves and heads of small yellow flowers, insignificant individually, but, when the plants flower freely, quite pleasing in the mass. It is in reality a good little plant, only 3ins. or 4ins. high at the most. Pretty as it is, it is surpassed in attraction by the deep orange-coloured variety named S. aizoides aurantiaca, which is of quite a striking shade of reddish orange. It is an excellent plant and, as it frequently flowers late, it is welcome when in bloom. S. aizoides and its variety are easy to grow in a moist, sunny place, but where the soil is dry and as little attention as possible has to be given to watering, it may be planted in slight shade, and a soaking with clear water occasionally in dry weather will be much appreciated and will give better results. These aizoides saxifrages may be increased by division. They are perfectly hardy and may be planted in spring near the base of rockwork so that they may obtain any surface moisture flowing from above.—S. ARNOTT.

The Fumitories.

THESE useful little plants hardly receive the attention which they merit. They are not showy, it is true, and they have little variety of colour; but their fern-like glaucous foliage and neat habit of growth render them attractive, and with one or two exceptions they are quite hardy and will adapt themselves to almost any conditions, although they are happiest in a light soil. The best known among them is Corydalis lutea, which has become naturalised in some parts of England and is often regarded as a native plant. This will produce its bright yellow flowers in sunshine or shade from May onwards to the end of the summer; it is an admirable wall plant, and seeds itself so freely that it is apt to become something of a weed unless dealt with firmly. Much more uncommon, and earlier flowering than C. lutea are C. angustifolia (ivory white) and C. Alleni (cream flushed pink), the latter having specially pretty foliage. The tuberous rooted C. bulbosa, the colour of which is a rather dingy pinky purple, usually follows these in order of flowering, but in some seasons it leads the way, a note in my garden diary recording the fact that one year it was in bloom on March 29th; it is good for naturalising under deciduous trees. Corydalis cava, also early, is a brighter shade of purple than bulbosa, with which it is sometimes confused. Both these, as well as the white variety of cava, albiflora, have but a short flowering season and die right down in early summer; hence they often come to an untimely end by being forked up. None of the fumitories named exceeds 8ins. or 9ins. in height, but there is a still dwarfer one, C. ochroleuca, which is a charming little plant for the rock garden. Among the taller kinds—that is to say, those growing from 12ins. to 14ins. high—the best are C. cheiranthifolius (clear bright yellow), which seeds itself nearly as lavishly as C. lutea; C. Ledebouriana (pinkish mauve); and C. thalictrifolia (yellow). C. Ledebouriana is one of the hardiest of all, but C. thalictrifolia requires a little winter protection in the colder parts of the country; it is a pretty border plant (although it does best on a limestone ledge), its flowering season is long and its foliage turns a rich red in autumn. There are two fumitories that reach a stature of 2ft. or thereabouts which are seldom seen but are well worth growing, to wit, C. capnoides and C. nobilis. Both are yellow; the first blooms in spring, the second, which is the handsomer of the two, in summer. The latter does not increase quickly and its seed is slow germinating.—R. E. HEAD.

LOVE-IN-A-MIST MISS JEKYLL IS VERY FREE FLOWERING.

ONE OF THE TALLER-GROWING FUMITORIES, CORYDALIS NOBILIS.

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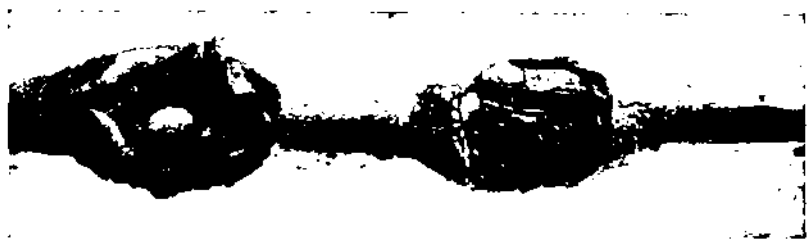
THE FRUIT AND KITCHEN GARDEN

Canker in Fruit Trees.

THE incidence of the amateur in fruit-growing and the large amount of Continental stock sold, have undoubtedly led to a wide spreading of canker disease. The disease is not always recognised, unfortunately, but as this is the time of year when it can most readily be "spotted," I would advise all readers to take a second look at their trees. Canker affects only the trunk and the branches, generally the lower part of the branches and, very often, quite close to the fork. At first it is merely a small patch of scab or rugged corky bark; later a wound appears with rough corky edges; this next increases in size and becomes ugly, but still retains the corky rugged edges; the last phase is when it encircles the branch and kills it. Fruiting bodies of the fungus or germ may be noticed as minute white specks in autumn or as minute red balls in spring; these are not readily visible to the unaided eye. An infested branch shows gradual diminution of fruiting power and vigour. Germs of this parasitic fungus can only infect a tree through a wound; wounds, however, may be due to insect attack, to the effect of storm, to the strain of heavy fruiting, to a casual knock, to tight ties, or friction against a post or wire. Some of these, such as bad insect attacks, tight ties, etc., may be prevented, and the first step towards immunity is, naturally, prevention. When an attack does materialise it may be prevented from doing damage by the early use of the knife; the infected part is cut clean away, much of the bark above and below the wound is removed and all discoloured wood in addition. The large wound, of necessity left open by this, is then covered with a cream of lime, clay and water, or, better still, it is coated with tar or paint, preferably the former. Badly infested branches ought to be sawn off, well back, too, and burned. As the spores of the disease may pass to open wounds from infested tissue lying on the ground, it is most important that diseased shoots are burnt at once. As these spores float round in the air, or since they may be carried about by other agencies, it is not wise to remove canker at pruning time; et it be done some time before or after, when the pruning wounds are partly healed up. It is most important to note that while apple, pear, plum and nut trees are often infested in gardens, yet the disease is found on beech, elm, lime, etc. Trees in or adjacent to the garden may, therefore, be treated with advantage at the same time. Fruits which send their roots down into a harsh, cold subsoil, are first to suffer, so we, in Scotland, often put slates or flagstones below a new tree. Some apples, too, are more susceptible than others, the more refined the variety the greater the chance of attack. The moral of this article is watchfulness on the part of the grower, particularly with new trees received from the nursery.—CLYDESDALE.

APPLE CANKER IN ITS EARLY STAGES.
The oval diseased portion can clearly be seen.



AN OPEN WOUND SURROUNDED BY SWOLLEN BARK, TYPICAL OF CANKER.

Leeks.

BEFORE the stock of leeks grown last year is exhausted, we are busy preparing for the current year's crop. Undoubtedly, large leeks are economical and better from a culinary point of view than small ones. It is not possible to grow large leeks from seeds sown in the open border in April. If they are fairly large they are not solid, owing to the undue forcing of the growth through the aid of stimulating foods. The big leeks are grown from seeds sown under glass, either in deep boxes or beds in frames. In any case the soil used should be passed through a ½in. mesh sieve, so that when the resultant seedlings are lifted for transplanting in their permanent quarters, or in other boxes, all soil will fall away from the roots, leaving the latter intact, a very important point. It is rarely possible to transplant the seedlings with soil attached to the roots. The depth of soil should not be less than 9ins., for, although the young plants are smaller and more weakly than young onions, their roots penetrate as deeply, often deeper. When leeks are planted in their summer quarters the roots should be placed in deep holes made by a hand trowel, not with a dibber. If there is a desire on the part of the cultivator to transplant before the final planting, transfer the young plants to boxes of soil or a bed in a frame. Do not pot them singly. I have tried this plan more than once and found it did not answer as well as planting in boxes. The trenches should be prepared now; I make them nearly 3ft. deep, put in a liberal quantity of rotted manure and soil, mixed; a small quantity of dry fowl manure and some bone-meal. When short of farmyard manure, I have used hop manure with splendid results. The trench is filled almost to the top, as I like to provide a good, deep layer of rich soil for the roots to permeate. By planting out time—the end of April—the soil has settled down firmly.—G. G.

Fruit Tree Suckers and How to Deal With Them.

PERHAPS the greatest trouble comes from plum, peach, nectarine and apricot trees as regards the growth of unwelcome suckers. As there are thousands of young trees being planted at this season, it will be helpful to inexperienced cultivators to give a few hints on treatment. I daresay that many readers have noticed slightly raised and roundish lumps on the roots of some young fruit trees when they are lifted for replanting or just received from the nursery. Very frequently suckers will grow from these lumps on the roots in later years and then it will be more difficult to deal with them. Carefully examine all roots and, with the aid of a sharp knife, cut off the lumps or slight swellings found, making that part of the root as even in size as the other, smooth part. If this is done a number of small fibrous roots will grow from the cut part and they will be of great benefit to the tree in after years. The stocks of plums give, I think, more trouble in this way than any others, and, where suckers are already growing through the soil, do not cut them off and be content. If cut so, they will rapidly increase and soon become a bunch, where previously there was only one. Carefully take away the soil and lay bare the roots from which the suckers are growing, then as carefully cut out the suckers at the base, removing a portion of the root also. It will be found that the lumps or swellings are formed as in the case of very young trees, only they will be larger and every bit of such swelled root should be cut out. When this work has been done, in the case of stone fruits, place a small spadeful of old mortar rubble round and over the cut parts. Fibrous roots will grow and the tree will improve in growth and fruit bearing.—CHRISTCHURCH.

Why Pears Fail.

PEARS are a precarious crop in many parts of the country, in others they are somewhat irregular, and only in comparatively limited areas do trees regularly bear crops of satisfactory excellence. There may be many reasons for the failures, but these, on investigation, generally reduce themselves to one or more of three. Years of experience show that attention to these three "possibilities" is a fairly certain guarantee of cropping.

A very general reason for unfruitfulness lies in the root system of the tree. Pears tend to root fairly deeply and the roots ramble below the usual depth to which a garden is dug; they then penetrate into a barren, harsh and cold subsoil, where nourishment is scanty and the soil cold and sour. Very often this subsoil is of a clayey nature, where the evil conditions are accentuated. However, I have clearly proved that as soon as the root system gets well embedded in the subsoil the tree begins to lose its ability to carry fruit. In time the tree may

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refuse to bear any fruits, though it appears to be healthy. In the north, here, the laying of flat stones, slates and the like under pears at planting time is generally advocated. Old trees not fruiting must be root-pruned and, after pruning, it is a wise plan to slip in similar floors under the roots. I have seen excessively hard pruning of some quite old trees, but invariably the result is a rapid return to fruitfulness.

Very much similar to the above is another cause, starvation. Professional gardeners always fed their trees well in the past, but the present-day amateurs are too prone to expect miracles without kindness on their part. Pears must be fed fairly well. Provided that there is a fair amount of humus in the ground, artificials will do quite well, but the pear trees must have food annually. I find that application of artificials in the beginning of April, again in the beginning of June and a third application to help the buds (for next season) in August amply repay the expense incurred. For older trees a top-dressing of rotted turf, applied after paring off some of the exhausted soil, is excellent. In light soils a mulch in summer is also extremely useful. Where manure is plentiful I should apply it every year, or at the outside every second year.

In many parts of the country pear blossom is often blighted by cold winds, cold rains, sleet and frost. Invariably I find it necessary to protect some of the trees, and this I always try to do with frame and other sashes. Mats are also very good, provided that there is some suitable way to suspend them in position. Each grower will know exactly where protection is always needed and be prepared, but in certain years every tree needs to be seen to. Readers who may be annoyed at their pears will possibly find the reason for their annoyance explained above and be prepared in future. This is the correct time to renew the surface soil and to root prune.—CLYDESDALE.

Pruning Bush Fruits.

IN many districts the autumn pruning of gooseberries is rarely attempted on account of the birds. If the bushes are pruned then and left unprotected, very few buds would be left on them by spring. Where the birds can be kept off, undoubtedly autumn pruning is best, as then the buds retained swell more and the resultant berries are available for use about one week earlier than on bushes of the same varieties pruned in spring. Some of our finest varieties are of a pendulous habit of growth, and the lower branches sometimes require staking. A little extra care should be taken in the work of pruning the bushes so that all shortened shoots are cut to a bud pointing upward. If, year after year, this is the practice, the bushes are kept uniform and of a better shape. Where the big bud in black currants is troublesome, all pruned shoots must be burned and the remaining buds closely examined, so that all abnormal buds are removed. It is not of any avail to cut down bushes close to the ground with a view to eradicating big-bud. I have seen this done and the resultant failures. The year following, splendid shoots grow, but the second year the mite is at work again. Red and white currants should be so pruned that spurs, covered with flower buds, are numerous on the main branches. It is advisable to thin out freely branches near the centre of the bush, as finer fruits of richer colour result than on bushes of dense growth in summer.—G. G.

Early Peas.

THE most satisfactory method of raising early peas is to sow the seed in boxes placed in cold frames, and transplanting outside when the weather is favourable in early spring. Sowings may also be carried out under glass, and again at the end of the month on a warm south border in the open. The boxes in which early peas are sown should be properly drained and the compost should be light and well watered after sowing. On all possible occasions the lights should be kept off the frames, and only be used to protect the young peas from severe frosts. The seed should be sown fairly thickly for outside crops, in order to allow for a certain number of seedlings being destroyed by birds and pests. Dwarf varieties are the most satisfactory for early supplies, two of the best being Little Marvel and Carter's Giant Stride. The latter is the largest podded dwarf pea; it bears remarkably heavy crops, and is of excellent flavour. Little Marvel has small pods, but it is very prolific. American Wonder is a favourite dwarf pea; Excelsior is also good; and Carter's Daffodil, a good cropping variety with large deep green pods, can be well recommended.

WHAT OUR READERS SAY

A WELL-FLOWERED HYACINTH.

SIR,—The accompanying illustration may be of interest to readers of THE GARDEN who are interested in bulb culture at home. It is a hyacinth which gave eight blooms from the one bulb, grown in water by Miss Freeman at the Military Road Council School last season. In colour it was rose pink and is of unknown name.—HENRY E. COOPER, *Northampton*.

A HYACINTH WITH EIGHT BLOOMS.

THE ONOSMAS.

SIR,—The onosmas most generally cultivated are O. echioides, perhaps better known as O. tauricum, and O. albo-rosea, and both are very beautiful plants, full of interest and worthy of a position in all rock gardens, large and small. Popularly known as the "Golden Drop," O. echioides produces heads of amber coloured blossoms, drop-shaped and delicately almond scented; the stems are much branched and clothed with lanceolate, greyish-green and rather hairy leaves. The plant grows about 12ins. or 18ins. high and flowers May-June.

O. albo-rosea forms a tuft of grey woolly leaves and from it rises, during the early summer, panicles of white, flushed very delicate pink, blossoms which contrast exquisitely with the hoary foliage.

These onosmas should be placed rather high in the rock garden and they are never more beautiful than when their blossoms are tumbling over the edge of a bold stone; they enjoy full sunshine and a well drained gritty soil. During excessive winter wet, the protection afforded by a piece of glass may be advisable. They will, however, be quite safe fully exposed in any ordinary weather. Propagation is easily effected by cuttings inserted in sandy soil in a cold frame during the summer months.—RALPH E. ARNOLD, *Campden, Glos.*

AMERICAN BLIGHT.

SIR,—In your issue of December 25th, 1926, your correspondent "R. C." recommends the use of petrol for the destruction of American blight upon apples. There is surely no occasion for "marking the starting point," as petrol is of very little use during the winter months, when the colonies of the pests are safely protected within the bark or warmly ensconced underground. Petrol is highly effective during the summer months when the woolly patches of blight make their appearance on the bark. I have followed your correspondent's method—a little petrol in a tin and a small paint-brush—and the woolly colony vanishes like smoke. Petrol is perfectly safe on old bark, but it is too scorching for new and sappy growths. American blight is frequently found infesting young wood, particularly round the axils of the leaves. An agent of equal or even greater power of destruction is methylated spirit applied in the same way, and it has the additional advantage of not "burning" the young growth. May I suggest to your readers who may be troubled with mealy bug on vines that they *experiment* with a spray of methylated spirit and water on infested foliage?—HERBERT G. LONGFORD, *Abingdon*.

RED CURRANTS.

SIR—The article on the red currant in the December 18th, 1926, issue of THE GARDEN contained much useful information, but on two points I am not in agreement with the writer.

Firstly, the growing of bushes with a leg is, in my experience, a mistake. Most gardeners have experienced the irritation which a currant bush with only half a head causes. Disease is often responsible for a whole branch dying back, and, with some kinds, wind, or even the weight of a crop, will cause a branch to snap close to the stem. It is generally impossible to get a new shoot to replace the loss, and, sooner or later, the lop-sided head splits off entirely, or the gardener removes the eyesore.

My method is to plant cuttings without taking out the lower buds, thus ensuring the growth of suckers every year. This gives an opportunity to replace a breakage, and also to renew the tree branch by branch as it ages or

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loses vigour. The only disadvantage is the growth of suckers which are not required, but if these are removed when soft, about twice during the spring, it suffices. It is worth doing to ensure a permanent tree, with growth renewable at will.

My second point of disagreement is in the age of permanent planting. Much better results may be expected if permanent positions can be found for the maiden bushes than if they are lifted and replanted in nursery rows, to be again lifted the following year and put into permanent places. There is no particular merit in a two year old bush for planting, beyond its age, and having reached that age with only one disturbance, instead of two, is surely to its advantage.—E. BROWN, *Sittingbourne, Kent.*

SYNONYMS AMONG TULIP NAMES.

SIR,—There was undoubtedly a good deal of confusion over tulip names before the appearance of that excellent report, compiled with infinite labour and patience by the Tulip Nomenclature Committee on behalf of and published by the Royal Horticultural Society in 1917. This work was rendered necessary by the keen revival of interest in tulips and the consequent introduction of many varieties which had, as one might say, been rediscovered in gardens; these were in some cases recognised and correctly named and in other cases renamed, causing considerable confusion. Therefore, in 1913, the Council of the R.H.S. decided to appoint a Committee of English and Dutch experts to draw up a scheme of classification, which resulted in the report above referred to. Going through Mr. Longford's letter in THE GARDEN of December 18th with this work before me, I find that the cottage tulip *Bouton d'Or*, has synonyms Golden Beauty and Ida. The cottage tulip *Bronze Queen* has synonyms Clio, Biscuit, Sensation and Duc d'Orleans. The cottage tulips *Orange Beauty* and Prince of Orange are synonymous, but I think the latter name is the better known, since it was exhibited at the Chelsea Show in 1924 by me, inadvertently, I must confess, as Prince of Orange, and received an award of merit under that name There are also the Dutch florists tulip *Prince of Orange* broken and the double early *Prince of Orange*. The cottage tulip *Globe of Fire* has its synonym Gesneriana aurantiaca. *General Ney* is an inferior Orange Beauty. The cottage tulip *Boadicea*, a very fine and deliciously scented variety, is similar to but rather smaller than *Hammer Hales*. The Dutch florists tulip *Panorama* has its synonyms Monument and Fairy. The parrot tulip *Crimson Beauty* has its synonym Cramoise Brilliant. The single early *Cramoise Brilliant* has its synonyms Carmine Beauty and Sparkler. Early Darwin is not mentioned. The Darwin tulip *Bartigon* has its synonym Lord Duncan and the Darwin *Mrs. Potter Palmer* has synonyms Mr. W. D. Fish and Fashion. The Darwin *Nauticus* has its synonym Sir Edward Grey. There are Rembrandt tulip *Dream* and the Darwin *Dream*, with its synonym Reve de Jeunesse. There is the Dutch florists *Grand Maitre* and the same broken. There is Darwin *The Sultan*, purple black, with its synonym Joseph Israel. *Suzon* is quite distinct and is rose shaded cream. The Darwin *Faust* has its synonym Ravenswing. The Darwin *William Copland* has its synonym Sweet Lavender. There are the single early *Blushing Bride* and the Darwin *Blushing Bride*. The cottage *Isabella* has its synonyms Blushing Bride and Shandon Bells. The cottage *Picotee* has its synonyms Maiden's Blush, and there is the Darwin *Maiden's Blush*. The Cottage *La Vierge* is an inferior Picotee.

The names recognised by the Tulip Nomenclature Committee are in italics. These varieties are only the few that Mr. Longford has drawn attention to. The Report gives a list of several hundreds of synonymous varieties and should be in the possession of everyone interested in tulips.—W. A. WATTS.

AN ATTRACTIVE CANADIAN WILDING.

SIR,—One of the most delicate and winsome flowers of the woodland in Southern Canada and the Northern United States in the blood root (Sanguinaria canadensis). Almost before the snow has disappeared, the flower stalk, bearing a small bud closely enveloped in a pale green leaflet, pushes through the ground. The stalk grows rapidly until it attains a height of about 6ins., when the sheathing sepals fall off, exposing the pure white petals, eight in number, centred by golden tipped stamens. Nothing is prettier among the shade-loving plants of the spring garden in the rockery or nestling among shrubbery. Gardeners are familiar with the single form, but the double flower is not so well known. Many horticultural writers, including Robinson, describe the single flower only. The specimen here illustrated is growing in the garden of Mr. W. T. Macoun, Ottawa, Dominion Horticulturist, the parent plant being in the possession of Mrs. Klotz, whose husband, the late Dr. Klotz, for many years Dominion Astronomer, obtained the original plant from the neighbourhood of Ann Arbor, Michigan. — GEORGE SIMPSON, *Ottawa, Canada.*

THE DOUBLE FORM OF THE CANADIAN BLOOD ROOT.

HAS IT GONE OUT OF COMMERCE?

SIR,—The enclosed illustration of Chrysanthemum Honeysuckle may interest many of your readers. I have had several gardeners and chrysanthemum enthusiasts round to see my little collection, and all have admired this chrysanthemum. None of them had ever seen or heard of it before, and I was asked where I got it and where it could be obtained. I have looked over one or two catalogues, but cannot find it listed. It is a pity if such a charming flower has gone out of commerce. No doubt one of your readers will be able to give me some information through the coloumns of your valuable paper and, incidentally, help my enquirers should they be readers of THE GARDEN. I shall not make any attempt to describe the flower, only that it almost exactly resembles (except for the yellow eye) that well known and beautiful climber after which it is named. —E. C., *Cullompton, Devon.*

THE BEAUTIFUL CHRYSANTHEMUM HONEYSUCKLE.

PLANTS FOR THE BEGINNER'S ROCK GARDEN.

SIR,—Among the plants recommended by Dr. R. Lloyd Praeger for a beginner's small rock garden Potentilla nitida is named. I have seen it growing wild in the Dolomites and, when covered with flowers, it is extraordinarily beautiful. But for the last ten years I have had it in my garden and rarely has it produced flowers, and that also is the verdict of friends from whom I have enquired about it. Therefore, I shall be glad to hear what your correspondent has to say in its favour. It is true that its silvery leaves are attractive, but it is hardly to be supposed that the owner of a small rock garden wishes to fill up his limited space with plants which rarely produce flowers.

I am also interested to see that "T. W. B." mentions as a point in favour of Campanula persicifolia varieties that "they are not aggressive, and will not encroach on their neighbours." That is not my experience. I am obliged to treat the endless seedlings as weeds. I am on the carboniferous limestone, and that may account for their fertility.

The information given in THE GARDEN would be still more helpful if the locality and the nature of the soil were mentioned by each writer.—W. STORRS FOX, *Bakewell.*

MICE IN THE GARDEN.

SIR,—A simple and effective mouse trap can be made with two brickbats and a few inches of galvanised iron wire. With a pair of pliers bend the wire into the shape of an S, making in the centre a kink, which is not obligatory, but is useful, as it helps to keep the bait steady. Thread a piece of cheese rind or, better still, a bit of Brazil nut kernel on to the wire till it is checked at the kink. All that remains to be done is to set the trap. Lay one brick on its side close to and parallel with a wall, fence or hedgerow—or the seed drill—on a flat bit of soil. Lay the other brick parallel to it on its edge, preventing it from falling flat by means of the S-wire, which with a little adjustment just holds the bricks apart. The only precaution to observe is that the second brick when it falls should have sufficient space to do so without catching the side of the first one, thus allowing the mouse to escape.—C. J.

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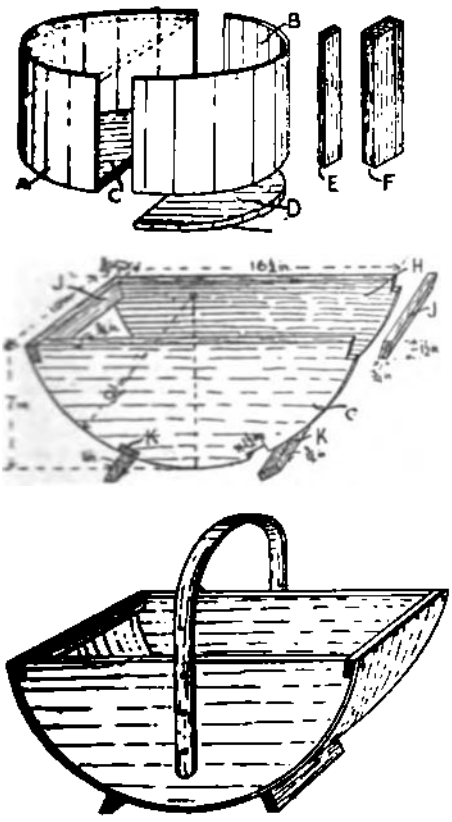
GARDEN ODDMENTS

Greenhouse and Garden Equipment.

WITH the advent of the New Year the thoughts of the gardener go out to the time when operations out of doors, such as the sowing of seeds, etc., may be commenced in earnest. As yet there is little one can do beyond finishing clearing any ground that still needs to be done and completing any digging when one can get on the soil. Undue haste in this direction, however, when the soil is not in a proper condition for working, is calculated to do more harm than good. But there are other matters to be attended to, and among them is the taking an inventory of one's stock in trade, so that when the time arrives for work one will be fully equipped.

For the Garden.

All tools should be thoroughly overhauled, and if it should happen that some of them show signs of rust, or were put away in



FIGS. 1, 2 AND 3.

not the best manner, opportunity ought to be taken to clean them thoroughly. This includes spades, forks, rakes, hoes and other hand-tools. The lawn mower put away last autumn should be examined, and re-oiled if need be. Pea-risers and bean sticks should be collected together.

For the Greenhouse.

Under glass it will soon be necessary to make plans for the sowing of seeds. With this in view pans and boxes should be looked up and any repairs that are wanted by the latter should be done. One of the most important articles used is compost, and this should be got together under cover. Loam, leaf-mould, sand, peat, are essential in most greenhouses. Manures and fertilisers needed must not be lost sight of. Soot, lime and wood-ashes, while only required in a moderate way for plants under glass, must be taken into account for use in the vegetable garden. Flower pots and sticks may need replenishing, and a stock of crocks ought to be kept handy for use when the potting on of rooted cuttings, etc., begins, and labels will not be forgotten by the one who desires to "know what is what."—W. F.

How to Catch Moles.

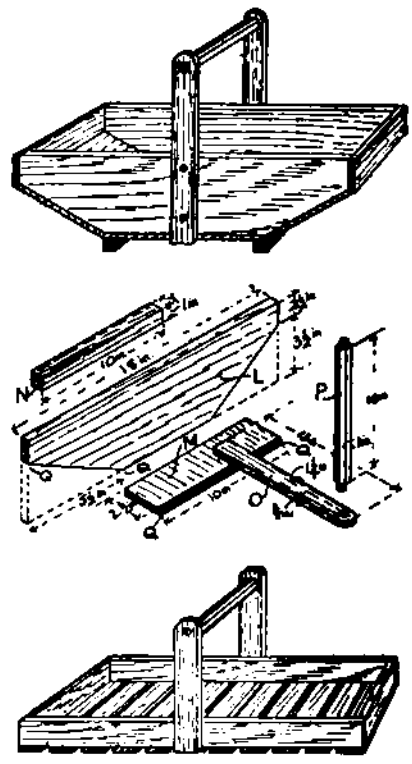
THERE is no royal road to success in mole-catching and the "secrets" which the mole-catcher is supposed to possess are humbug. Nor is the mole the peculiarly shy and cunning creature he is often proclaimed to be. The great essential is to find the right hole. It is practically useless setting a trap in one of those shallow, tortuous burrows which are the most aggravating evidence of Talpa's appearance in the garden. These are feeding runs and are seldom traversed twice. But, find the main avenue, the deep, firm-walled burrow, which the creature uses every time he goes to and from his feeding places, and, with no very exceptional skill, the mole should be trapped in a few hours. This burrow may come from a wall or hedge, it may pass under the garden path or take the line of least resistance around a boulder in the rock garden. Generally, there will be nothing to show above ground, but here and there one may see a little fresh soil pushed up. The trapper must depend on his trowel or a pointed piece of iron in discovering the track, and once it is found and proved to be the right one, it should always be marked for future use. I have used several such holes for nearly twenty years and they still catch whensoever there is a mole about.

Of the trap and its setting little need be said. I always use the ordinary iron pincher trap. The hole to take this, with nippers extended, is made across the run and the latter is cleared of any loose earth. The trap is then set so that the mole must pass between its nippers. A thin piece of turf, or sod, is placed over the hole and on each side of the trap, but not so as to hinder the free outward spring of the handles, and the thing is done. As I have said, I always scrape the hole clear with my hands, never trouble about handling the traps with gloved fingers and yet I am invariably successful. Should the trap be sprung by soil pushed ahead of the mole as he proceeds, clear the run, re-set the trap and the chances are that the following night will bring reward.—A. T. J.

Easily Made Garden Baskets or Trugs.

ALTHOUGH the name basket is generally given to articles made of wickerwork, the garden trug, made of wood, is often called a basket. The trug shown in Fig. 1 is a convenient shape for many garden purposes, and it is made quite easily from a cheese box. The method of construction is shown at Fig. 2, in which the lower portion of the cheese box has been cut in half, the two sections being marked A and B. One of the halves is used for making the body of the trug; this we will suppose is the section at A. As it is, there is only one side formed by the bottom of the box, as at C. To provide the other side, the bottom of the other half, as indicated at D, is fitted at the top of the section as shown by the dotted lines. To strengthen the top ends of the trug, two strips of wood, as at E, are screwed to the sides and outside pieces as shown at Fig. 1, and two pieces with bevelled edges, as at F, screwed to the bottom to keep the trug upright. The handle is formed from the band surrounding the rim. Another trug can be made by utilising the wood from the lid, this can be cut in half and the remaining section B screwed to the pieces.

A similar trug can be made from two sides of ¾in. board, as shown at Fig. 3. The sides G and H are joined together with strips of 1½in. by ¾in. wood, as at J and K, and the curved portion covered with thin plywood, a strip 10ins. wide and about 25ins. long being required. Thin plywood will bend to the curve, but the material should be screwed at intervals of 3ins. or so. Another form of garden trug is shown at Fig. 4, the various parts, with dimensions, are shown in Fig. 5. The two sides, L, should be cut from ¾in. machine-planed floorboard, a piece of ¾in. board or ¼in. plywood, M, being nailed to them; two feet, N, are then screwed underneath. The handle is composed of two strips, O, screwed to the sides with a length of round wood, broom handle will do, fitted between. The only difficult part of the construction is in the fitting of the mitred corners of the bottom pieces as at Q, but if a sharp plane is held at the correct angle, the edges of the wood are easily planed down. The best plan is to fit on the two end pieces, then the sloping pieces and leave the bottom piece to the last. The trug shown at Fig. 6 can be made to any convenient size, for the sides



FIGS. 4, 5 AND 6.

use 2in. by ¼in. wood and for the bottom strips, 1½in. by ¼in. wood will be stout enough. The handle can be made of strips similar to those used for the sides, with a length of broom handle fitted between. When finished, the wood should be sized and varnished or given a couple of coats of paint.

Keeping the Hands Clean.

MANY of the jobs to be done in the garden mean dirty hands unless one happens to be wearing gloves. Gloves are all right in their way, but there is no doubt that, to an extent, they hamper the movements of the fingers. To keep the hands, and particularly the finger-nails, clean it is really a very good plan to rub a cake of somewhat dry soap over the fingers before starting the work. When the hands are washed, at the conclusion of the job, it will be found that they are quite free from stains and the finger-nails are not filled with dirt. —S. B.

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GREENHOUSE NOTES FOR JANUARY

Clematises as Indoor Climbers.

WE are frequently reminded of the beauty of clematises for gracing walls, pergolas and arches in the garden, and hear too little of their attractiveness for cool houses. It has to be said, nevertheless, that given right conditions some of the members of this showy family are never happier than when their blossoms festoon from a roof or glass porch, with enough air and shelter to admit of their flowers opening in fullest splendour. Sometimes one notices that greenhouses are erected against walls or the end of a house, and escape most of the heat of the sun; in fact, some of them only get the sun for a portion of the day. It is these houses in particular where one may look for and attain success with this, one of the chief of our flowering creepers.

Varieties.—The one clematis, which is the least hardy, and therefore best accommodated when grown indoors, is C. indivisa lobata, producing its white star-like blossoms in greatest profusion. Among the Jackmanni and lanuginosa types, there are some excellent sorts that, grown on the rafters of a house or trained on a trellis on a back wall, are seen to good advantage. From the first named type a selection could be made of sorts like Alexandra (pale reddish violet), Prince of Wales (deep pucy purple), Mrs. Cholmondeley (blue), and Smith's Snow White. The large-flowering lanuginosa group contains many of exceptional merit, and the owner of a cold house can make a good selection from Beauty of Worcester (bluish-violet with white stamens), lanuginosa (pale lavender), and Nelly Moser (light mauve with red bars).

Planting.—Clematises, with the exception of indivisa lobata (which is best planted out in a bed inside the house), are more conveniently dealt with grown in large pots or tubs, as at times (as for example, after cutting down), they may be stood out of doors for a while, or placed in a cold frame.

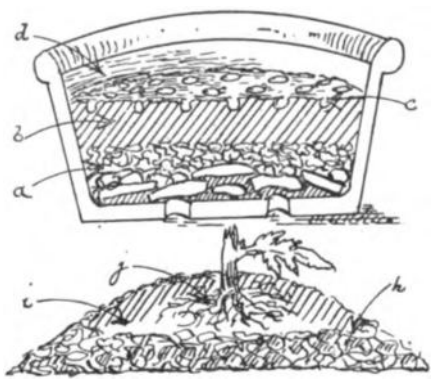
Culture.—In shifting them into their flowering pots, a compost should be made up of good rotted loam or leaf soil, in the proportion of two of the former to one of the latter, along with one part of decayed cow manure and a good sprinkling of sand. As clematises can always be procured in pots, it is an advantage to do what repotting is needful before much growth has been made, so that the roots may have a chance of being spread out in the new compost. Special attention should be given to provide sufficient drainage and so avoid at any period a waterlogged state.

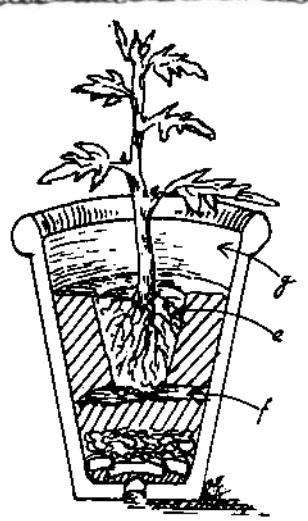
Training.—It may seem superfluous to suggest the training of shoots, but started early it is not a difficult matter to tie them carefully to the wires under the roof, which is preferable to allowing them to grow in any conglomerated fashion.

Watering.—This is a matter of importance, so much so that the pots containing the plants should be placed where they are easily seen and attended to. The general rule for plants as growth proceeds, and weather becomes warmer, to be more liberal with water, holds good in the case of clematises in a cold house, and ventilating on every favourable opportunity must not be lost sight of, particularly when it is remembered that they are of a hardy nature.—CLAREMONT.

Early Tomatoes in Warm Houses.

ALL cultivators of tomatoes know well enough how the young plants thrive in a temperature of about 75 degrees—about summer heat. They also know how difficult it is to get the plants past the seedling stage to the flowering of the first truss when artificial heat is deficient. We all are anxious to begin the work of growing tomatoes, but to those who do not possess well heated structures I say, wait a few weeks longer until the sun's rays are more powerful, then the seedlings will make good progress and soon surpass the earlier, stunted ones. The initial mistake is, generally, that of sowing the seeds too thickly and in soil that is too fine. Great care should be taken in the preparation of the seed pan, or pot; also, in the preparation of the compost. The pan must be well drained, clean and dry; and the compost should be a simple one, containing no manure. Press down the compost firmly and evenly with the fingers, level the surface, make tiny holes 1in. apart and about half an inch deep, water through a rosed watering can. One hour later drop one seed in each hole, fill with soil, do not water, place the pan on a stage in a warm position and cover it with glass and paper. All necessary watering afterwards should be by gently immersing the





pan in tepid water. Gradually expose the seedlings and prepare to transplant them singly, in small pots when each one possesses two rough leaves. Seeds sown at 1in. apart produce stocky seedlings that are quite easy to transplant. High shelves are not suitable for early plants; a stage about 3ft. from the roof glass is a better position. Have some nice, lumpy, fibrous loam in the house, warming and in readiness for the next repotting. The letters *a* and *b* show the drainage and compost in the pan; *c*, the tiny holes 1in. apart; *d*, space for seedlings to grow in without touching covering glass; *e*, the stage of root formation when final potting is done; *f*, rough compost; *g*, space left for top-dressing material. When the young plants are planted in a border for fruiting, provide, at *h*, rough compost and rotted manure; at *i*, fibrous loam without manure. The roots, *j*, being clear of manure in their early stages. All composts should be well firmed.—G. G.

Painting the Greenhouse and Frame.

IT is very important to paint a greenhouse or frame at regular intervals if the structure is to be kept in a good state of preservation. The work does not present any great difficulties, although it is important to bear one or two points in mind. Never paint a surface which is not dry and never do the work in frosty weather, as the paint is sure then to blister and peel off. If the surface has been coated with paint some time previously, remove all loose bits such as are not likely to adhere to the wood. If time can be spared the surface will be improved by sandpapering or light scraping with a putty knife. Work the paint well in, especially if the wood is new. Never employ any kind of preservative, like creosote, for the woodwork inside a greenhouse. It is even a good plan to remove all the more delicate plants before applying ordinary paint. If any fungi or moulds have attacked the wood it is wise to mix a teaspoonful of carbolic acid with each pound of paint. Full up any holes or the cracks in the wood with putty and renew any putty that has come away from the glass. It is important to leave no cavities in which water can stand, as should this happen serious rotting of the wood is likely to set in

Potting Composts.

DURING the next three or four months a vast quantity of "compost" will be required by all gardeners. The basis of all composts is loam and the best loam is a turfy, fibrous earth, which has been stored for some time. Turf from old pasture, cut and stored a year, cannot be improved on; this is the time to make a turf heap for next year. Loam from a garden will serve—often has to serve—but it should be soil from a plot "in good heart," well manured for the last crop and not exhausted, harsh or clayey. Amateurs in the towns who cannot procure turf normally may buy it from a nursery in bags, but the cheapest plan is to buy a cartful and store; it keeps for years. Sand is also required, a nice clean and sharp sand; builder's sand is, as a rule, quite all right, but it is found that almost any sand of normal nature serves. Leaf mould is obtained from rotted leaves which are rubbed through a small sieve; for seedlings it ought to be fine (¼in.), but for pot plants it may be coarser (½in.). The great point is to have the material thoroughly decayed, so that it crumbles easily into a fine earthy matter. That from oak and beech leaves is best, but good seconds are mould from elm, lime, and other leaves without hard stalks and thick midribs. Manure for potting composts is best dried and then passed through a half-inch sieve; it must, moreover, be well decayed, so much so, indeed, that the litter in it rubs down into fine fibre. Cow manure, horse manure with straw and pig manure are best. Old mortar consists of the refuse from house demolition, ground or tramped fairly fine; it consists of sand mixed with a very useful form of carbonate of lime (chalk). Ground limestone or chalk may be used in place of it or finely ground shells, in some cases. One thing more—charcoal; many neglect this, but we have repeatedly demonstrated that it is one of the finest things to use, not only to keep the soil sweet, to conserve its manurial content and to ensure porosity, but also to remove chances of suffering from that dread disease, "damping-off." Grind a quantity saved from the bonfire by tramping on it, and stir the coarse powder into all composts.—CLYDESDALE.

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT.

Leaves and Bracken.

Large quantities of leaves and bracken should be carted to the shrubberies and spread evenly over the ground among rhododendrons, azaleas, viburnums and berberis, which respond well to heavy mulching. Dry banks and slopes planted with shrubs should be liberally treated, and, to prevent the wind from blowing the leaves about, spread a thin layer of bracken over the leaves; this will hold them in position the whole season. Bracken by itself is a splendid material for mulching: it has no equal for plants growing on peat or sandy soils, and where plenty is available a quantity should be cut about the end of July and thrown into flat heaps so that rain can penetrate into it. By November this will have become partially decayed, when it can be broken up short and used for mulching young trees and shrubs. This autumn mulch will help to retain moisture and will destroy most weeds that persist in growing between shrubs.—H. W.

The Maidenhair Tree from Cuttings.

Although plants of this peculiar tree, Ginkgo biloba, are usually grown from seeds imported from abroad and said to be the only means of increasing it. Plants may also be grown from cuttings, if taken at a favourable time, in spring, before growth commences. Short jointed cuttings taken off in late March or April and inserted in sand in a cold frame, or covered with a bell glass and shaded from bright sun, will emit roots before the end of August, when they should be transferred to small pots. Partly to sever the cuttings at a socket, or joint, by a gentle pull and allow them to hang on the tree until the wound is healed over, or forms a callus, will be found to be even more successful than the former method. The cuttings will be none the worse, and they will emit roots more quickly after being placed in the sand, than if they had been freshly cut and smoothed with a knife.—W. G.

Propagating Rambler Roses.

When rambler roses arrive from the nurseryman, cut the stems down to about 6ins. in length before planting. This will allow the strength of the tree to go to the root and you get much better results than if the growth had been left. Insert the cuttings in sandy soil, and you will find that even in November or December, if the ground is not hard with frost, they will take root and make good trees in a couple of years. Two beautiful new ramblers that lend themselves to this treatment are Albertine and Papa Ronillard.—E. M. S.

Making Carnation Cuttings.

I find it a good plan when making carnation cuttings to split them up from the base to the first joint and put them in a bucket of water for an hour or two, and then the base of the cutting where it was split will have turned outwards. This will allow the sand and soil to get in between more easily. I find that cuttings, treated thus, root better and have more roots than if they are put in as soon as split.—H. S. B.

Fastening Climbers.

Much time is gained if fasteners can be prepared beforehand. Take an old legging, boot or other leather article and cut strips about 1in. wide. Cut these into varying lengths from 2ins. to 3ins. Punch a hole each end. Through one of these holes pass a piece of soft wire, bent hairpin fashion, then bend over the ends and bring them through the loop and pull tight. When using pass the leather round the stem and bring the two strands of wire through the unengaged hole, thus encircling the stem with leather. Fasten the wires then to trellis, nail or other support. You will be surprised at the amount of fastening up that can be done in an afternoon if this system is adopted, and the fastenings are safe and comfortable.—N. D.

Planting Trees in an Old Shrubbery.

The following method adopted by my father has proved so successful that I think it worth putting on record. When he wants to plant one of his cherry trees (or any other kind) in a shrubbery fully occupied by long-established shrubs and trees, he gets an old raisin barrel from the grocer, knocks out the bottom, and digs it into the ground on the desired site. The walls of this barrel enable the roots of the newly planted tree to get thoroughly established before the staves rot, in about two or three years time. He has succeeded in establishing trees in this way in places where it would otherwise have been impossible to do so.—A. I.

Killing Wood Lice.

This pest is very destructive in cucumber and melon houses. To get rid of it procure some pure liquid ammonia, mix at the rate of ½ pint to 1 quart of water and sprinkle on the floor of the houses, closing all ventilators. This applies only to houses cleared of all plants. Take care that the fumes do not reach any adjoining structure containing plants, or the latter will die with the wood lice or any other creeping thing that may be underneath the stages.—F. D.

Eradicating Red Spider on Tree Carnations.

Procure a sheet of corrugated iron and place near a water tap with a hose pipe attached. If no hose pipe available a good syringe with a jet fitted will do as well. Slightly raise one end of the tin so that the water will run off down a grating, then lay a plant on its side on the tin and commence to spray the plant thoroughly, using plenty of pressure of water. Turn the plant round occasionally so that every part, both the under and the top sides of the leaves, is thoroughly syringed and the minute insects washed away. This is a much cheaper way than using insecticide, and just as effective.—J. H.

WELL ROTTED MANURE

MANURES are animal, mineral or vegetable. Manures are mostly referred to as organic when they come from the farmyard. They are, generally, very beneficial to soils that are deficient in humus. Virgin forests, when cleared, produce fine crops because the soil is so full of humus; full of it, but not sour, so that crops thrive for a time without the application of lime or any other ingredient. Organic manures are sometimes regarded as being favourable to the increase of soil pests, but it is a fact that they materially help to kill predatory insects and vermin—enemies of plant life. All animal and vegetable manures promote the growth of plants; there is an economical way of treating such manures and thus getting the utmost out of them. Amateurs very often are obliged to use a quite strawy manure late in spring. Such manure is not valuable, especially if the summer season is a dry one. Decomposition of strawy manure in a dry medium—the soil—cannot be satisfactory, and so the crops do not benefit, in certain cases the manure does more harm than good. In the autumn fresh or green manure and litter also may be dug into the soil and allowed to remain there all winter for the benefit of spring and summer crops, but, where possible, the amateur should treat his stock of manure before applying it to the soil. The manure should not be left exposed to the weather, especially to rain, as all the goodness will soon be washed out of the heap. I daresay many readers of THE GARDEN have noticed exposed heaps of manure near farm buildings and also where the liquid has flowed down the nearest ditch or hollow, and how luxuriant the herbage is on both sides of the sluggish stream. Well, it all means that the farm land is being robbed of valuable manure. The ideal way is to have the manure covered under waterproof roofs and a big well made near by to collect any liquid flowing. From such catch-pits or wells the liquid can be pumped and conveyed to the land. In the small garden the manure should be under a shelter of some kind and near by there should be a small catch-pit to collect the liquid. How valuable, when properly diluted, will such liquid manure be to the enthusiastic amateur when he wishes to feed his plants.

Moisture must come into contact with dry, strawy manure to cause it to rot. To this end the gardener should sprinkle water on it in moderation, then turn over the heap, always lightly, not in lumps. Fortnightly turnings for about six weeks will cause rapid decomposition, and where it is possible to obtain seaweed the latter will reduce a heap of littery manure to a rotted state in a very short time if mixed with it at the first turning. Rotted manure from any source should be kept cool and dry. In light soils it may be used more liberally than in heavy. Into the latter it may be dug during the autumn, into the light early in spring. Fresh organic manure should not be used for potatoes; rotted it is excellent for this crop, also for celery, leeks, onions and winter greens in poor soils, and for cauliflowers, savoys and cabbages during the summer even in the best soils. Stable manure is best for heavy loams, and cow and pig manure for light. When farmyard manure continues to rot in the soil it also hastens the decay of other organic remains in it too, and in a decomposed condition the manure absorbs moisture in a more beneficial way for plant life than when it is fresh—littery mainly—so I would again urge its decomposition before applying it to the soil, meantime keeping it cool and covered from rains. G. G.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Plants which can be Grown in a Disused Quarry.

Will you please advise me as to what I can grow on the stony sides of a disused quarry and also in the quarry itself, which forms two sides of a rectangle, the third side has a low boundary wall and the fourth is open. There are at present a few trees, yew, birch, Scotch fir and holly, besides a few laurels and lilacs in the space, and I am clearing out the laurel and opening up the place so that the trees can be seen. I am also cutting back the ivy on the stony sides of the quarry and want to plant them with something that will throw masses of flowers over them. There is a certain amount of soil in the crevices. If I can do this and get something to grow under the trees, the effect should be very good. Would you please suggest something? I do not propose to make regular beds, but want the effect of a woodland glade. The place will, of course, be shady, though I am opening it up freely.—J. D. B., Templecombe, Somerset.

You should enlarge the holes in the sides of the quarry to ensure more soil space for the plants. The following would soon form masses, the foliage of some hanging gracefully: Aubrietias, Cerastium tomentosum, Saxifraga umbrosa. If it is possible to provide soil at the top for several plants of Clematis montana, a great deal of wall surface would soon be covered: or the clematis could be planted at the base. Azara microphylla could be used for covering lower spaces. Periwinkle, major and minor, and St. John's wort could both be used to great advantage under trees. Kalmias, laburnum, several flowering thorns, philadelphus, Prunus Pissardii (for coloured foliage) and azaleas should combine to make an effective display.

Alpines for a Small Rockery.

I wish to make a rockery on a piece of raised ground facing north at the foot of an elm tree and shall be obliged if you can tell me the names of the most suitable plants to use and the correct time to plant them. Will laurel cuttings take root if planted at this time of year.—L. W. S., Mill Hill.

The following kinds of plants should succeed on the rockery, namely: Achillea rupestris, Alyssum saxatile, Arabis albida, Arenaria balearica, aubrietia, Campanula garganica, alpine dianthus, Erinus alpinus, Iberis corifolia and Little Gem, Linum flavum, Phlox amœna, Primula japonica, sedums, saxifrages, Veronica repens, Statice incana nana, Silene acaulis. Plant early in spring. It is late to insert cuttings of laurel, but you may succeed if the cuttings are taken with a small "heel" of older wood, inserted in a cool, north border, with sand at the base, and the soil kept firm around the base.

Materials for Path Making.

I shall be glad if you will advise me if crushed bricks will make a satisfactory path, screened about as fine as the top-dressing of a hard tennis court. Kindly say if this would "pick up" after frost, and if liable to grow green.—W. P. S., Droitwich.

All loose material, from soil to cinders, picks up after a thaw unless the thaw comes with heavy rain. Ashes and brick dust do not pick up as much as gravel, because they are more porous and become dry sooner. If you roll down the brickdust path very firmly it should make a really good lasting path on which moss or green matter will not form as freely as on a gravel one.

Mushrooms and Rhubarb in a Cellar.

I should very much like to try to grow mushrooms in a wine "cellar" (so called, though it is not underground), and as I am entirely ignorant of what is required, I should greatly appreciate it if you would give me full directions. The cellar is perfectly dark and dry, and as hot-water pipes run through the upper portion, the temperature is round about 55 degrees Fahr. I propose growing the mushrooms in boxes; how deep should these be? Should the stable manure have any loam mixed with it or any placed on top? How far apart and how deep should the spawn be planted? Will you also kindly tell me exactly how I could force rhubarb in this cellar.—H. S. H., Hampstead.

You will need some fresh stable manure, collected every day, spread out thinly in an open, dry shed, and turned over daily, to allow the rank gases to escape. When about ten barrow loads have been collected, make up the bed—on the floor preferably—and tread down the material firmly as the bed is being built up—18ins. at the back, 12ins. at the front. When the heat is declining and registers about 85 degrees, insert the lumps of spawn—2ins. square—9ins. apart and 2ins. deep on the surface. Put on a layer of maiden loam—from a pasture for preference—2ins. deep and cover with clean straw. Do not put soil with the littery manure, and do not water. Keep in darkness and avoid cold air. The rhubarb roots may be packed in fine soil close together on the floor, and watered once. Growth will soon commence.

Fruit Varieties for a Small Garden.

I am taking over a new house in Wallington in January and I wish to plant a few fruit trees, etc., now, and ask your advice as to which I should choose. The soil 2ft. 6ins. down is chalk. I require about four eating and cooking apples, about three or four eating pear trees, about one eating cherry tree, about one plum (eating). I thought about two dozen raspberry canes (Lloyd George, Laxtonberry), also about fifty strawberry plants, whichever you select for me, also a few black and red currant bushes.—W. C. H., Tooting.

We think the following varieties would suit your purpose quite well: Dessert apples: James Grieve, Ellison's Orange and Egremont Russet. Cooking apples: Rev. W. Wilks, Stirling Castle and Newton Wonder. Dessert pears: Conference, Louise Bonne de Jersey and Durondeau. Dessert cherries: Napoleon and Governor Wood. Dessert plums: Victoria and Dennistons Superb. It would be best to plant two of each sort of cherries and plums. Lloyd George is the only raspberry you would need to plant, while the two strawberries to go for are Royal Sovereign and Sir Joseph Paxton. For black currants, Seabrook's Black and Goliath will be best, and of the red currants, Perfection and Royal Castle.

It would probably be best to buy half-standards or standard plums and cherries, and to plant these as a sort of "break" or screen along the bottom of the lawn. The apples and pears, however, would be best as bush trees, planted down the pathside as you suggest. Of course, the pears and the apples would do splendidly as cordons along the pathside trained on a simple wire trellis. The strawberries should be given a separate bed away from the fruit trees, but the currant bushes could well be planted between the larger trees.

Plants for a Narrow Border.

Can you tell me what to plant in a bed 30ft. by 3ft., so as to get a good show for next summer. The bed is above a rockery and has a rustic fence with ramblers at the back.—P. J. B., Sidcup.

As the border is a narrow one, you should not attempt to grow tall-growing subjects. Several clumps of herbaceous phlox Coquelicot, delphiniums and medium height sorts of Michaelmas daisies, and the remaining space should be filled with doronicum, Coreopsis grandiflora, Anemone japonica, erigeron, Achillea The Pearl, scabious, gaillardias, with annual larkspur, clarkias, godetias and viola clumps in front. These plants will bear flowers from early spring until November.

Self-Fertile Apples.

I have just purchased a small bush apple tree, asking for a self-fertile variety, as it is the only one in my garden at present. I am afraid the nurseryman has let me down, as he has sent me a Worcester Pearmain. Will you please tell me if I must get another to set the fruit on it? If so, would Laxton's Superb do, or is there a better one?—A. H. W., Buckhurst Hill.

The Worcester Pearmain apple tree is partly self-fertile, but would set better crops if another tree of a different variety were planted close by. Laxton's Superb would do quite well, or failing this, James Grieve.

Liming Soils and Transplanting Shrubs.

I dug over in September and manured with old decayed manure my rose beds and a herbaceous border which I intend to plant early in spring. I wish to know which is the best time to dig in some lime—whether to apply it now or wait until the spring. The beds have not been limed for some years. Soil, fairly light, with gravel subsoil; rather wet in winter. Is it possible to transplant successfully three year old bushes of Spanish and ordinary yellow broom, both about 4ft. to 5ft. high?—S. E. J., Twickenham.

Apply the lime now; do not bury it deeply, but mix it with the surface soil at the rate of one bushel per square rod. Great care must be taken with the broom plants. Secure as many fibrous roots as possible, and stake firmly when they are replanted. If blown about then they will not survive. Keep the soil moist.

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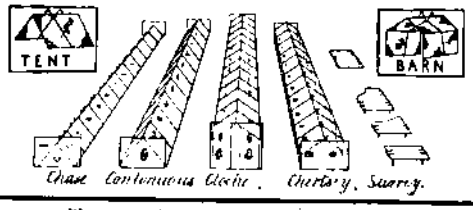

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THE GARDEN

VOL. XCI.—No. 2876. JANUARY 15, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

A Mild Winter and Its Effects.

OWING to the unusually mild conditions which all parts of the country have experienced during the past few weeks, many plants, which according to all the rules of the game should still be in a dormant state, are commencing to push into growth. The crowns of many herbaceous plants are swelling and young tender growths are already tentatively pushing their way through the soil covering. While these will not suffer to any great extent from late frosts, unless they are exceptionally severe, they are open to the greater danger of attacks from slugs at this time. Many herbaceous perennials make tasty bites for slugs, and no plant more than the delphinium. Whole plants may be ruined by slug attack, and all gardeners who grow these handsome border subjects should take every precaution at protecting the plants now by placing round the crowns, which in all probability will be bare of soil, a dressing of sand and fine ashes with a dash of lime to a depth of 1in. to 2ins. This dressing will carry the plants over the trying period and will serve as additional protection to the crowns if severe weather occurs later on.

On the other hand, it is unfortunate that so many shrubby subjects are breaking into growth so early in response to the mild weather. The swelling buds are apt to suffer severely from late frosts, and the health and appearance of the plants are thereby impaired. Do not coddle any of the shrubs in the garden unnecessarily and thereby hasten them into premature growth. Rather retard them slightly until we are more or less sure that all danger of really hard weather is over. The winter jasmine is now at its best, and many a house front looks exceedingly well with its drapery of bright yellow blossoms. The witch hazels are bursting into bloom, while fat flower-buds are showing on Daphne Mezereum, the Cornelian cherry, the corylopsis and many of our early-flowering hardy heaths following on their winter-flowering relatives. These hardy heaths make a most brilliant show when planted in colonies, their bell-like pink and white blossoms borne so profusely and their neat, compact clumps of foliage being much appreciated in bare corners of the garden. There are any numbers of other shrubs showing signs of early flower, and gardeners should make a note of any plant which strikes them as worthy, and, if possible, include one in the spring planting scheme to brighten the garden next winter.

Not only should a look-out be kept for isolated flowering subjects, but keep an observant eye for attractive flower and shrub groupings at this time of year. Not so long ago we noticed a very effective association of winter aconites and the dogwood. The aconites were in full flower and looked extremely well against the background of the brilliant red stems of the dogwood. The dogwoods are a valuable and useful group of shrubs, as many of them are as handsome in summer with their variegated foliage as they are in winter with their richly coloured bare stems. There are innumerable combinations one can have with winter-flowering plants, and the gardener who is observant will learn much to his advantage by a walk round many of our public gardens at this time.

To Secretaries of Horticultural Societies.

AS has already been mentioned in these columns, it has been decided to include in each issue of THE GARDEN a diary of events for the week following that of publication. It is our desire to make this diary of forthcoming horticultural events as complete as possible, so that it may serve as a useful guide to all gardeners in different parts of the country, and in this connection we would again ask all secretaries of horticultural societies who may not have seen our previous references to co-operate with us, and to send in a list of their meetings and shows during this year addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2. By this diary of events we hope to stimulate interest in the work of all the local horticultural societies and at the same time to call the attention of our readers to any interesting lectures and shows which may prove helpful to them in their gardening duties. Much can be learned at these meetings and local flower shows, and many of our readers, we feel sure, are interested to know of the activities of societies in different districts and to note the general trend of horticulture throughout the country.

HAVE YOU

¶ *Set up the tubers of your first early potatoes in single layers in shallow boxes placed on a light shelf in the greenhouse? They will soon sprout in this position.*

¶ *Completed the pruning and planting of your fruit trees?*

¶ *Taken more cuttings of your chrysanthemums and geraniums?*

¶ *Sown seed of tuberous begonias, gloxinias and streptocarpus in your warm greenhouse?*

¶ *Made a sowing of broad beans and dwarf peas in one of your frames? After hardening off the seedlings they can be planted outside in April.*

¶ *Prepared your sweet pea trenches?*

Generous Offer to Devon Apple Growers.

IN view of the recent reports as to the probable very serious shortage of apples to meet the ever-growing demands for Devonshire cider, the offer recently made by Whiteways of Whimple is a very practical step towards encouraging the fruit industry in Devon. At a very largely attended meeting of the farmers, fruit-growers and cider merchants recently held under the auspices of the Devon Agricultural Association at Exeter, Mr. Henry Whiteway announced that he would give farmers who were regularly selling his firm their cider apples ten trees for every hundred they planted.

The growing of cider apples in Devon is a very important and profitable industry. According to figures put before the meeting, there are already nearly 25,000 acres of orchards in that county. Any scheme by which this acreage can be increased is of enormous benefit in the present rather depressed state of the agricultural industry and to a certain extent will assist in the promotion of apple culture in this district.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 7, which appeared in our issue of January 1st, have been awarded to

Miss E. H. Lyster,
Crofton Grange,
and **Orpington, Kent.**

Mr. R. S. Gepps,
6, Rue Taillade, Colombes,
Seine, Paris.

To each of whom a cheque for that amount has been sent.

We are indebted to Messrs. Sutton and Sons of Reading for the use of the illustration of aquilegia which appears on the front cover of this issue.

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GROW SWEET PEAS IN THIS YEAR'S GARDEN

There are few flowers which can be used with such beautiful effects in the garden as the sweet pea. They are easy to grow and all gardeners should prepare for a summer show of these lovely annuals by sowing seeds during the next few weeks.

HOW often we overlook the great value of sweet peas for garden decoration, regarding them simply and solely as excellent and generous providers of cut flowers for the home. Yet, given suitable treatment and judicious choice of sites, they will fulfil the dual rôle, and there are few subjects which will surpass sweet peas as border plants.

Where to Grow.

The line of division between the kitchen garden and the flower garden sometimes presents a problem which a row of sweet peas will solve. Such a hedge is not, of course, permanent, but the fact that it may be moved every year, if necessary, is not without its advantages. Planting sweet peas in rows may be considered rather too formal a method if one wishes to bring out their full artistic value, and the most effective method, it will be found, is to plant in rings or clumps about 18ins. in diameter, six or eight plants to each clump. There are many positions which such clumps will fill admirably, but in choosing sites one should not forget the height to which the plants will grow and its relation to their immediate surroundings. Clumps of sweet peas naturally lend themselves to the back of the annual border, here and there in the perennial border, at intervals on either side of paths, both in the flower and kitchen gardens, or between the uprights of the rose pergola. They will give a bright and welcome splash of colour along the edge of the shrubbery or in narrow borders right against a sunny wall of the house or garage. In spite of all that has been said and written to the contrary, modern sweet peas are *sweet* sweet peas still, and their delightful perfume in favourable weather conditions will add to their other attractions when planted near windows of the house. A beautiful effect may be obtained by placing clumps in small beds on the lawn, relieving any bareness round the base of the plants with a "carpet" of violas or some other free-blooming and showy bedder.

A ROW OF SWEET PEAS MAKES AN ATTRACTIVE SCREEN BETWEEN THE FLOWER AND VEGETABLE PLOTS.

Sweet peas are invaluable as screens for unsightly outhouses, for covering fences and trellis work, or even the wire of a fowlrun, their lengthy flowering period giving them a decided advantage over most other climbers where brightness is needed rather than permanency.

Even when garden space is so limited that there is little or no room for the Queen of Annuals, small tubs, large pots or deep boxes may be utilised, crocking their bottoms to facilitate drainage and using a fairly rich potting medium. Plants grown in this way will need fairly frequent feeding with liquid manure and soot water, but when in full bloom may be moved to positions it would otherwise be difficult to fill.

How to Group.

After selecting appropriate flowering quarters for our sweet peas, the next consideration is their colours. Always we should bear in mind the immediate surroundings of the plants and endeavour to choose colours which will harmonise with these, or present a pleasing contrast. We may strike out a mixture of varieties as out of the question. For clumps, the rule should be one colour one clump, unless one's taste inclines to two harmonising shades. In the latter case, it will be found that cream will blend well with almost all rich, bright shades, such as orange, orange-scarlet, scarlet, scarlet-cerise, salmon-pink, maroon, purple, cerise, lavender or deep cream pink. Whites "go" with almost any of the dark and rather harsh shades, maroon and most other colours which are not on cream grounds. Light blues and lavenders blend very nicely with the lighter cream pinks or the pink blushes. Personal taste will no doubt suggest many other pleasing combinations. Bright or very light colours should obviously be associated with dull backgrounds. Even when planting in long rows instead of clumps, some kind of colour blending or pre-arranged order of planting should be arrived at in which the varieties—although kept separate in the row—harmonise with their immediate neighbours. This most certainly enhances the

THE STAKING OF SWEET PEAS IN THE GARDEN OFTEN PRESENTS A DIFFICULTY TO THE AMATEUR GARDENER.

Pea sticks make a most effective method of staking and afford considerable protection to the plants themselves when young.

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colour effect taken as a whole, each variety then appearing to the best advantage.

Culture.

Just a word or two respecting culture. This will be found very easy if one bears in mind the simple needs of the plant. Early treatment of the soil is of great importance. Deep digging or, better still, bastard trenching, 2ft. to 2½ft. deep is advisable, also the incorporation of a fair quantity of farmyard or other animal manure, or, failing this, hop manure enriched with bone meal. The manure should be well mixed in with the soil, not placed in a layer, and not brought nearer than 9ins. to the surface. A dressing of bone-meal and wood ashes incorporated in the top 9ins. will help the plants, particularly in their early stages. Sweet peas do not like badly drained soil or a shady position. Failing an autumn sowing, the next best method is to sow in pots or boxes in the early spring, say, in February, giving slight heat at the outset to encourage a quick germination, but only until the seedlings are through the surface. Then gradually harden them to cold frame treatment, removing the glass lights except during frosty weather. The great point is to keep the plants hardy and sturdy until transplanting time in March or early April.

Training and Staking.

Sweet peas are climbing plants and need supports, and such supports—where decorative garden effect is required—should be neat. Too often one's attention is caught by ugly supports rather than by beautiful flowers. Where sticks or netting are used, these should, of course, be strong enough to hold the weight of haulm, but also unobtrusive. Lateral growths may, with a little care, be tied here and there to the outside of the supports, horizontally if necessary, so as to hide the netting or sticks and leave no unsightly gaps.

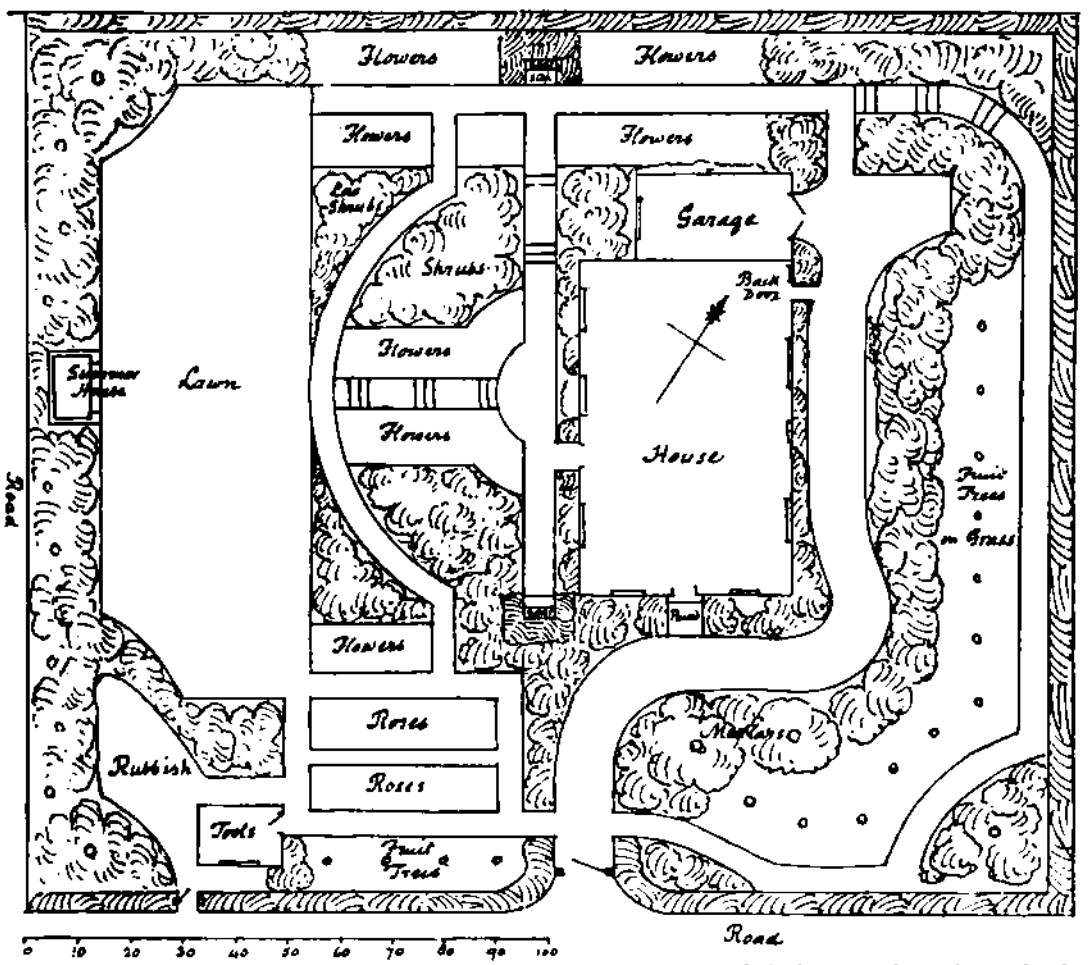
Removal of faded blooms, together with judicious watering and feeding, will stimulate growth and prolong the flowering period, and thus extend the decorative effect in the garden.

C. H. A. S.

THE JOY OF MAKING A NEW GARDEN

BY GERTRUDE JEKYLL.

THIS is a corner site, and different from some that have been lately considered in that the house is larger in proportion to the ground. This approaches a square, as its measurement is 200ft. by 175ft. The ground is high on the north-east, so that the drive from the garage to the south-east angle of the house is an excavation. An extra space is cut into the higher ground opposite the garage entrance; the returning car will run into this, steering to the right, and can then back into the garage. This space and the near scarp that is parallel with the house will have some dry walling as a retaining wall to the higher ground above. It should be remembered, in such a case, that the walling cannot be built hard up against the scarp, however solid this may be. Builders who are not accustomed to dry-walling are apt to overlook this. There must be a space of at least a foot of loose earth at the back of the stones; then, as each course goes up, the earth is rammed tightly to the back of the stones and partly over them, for some of the stones will be "headers," the better to form a key into the bank. It will have a good effect if the planting round and about at the garage end is all, or nearly all, of one kind of evergreen—yew or box, common or Portugal laurel. From opposite the back door to some way along, the joints and top of the wall will be planted, first with kitchen herbs, convenient for the cook to run out and gather just what she requires of thyme, sage, marjoram, savoury, etc.; then of ornamental flowers, such as catmint, iberis, aubrietia, rock pinks or any of the small flowering plants that seem to be happier in a wall than anywhere else. Then will come a bank of flowering shrubs, and then a row of fruit trees, either in grass or with smaller fruit bushes in cultivated ground between. Nearly opposite the front door, in the widest part of the shrub planting, there would be room for two medlars: spreading, shrubby things, beautiful both in flower and foliage.



Besides the bank at the back, there is a semicircular mass of spare earth in the front highest and even in level with the house above, gradually falling and spreading out fan-shape to the lower level, in front and to right and left; it is from the excavation at the back and the spare stuff from levelling for the house and from the openings for the foundations. This is planned for a double flower border sloping down, and a path between with short flights of wide shallow steps that is raked by a sitting-room window. The path at the top bows out a little in the middle to meet the top flight and runs out both ways to a seat at each end bowered in yew. The ground is made up at the south-east end so that the path goes on the level to the seat, but on its longer way to the other seat there had better be steps. It could, of course, be a sloping path, but steps always have a good effect and the division into separate levels is better as to design; it also saves the path from the tendency of being washed out in heavy rain, which is apt to happen on even a quite slight slope. The foot of the pile of spare earth comes to the semicircular path shown below; the path passes out on the north-west to flower borders, and to the south-east to some rose beds. There are also banks at the lower corners of the lawn, sloping down from the extreme angles to the lawn level. In each of these a good shade tree—oak, lime, chestnut or any tree better liked—will be planted and a belt of shrubs, mostly evergreen, to make a good thick screen from the road. A summer-house will come well in the middle, and is always desirable, not only for its own pleasant use, but also as a definite object to end the garden view from above.

As the line down the steps is not in the middle of the ground, it enables the lawn to be symmetrical and yet to allow of a useful space and the south-west corner for a rubbish place and tool-house. It will be convenient to have a gate here; either a hand gate, or possibly one wide enough for a cart to back in and tip a load of manure.

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THE BUSY MAN'S PAGE

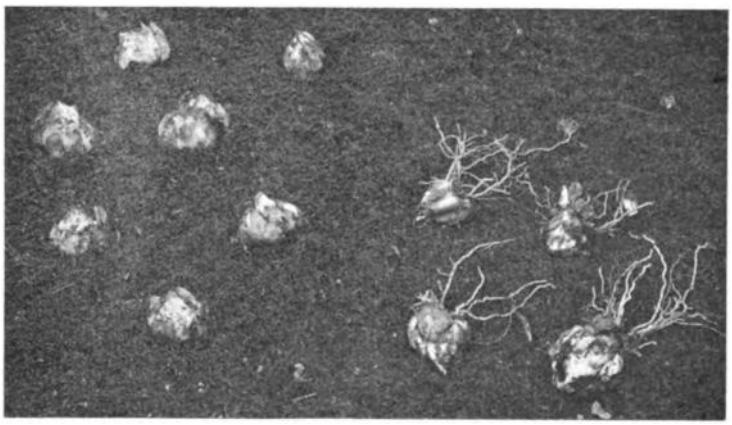
Hints on Planting Lilies.

AS many amateurs will very soon be purchasing lily bulbs for planting, a few hints, most of them hoary-headed, may not be out of place.

Condition of Bulbs.—If the bulbs on arrival are soft and flabby, or have damaged scales, do not plant them at once. Allow them to rest and recover in a box of moist peat or leaf-mould. When the bulb becomes firmer and the roots begin to move is soon enough to think of planting them. Before thus maturing them a good washing in soft water is no bad thing, but after washing they should be excluded from the light till the scales are nearly dry. Before planting, remove all damaged scales, and, if the bulb is of a rare or expensive species, it is not an unreasonable precaution to remove two or three healthy scales, planting them base down in sharp sand and a cold frame. In planting, note that:

(*a*) Except with L. candidum—which should not be planted now—the depth of planting should be three times the diameter of the bulb.

(*b*) All lilies, even the swamp lilies, appreciate good drainage.



THE METHOD OF PLANTING LILY BULBS.

These should be spaced out in irregular groups care being taken to avoid injury to any new fleshy roots.

(*c*) The addition of a handful of charcoal on the top of the drainage is of great value.

(*d*) Each bulb is the better for a good thick waistcoat of sharp sand, and, if good oak-leaf mould be available, do not be afraid of using it, as, generally speaking, it is of greater value than loam, clay or peat.

(*e*) When the lilies begin to grow it is essential to keep a sharp eye on the slugs, which like them; remembering at the same time that the majority of slug-destroying compounds contain lime, a substance unfriendly to most, though not all, of the lilies.

(*f*) It is an advantage if you can manage to consult a recognised handbook on the lily—all have their peculiarities of cultivation and growth.

Helpful Odd Jobs.

AT this time of the year there are many things that can be attended to that will prove helpful later, when, it may be, the cultivator has less leisure. This refers more particularly to the lover of a garden who is occupied from early morning until early evening away from home. We know, well enough, that there are thousands so occupied in every district throughout suburbia. By artificial light in the potting-shed or other outbuilding, or even in the greenhouse, labels, stakes, pots, pans and boxes can be made or mended. The neat little stakes, painted green in readiness for the pot plants and border subjects in summer; the clean pots and pans, new or repaired; boxes; or the heap of pulled turves, sifted leaf-soil and stored sand will all be found most helpful when the days lengthen and the hosts of seedlings, rooted-cuttings and root-bound plants require prompt attention. Indoors, there will be the planning-out of the vegetable quarters; the list of summer bedding plants needed and the neglected seed orders to make out, all to be duly considered; then, when the time comes for dealing with each subject, the work will be facilitated and made more pleasurable.

Bulbs for Greenhouse and Dwelling-Room.

BATCHES of hyacinths, tulips, narcissi, freesias, crocus and scilla bulbs can all be grown from this date without a lot of trouble. The return in the way of blossom for the small amount of labour expended upon them is very great and, if the correct treatment is applied, very satisfying. Unlike some kinds of flowering plants, they can be left unattended longer without harmful effects. Perhaps many readers now possess batches of bulbs in pots and boxes in various stages of development, some being under ashes or sand, where the new leaves and flower stems are forming. It is a fact that numerous cultivators fail to grow bulb flowers with long stems; the latter are too short—stunted—and the flowers on them are stunted too. Usually, this happens when the exposure to full light has been too sudden and at a too early stage of development. A prolonged supply of flowers is obtained by subjecting small batches at a time to the greenhouse heat. When taken from the covering material the exposure to full light should be gradual. If feeding is done by placing the bulb pots in saucers of manure-water all night twice a week, the flowers will be larger and the stems longer. The daily attention will not require more, on average, than fifteen minutes.

Seeds to Sow Now and the Depth to Sow Them.

IN the warm border in the open garden, when the soil is sufficiently dry, the following kinds of seeds may be sown, namely, long-pod beans, early cauliflowers, early cabbage, early sorts of dwarf-growing peas and a few early potatoes should be planted. The beans should be sown about 3ins. deep, the peas nearly 2ins., the potatoes 4ins., the cauliflowers and cabbage nearly ½in. It is a good plan to place a thin layer of dust-dry soil on the seeds before covering them with the ordinary loam. In the cold frame a few seeds of lettuce, carrots, radishes and mustard and cress should be sown and all just buried from sight except the two last named, which must be left uncovered, simply pressed down into damp soil with a piece of flat board. In the warm greenhouse a few seeds of the flowering plants should be sown in pots or pans: cyclamen, ½in.; cannas, 1in.; anthurrhinums, petunias, hollyhocks, verbena, ½in. deep, except the hollyhocks, which should be buried a little deeper. Also sow just a few seeds of cucumber 1in. deep; tomatoes, ½in.; celery, white, merely covered mainly with sand; dwarf beans, 1in. deep. It is always unsatisfactory to sow twice, owing to sowing the seeds at the wrong time, or to lose seedlings through sowing too deeply.

Guarding Against Rose Mildew This Season.

WHERE mildew was present last summer it will be worth while to examine roses at the present time for the purpose of removing any white, woolly patches on the twigs and fruit. These should be cut off where they can be spared and burnt immediately. If their removal is not advisable, the offending "tufts" should be scraped off and the shoots treated with "Abol" or a preparation of a similar nature. With regard to ramblers, it is not an easy matter to overhaul the shoots thoroughly, but as much as possible of the fungus should be removed. It is well to bear in mind that unless the growths of these have been properly thinned, many may be dispensed with entirely; the others may then be more conveniently dealt with. The foliage carries the summer spores of mildew and the disease spreads rapidly at that season, but a great deal may be done in the way suggested in winter to mitigate the trouble.

Some Practical Tips on Growing Vegetables.

WHEN planting cabbages and cauliflowers, carefully examine the roots and stems, for there is sometimes a knot on the stems containing a grub. These plants should be discarded, or the grub destroyed, before planting them. It is well always to puddle the roots of cabbage plants in a mixture of liquid manure, soot and lime.

The ground should be well and deeply dug and heavily manured for crops such as broccoli, cabbages, savoys, cauliflowers, leeks, etc.

In sowing all sorts of roots, such as beets, carrots, parsnips, etc., the soil should be trenched or dug deeply. Well rotted manure may be dug in during the winter, and the more evenly it is mixed with the soil the better. It is inadvisable to give farmyard manure in the springtime to any of these crops because it tends to cause forked roots.

In preparing ground for spring sowings of onions see that it is well firmed. Onions bulb better when so treated. Autumn-sown plants should be planted on deeply dug and well manured plots, but with the soil made firm on the surface. It is always advisable to scatter soot and lime and salt over the onion plot after planting, sowing, weeding or hoeing to keep grub and fly at bay. Have you ever tried winter spraying of the onion-bed with paraffin when digging the soil? It is effective in checking insect pests.

Scatter soot along the rows of peas and it will prevent the sparrows from their customary depredations. Chopped whins put into the drills when sowing peas will keep mice from destroying the crop. Peas, it need hardly be said, should be sown in successional plots or rows. In small gardens it is better to distribute the pea rows here and there, as it takes up less room. If you sow tall-growing peas in grouped rows you must allow 5ft. to 6ft. between the rows. Cabbages that grow about 2ft. high should be in rows 2ft. apart and 1ft. between the plants.

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THE FLOWER GARDEN

A Good Rose Species.

ALL through the winter this small species of rose, R. nitida, is attractive and pleasing. Leafless though it is now, it is yet bright, with its red stems and spines, and for a long time in autumn its glossy foliage gave us a wonderful combination of tints. In this respect it vies with the larger R. lucida. Then, in summer, it has small bright rosy pink flowers which are succeeded by round hips of a bright coral red. The plant only grows about 3ft. high, more or less, generally less, unless in strong soil. It will thrive in poor sandy soil and might well be associated with R. spinosissima, the Scots or Burnet rose. With so many good qualities this little rose ought to command a bigger share of favour. It is not an expensive plant and may be planted in autumn or spring.—S. A.

A Fine Garden Primula.

PRIMULA pulverulenta is a handsome and robust perennial, the large healthy leaves proving that it is by no means miffy or difficult to cultivate. The brilliant maroon crimson flowers are produced in whorls on stout spikes, from 2ft. to 3ft. high, these being covered with farina or meal, which renders it distinct from its near neighbour, P. japonica. The best specimens are obtained in damp, partially shaded positions, although if the necessary moisture is available shade is not so important. Fortunately it seeds freely and if allowed to remain a host of seedlings will appear in close proximity to the parent plant, while seedlings can be readily raised on a damp, shady border or in a cold frame. This primula is an ideal subject for naturalising in a shaded moist corner of the garden. Many hybrids, of which P. pulverulenta is one of the parents, have made their appearance in recent years and among the best are Red Hugh, with fiery red flowers and a good constitution, and P. Unique, of a pretty shade of reddish crimson. These are perennial. P. pulverulenta has shown some variation, and the first form to appear was named Mrs. R. V. Berkeley, which is similar to the type, but with creamy-white flowers. There are many damp borders where these primulas would thrive, while shady nooks in the rock garden could be filled with these charming plants. The soil should be a loamy one, preferably on the heavy side, and the planting done now while the roots are dormant.—T. W. B.

Bedding Ranunculus.

ALTHOUGH the three classes of bedding ranunculi are generally listed in every bulb catalogue, they are much too often overlooked when the bulb order is being made out. Of course, they are not bulbs at all; the tubers are quite distinct, but being "lifted" early in summer, they are generally sold and planted along with the bulbs. In the north we prefer delaying the planting of the tubers until we get a few dry days at the end of January or early in February; farther south, disrespect may be shown to the weather by planting almost at any time before that. As with bulbs, initial preparation of the soil goes a long way towards ensuring maximum success later; deep digging and the incorporation of some well rotted manure or leaf-mould, or hop manure, are almost a necessity. Do not plant immediately after digging, but let the ground consolidate for a week or two first. When choosing a site for these flowers, select one well drained and in sunshine; nothing militates against success worse than soil repeatedly and continuously soaked with water, land soured by stagnant soil water. Plant the claw-like tubers with the claws downwards and at a depth of some 2ins.; should the soil be clayey and stiff, draw a trench and fill in with some greenhouse compost, after planting. Tubers which have become dry and shrivelled may, with advantage, be stored over-night in a can of tepid water to hasten sprouting after planting. During March and April hoe the plants regularly to assist aeration and soak them well with water or wash, if droughts are persistent. Flowers will come along with the tulips in May; the colours are very fine and good plants bloom profusely. When the foliage dies down the tubers may be lifted; this is often done too early, to their detriment, but, as a rule, they are ready for lifting in good time to let late summer bedding be carried out—say about the middle of June. Plants frequently seed; this seed may be stored and sown next spring. The three different classes sold are the French, the Persian, and an intermediate possessing the attributes of both these, the Turban. The Persian is earliest, but the French are tallest and most popular.—LANARKSHIRE.

A FEW TUBERS OF ONE OF THE RICHLY COLOURED STRAINS OF RANUNCULUS SHOULD BE INCLUDED IN THIS YEAR'S BEDDING SCHEMES.

THE CANDELABRA SPIRES OF PRIMULA PULVERULENTA.

A Native Cinquefoil for the Rock Garden.

THE rock cinquefoil can claim to be one of the loveliest of our native flowers and the choicest of the indigenous members of its race. In a wild state it is extremely local in this country, only being known to one or two localities, and it does not appear to be widely distributed in the Alps, where it haunts dry limestone regions as it does with us. In the rock garden this is a singularly attractive subject. From a woody, perennial root-stock it puts forth a copious rosette of pale green leaves above which rise the erect and stately 12-18in. flowering stems. These are a reddish orange tint

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and, branching freely, they bear at their elegantly decurved tips large white blossoms centred with golden anthers. The flowering season extends from June onwards for many weeks. From Corsica comes a very delightful variety of P. rupestris, a pocket edition in the form of P. r. pygmæa. This is a gem of the first water, an exact replica of the type species in miniature, growing to no more than 3–4ins. in height, yet maintaining all the beauty of leaf, flower and grace of the larger plant. Both of these are of easy culture in the rock garden. They do not insist on lime, but appreciate a little. What they do need is rather a dry crevice on a well drained, sunny, fully exposed ledge. Thus accommodated they will live cheerfully and indefinitely.—A. T. J.

A Dwarf Lupin.

(*Lupinus nootkatensis.*)

THE Nootka Sound lupin seldom figures in good gardens, and it must be said that the march of improvement has not been so noticeable with this species as with Lupinus polyphyllus. It is a dwarf species from the Nootka Sound. It is only about a foot and a half high and has spikes of pretty rose, blue and yellow. It is a capital little plant for near the front of the border, quite hardy and satisfied with ordinary garden soil. It may be raised from seeds, sown in spring under glass, or in shallow drills in the open. Plants of good size may also be divided in spring or autumn. It is an excellent little plant.—S. ARNOTT.

CARNATIONS TO BEAUTIFY YOUR GARDEN

In this article will be found a list of modern varieties of border carnations, all of which are worth growing and which can be planted during February and March.

DURING the early part of the winter the temperature has been unusually high for the time of year, and the soil is in an excellent condition for planting. There is no reason, therefore, why carnations should not be planted during the next few weeks if the weather remains open and mild. If transplanted in the open at this time of year they should be made firm, staked if the position is bleak, and the plants regularly examined after frosts to ensure that they have not become loosened. Should frosty conditions prevail when the plants are received they can be potted up, housed for the coming weeks, and transplanted in March.

Choice of Site and Soil Preparation.

Carnations are not exacting subjects. They will stand any amount of frost, but they do not like sodden conditions. Choose an open, sunny situation when selecting a site for them. Soil that is badly drained may be improved by the addition of mortar rubble and strawy manure. Horse litter is best for heavy soils, cow manure advisable for light soils. Lime should be used when preparing the soil if it is not of a calcareous nature. The addition of bone-meal is also beneficial.

The Purchase of Stock.

Well rooted layers, propagated from healthy stock, are cheapest in the end, and the grower is advised to deal with firms whose reputation rests upon the high quality of the goods they despatch. So-called cheap stuff of doubtful quality is dear at any price and not worth garden room nor trouble in growing it.

Varieties of Border Carnations.

There is a wide choice of reliable sorts. Here is a popular selection of eighteen varieties that are not too expensive: Elaine, white; Salmonea, salmon pink; Grenadier, scarlet; E. K. Wakeford, crimson maroon; Mary Murray, yellow; Loyalty, apricot; Purple Emperor, purple self; Mrs. G. D. Murray, white ground marked with violet; Mrs. Edmund Charrington, white with regular lilac markings; Centurion, yellow, barred with scarlet; Enid Lowe, apricot, barred with lavender on rose; Lady Shackleton, yellowish pink, minutely spotted with pink and red; Linkman, yellow, barred with brilliant scarlet; Pasquin, yellow, suffused with rosy pink and lavender; James Griggs, soft grey lavender barred with bright rose; and the four cloves—Fragrance, crimson maroon; Steerforth, white ground edged and splashed with crimson maroon; Mrs. Andrew Brotherston, wine colour covered with minute white spots; and Blush Clove, pale blush pink.

For a larger collection the following may be considered: Mrs. J. L. Gibson, reddish apricot marked with heliotrope, after the style of Kelso but a better grower; Mrs. Horace Lakeman, brilliant rose on an old gold ground, after the style of Rony Buchanan, a good grower and very free; Radio, a distinct and unique fancy, vieux rose splashed and pencilled on a primrose yellow ground; Columbine, a brightly coloured white ground fancy of strong growth; Border Mauve, a fine grower with well shaped mauve flowers; Gordon Douglas, a glowing crimson maroon self; Benedict, a fine deep rose pink self, flowers of fine substance and a lovely colour in artificial light; Ravenswood, white ground heavily striped with maroon crimson; Joan Wardale, a deep crimson of large size and perfect form; Peace Treaty; and Mrs. "T. B.," both lovely fancies of the Linkman type; and Myrtle Pettigrew, a new and novel colour blend of old rose and scarlet.

Perpetual-flowering Border Carnations.

This race is being improved each year, both as regards habit and constitution, and new colours are being steadily evolved. They are perfectly hardy, even in northern districts, and they are more easily propagated from cuttings than border carnations, which are more satisfactory when layered. I have grown practically all the varieties that are on the market and have had good results with them, both in the open and under glass. In addition to blooming during the period when the border carnations are at their best, they throw a later crop of bloom that will open outside if the late autumn months are favourable, but the flowers need protection from rain, mist and hoar frost after the middle of October. Temporary glass protection can be erected around them for this purpose, or the plants can be lifted in the same way as chrysanthemums and they will flower during late autumn and winter in a cold house.

Cultural treatment in the open is the same as for the border carnation and old plants need trimming before winter sets in.

The following is a selection of useful varieties: Highland Lassie, white ground edged with red; Sussex Beauty, deep heliotrope flushed with rosy salmon; Sussex Crimson, deep crimson like the old clove; Sussex Lass, a beautiful shade of clear rose pink; Sussex Maroon, light maroon crimson; Sussex Perfection, white ground flaked with red; Sussex Pink, peach pink, one of the older varieties, but very free-flowering and of good form; Sussex Purple, crimson purple; Sussex Supreme, a beautiful shade of deep flesh pink; and Sussex Scarlet, a brilliant scarlet of the same shade as the old border carnation, Cardinal. Newer varieties of merit are Sussex Flake, Sussex Ray, Sussex Multi, Sussex Tricolour, Sussex Lady and Sussex Sunrise. These form a fine group of bizarres, and the colours are similar to the carnations that were popular in Tudor and Stuart times.

NORMAN LAMBERT.

FLAKED PERPETUAL BORDER CARNATIONS ARE MOST ATTRACTIVE.

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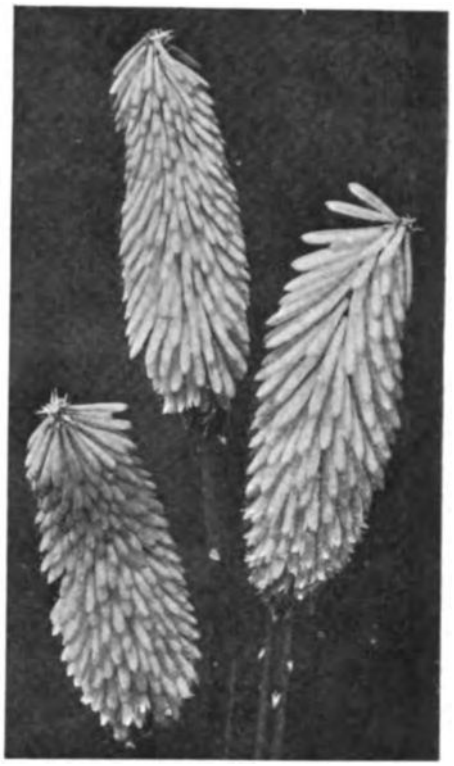
THE FEATHERY PLUMES OF GOLDEN ROD.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.



THE RICHLY COLOURED RED-HOT POKER.

Solidago (Golden Rod). AN old tenant in many gardens, to be seen in all parts of the country. Easy to grow, quite hardy and thriving in soil that cannot always be described as rich, the solidago brings masses of yellow flowers during August and September. It will grow in sun or shade, and varies in height from a foot to 6ft. As a back-row plant for a border it has still many admirers. When so located it should be given plenty of room for development. Division of roots in spring or autumn is best for this old plant.

Statice (Sea Lavender). THE perennial forms of statice enjoy a popularity as being useful for positions in a garden where repeated change is not desired. They are, for the most part, dwarf in character, seldom exceeding more than 2ft. in height, and their flowers, borne in large spreading panicles, are useful for cutting, as they last a considerable time in a dried state. Grown on sandy soil, they are hardy, needing no shelter in winter, but they dislike a cold, heavy soil.

A sunny place on a south border is a desirable spot for the statice, where it should be given ample room for the development of its spreading leaves and flowers. Propagation is usually undertaken from division of roots in late autumn, or from seed sown in light soil in a cold frame in spring, but raising plants in the latter way is rather a long process, and the amateur will be best advised to purchase plants.

Aquilegia (Columbine). AN old-time perennial which needs no recommendation, on account of the beauty of its flowers and gracefulness of its foliage, and by reason of the new long-spurred varieties. No amateur should miss the columbines, as they are of the easiest possible culture and may be planted in either sun or shade. They delight in a soil of a fairly light texture, which has been improved by the addition of rotted manure and leaf-soil. If necessary they can be propagated by division of roots, but they care for little disturbance in this direction, and it is better to increase the stock from seeds, which may be sown in pans of light soil in a cold frame in April or September; but, like other things in a garden, they often produce from self-sown seeds without having to resort to sowing. Average height about 18ins.

Kniphofia (Red-Hot Poker). A VERY popular plant, to be found in all parts of the country, in cottage and suburban gardens alike. It is fairly hardy, soon establishing itself, and if planted in a sunny position never fails with its rich spikes of bloom. Of stately growth, one may, by a careful selection of varieties, have it in flower from June to October. Colours vary from lemon yellow to coral, to flaming red and scarlet. The kniphofia likes a deep, rich and, above all, a well drained soil, which contains a good proportion of well decayed manure and leaf-soil. During winter the grass-like foliage is best tied up to stakes, to prevent the rotting of the crowns which sometimes takes place after prolonged falls of snow. Propagation is from division of roots in autumn, or from seed sown in a cold frame in May in light soil.

Trollius (Globe Flowers). THE trolliuses are hardy herbaceous perennials of the easiest culture. They commence to bloom in May, and continue for several weeks. If, after the first flowers are over, the old stems are cut away, other blooms will be forthcoming later in the season. They will grow in ordinary soil, but best results follow if an addition is made to it of leaf-mould and old manure. They benefit greatly by mulchings of rotted manure or spent hops, approaching the flowering season. They like the sun, but will also thrive in a half-shady border. Trolliuses make a nice addition to a garden where May-flowering tulips are grown, flowering contemporarily with the latter, and are most effective. No amateur should overlook them, for the town garden especially. In the rock garden they are also useful for filling up odd corners. Propagation is best effected by dividing roots, after flowering, or in spring. They can also be raised from seed sown in pans of light soil in spring in a frame, but a couple of years will elapse before plants commence to bloom, hence root division is preferable.

THE SEA LAVENDER (STATICE) IN MIXED BORDERS IS A PLANT FOR ALL GARDENS.

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ANNUAL FLOWERS TO SOW NOW

Prepare for a bright display of bloom in your garden this summer by making a selection of annuals from this year's catalogues, and sowing the seed within the next few weeks. A suggested list of annuals, all of which are easy to grow, is given below.

THE present-day gardener has a wonderful range of bedding annuals at his disposal, and gorgeous results can be obtained for little initial expense; indeed, the only expense necessary is to purchase a packet of seed: with labour and a good greenhouse the results are *his* to claim. In the main, seed is sown in January and February; the seedlings are transplanted in due course, grown on for a time in the greenhouse, and then hardened off in the frame. No skill is required; common-sense culture is all that is essential. The subject, fully treated, would be large one, so these notes are confined to a mention of the common things.

Alyssum.—Among the last sown, Little Dorrit, Sweet Alyssum, Silver Queen and minimum are the best. Required for edgings and ribbon designs. All dwarf.

Ageratum.—The low-growing kinds are most useful, although the tall sorts serve for cutting. Little Blue Cloud is a novelty; Dwarf White, Tall White and Tall Blue are good. All grow compactly and neatly.

Antirrhinums.—Sow soon and select colours to suit from the many varieties listed in a good catalogue. The intermediates are 1½ft. and most useful. Dwarf bedders and the Tom Thumb sorts are also good. Mixed seed gives a most delightful blaze of fine colours.

Asters.—The China asters are referred to. Do not sow until March. The Comet is very popular, also the peony-flowered, giant incurved, Victoria and chrysanthemum-flowered. We recommend specially the mignon and the Avalanche sorts. Single-flowered are also exceedingly fine for cutting.

Balsams.—Not often grown, but most effective in the border. Do not plant out till late in June. The miniature sorts, 9ins. high, have remarkably large flowers and look charming.

Begonias.—Sow early to get good plants, and be kind to the seedlings. Not only should the tuberous-rooted varieties be grown, but also Loveliness, Fairy Queen, Crimson Bedder, and other fibrous-rooted sorts. A good strain of seed is most essential.

Clarkias.—Grown in a cool atmosphere and close to the glass these do exceedingly well, flowering freely. Vesuvius, Brilliant, Chamois Queen, Snowball and others are good varieties. Height 21ins.

Cosmeas.—To get the best out of the cosmeas procure the early-flowering varieties and sow early; watch that they do not get drawn too severely. The doubles throw many singles and are not yet fixed.

Dahlias.—Many varieties can be raised from seed, including Coltness hybrids, Cheal's Tom Thumb, collarette, singles and others. Sow at once.

Eschscholtzia.—The present varieties of this flower are all the gorgeous tints of Californian sunsets. Some good kinds are Mikado, Mandarin, Fireflame, Dainty Queen, Vesuvius, Geisha, and so on. They are border flowers simply, and are no use for cutting. Height 9ins.

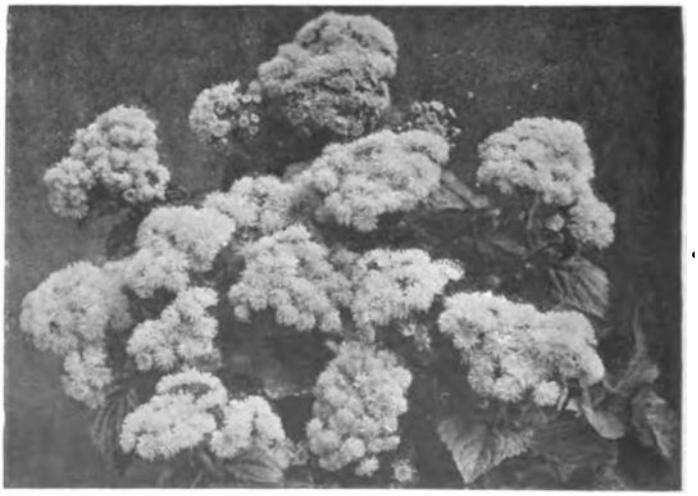
Gaillardias.—These perennials are often treated as half hardy annuals; they are always conspicuous and fine in colouring. Large single, Crimson Glow, The Bride and Lorenziana are very fine. About 18ins.

Godetia.—These are very fine for striking effect in the border, their long, graceful, floriferous sprays being highly decorative. Strong plants will often grow well over 2ft. in height. Crimson Glow, Double Rose, Sunset, Gloriosa, Marchioness of Salisbury, Satin-rose and others are favourites.

Heliotrope.—These are most effective for their sweet perfume. The newer strain Regal, a dwarf, giant-flowered type, is the

AN EFFECTIVE GROUPING OF ANNUAL FLOWERS IN A BORDER. THE ANNUAL BORDER REMAINS GAY OVER A LONG PERIOD FROM EARLY SUMMER UNTIL MID-AUTUMN.

NEMESIAS WITH THEIR BRIGHT AND VARIED COLOURINGS ARE DECORATIVE SUBJECTS FOR EDGINGS TO BEDS AND BORDERS.



THE COMPACT HUMMOCKS OF BLUE FORMED BY AGERATUM LITTLE BLUE CLOUD, A FINE HALF-HARDY ANNUAL.

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best I know. Height 15ins. Harden off carefully; pinch when 4ins. high.

Kochia.—Undoubtedly useful as dot plants; foliage effect only. Height 2ft.

Larkspurs.—These annual delphiniums are fine for bedding effect against shrubs. Sow early. The Regal strain and the stock-flowered always do well. Both very tall.

Lobelia.—For edging purposes few things equal the fine strains of lobelia now offered. The compacta kinds are most popular, chiefly the blues. The tall ramosa blues are well worth a trial. Lobelia cardinalis is still without rival as a dot plant, particularly the improved forms.

Marigolds.—I have a certain dislike for the African section of these; but the French, double and single forms, are undoubtedly fine. So, too, are the calendulas or Scotch marigolds, like Orange King. The dwarf French sorts are fine for edgings.

Mimulus.—The large-flowered, blotched mimulus flowers profusely in moist borders and is an extremely useful plant to grow.

Nemesia.—Nemesias are indispensable, particularly in the north, as they give a glorious blaze of delightful variation. The large-flowered and hybrid sorts are best. Height 1ft. Grow under cool conditions and only sow in March.

Petunias.—Only really successful in warm sunny gardens, but exceedingly fine there. Double pinks and whites are probably most effective.

Phlox Drummondii.—Less popular than it once was, this must be considered invaluable for bedding purposes. The flowers are very showy. Nana compacta, carminea and other named varieties are choice things to grow.

Salpiglossis.—This is equally good in pots and in beds. It is one of the most ornamental flowers in the border, and a good strain of seed gives very fine colour variation in the large flowers. I again emphasise the value of good seed.

Salvias.—Once grown always grown, may be said here. Fireball and Harbinger are the two best kinds for the border. Height 15ins.

Stocks.—Not only among our sweetest scented flowers, but beautiful in themselves, the different kinds of stocks can furnish flowers through a very long season. The kinds to sow now are the intermediate varieties, including the East Lothian, Covent Garden, Beauty varieties, etc. Later come the ten-week stocks in many varieties.

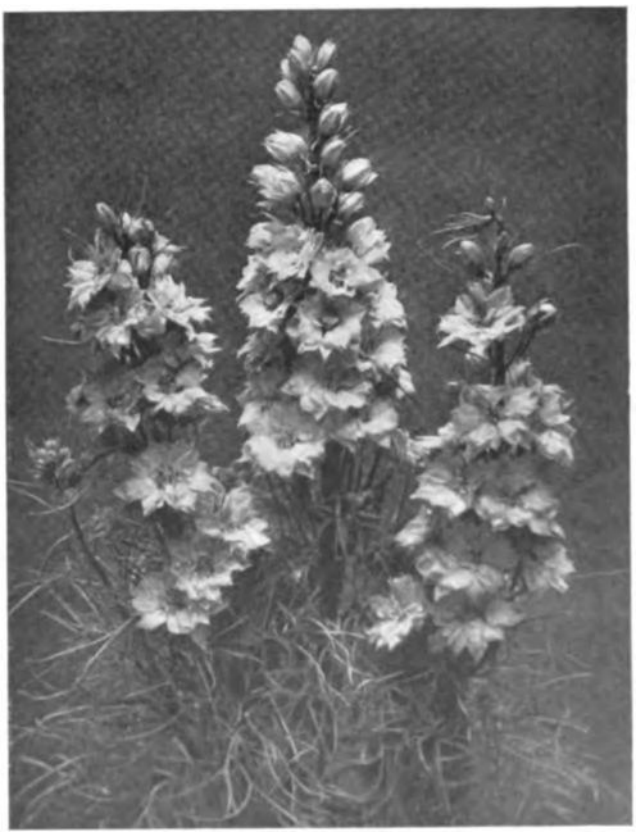
Verbenas.—Verbenas have always been favourites for summer bedding; they must be sown very early, preferably in January for first flowers, with another sowing a month to six weeks later.

Zinnias.—The newer kinds of zinnia, including the giant dahlia-flowered varieties, are receiving more attention yearly and are worthy of it. H. A.

SALPIGLOSSIS ARE EASILY GROWN HALF-HARDY ANNUALS, WHICH LOOK BEST WHEN GROWN IN CLUMPS AT THE BACK OF THE ANNUAL BORDER.

DEEP ORANGE ESCHSCHOLTZIAS PRODUCE A BRILLIANT EFFECT FOR MANY WEEKS IN BEDS OR BORDERS.

There are now many fine varieties of these gaily coloured poppies, and once they are given a corner in the garden they will be grown year after year. All they require is a sunny and warm position to look at their best.



ANNUAL LARKSPURS FLOURISH IN ALMOST ANY GARDEN AND ANY SOIL.

Not only are they attractive as border plants, but they are excellent as cut flowers.

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THE FRUIT AND KITCHEN GARDEN

Preparing Ground for Parsnips.

IT was notable last year and during the two recent hot summers that parsnips, grown in a natural sandy, deep soil, were exceptionally clean and large. It was proof that this useful winter root liked a deep, light soil, inclined to dryness on the surface. Although sandy soil is soon dried on the surface, it takes a long time to dry at 9ins. to a foot below the top crust, and it is easy for the tap-root of the plant to penetrate deeply after moisture. The surface, being consistently dry, does not affect the crowns of the plants adversely, whereas a clayey loam does during wet weather, and we have blemished parsnips which do not gain prizes at the autumn shows nor keep for later use in the household. Now, these conditions of weather and soil should teach us so to deal with naturally heavy soils that they will be kindly, as it were, during the summer and early autumn time. In naturally light, well drained ground the seeds should be sown early in February; but in a more retentive soil it will be better to defer sowing until the end of the month, notwithstanding the fact that parsnips require a long season of growth to come to perfect maturity by September. The cultivator should not neglect the first opportunity to trench untrenched ground and to dig sandy soils very deeply; in each case finally dealing with the soil as a body only leaving the surface to be actually prepared for the seeds at the right time. Just at present, leave the top soil in a lumpy state.—HANTS.

How to Obtain Early Supplies of Rhubarb from the Open Ground.

A DISH of forced rhubarb always proves a welcome addition to the menu in the spring. The earliest supplies are, of course, obtained from roots which are lifted and placed in heated sheds or greenhouses.

Many amateur gardeners, however, do not possess the facilities for forcing rhubarb in this manner, and are, consequently, obliged to resort to other methods. The easiest way is to force the roots where they grow in the open ground, and the resultant "sticks," although not as early as those grown in artificially heated structures, are not less luscious.

FORCING RHUBARB OUT OF DOORS WITH THE AID OF AN OLD APPLE BARREL AND A COVERING OF LONG, STRAWY MANURE.
This is a sure and simple method of obtaining early supplies of rhubarb.

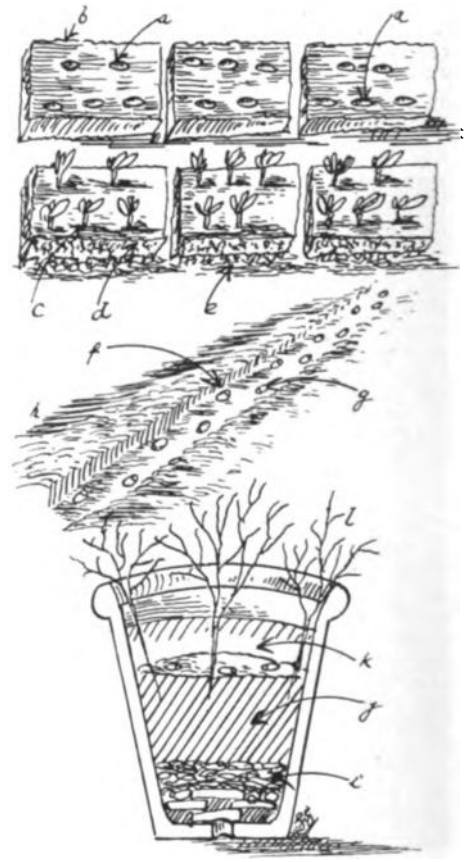
In the absence of specially made forcing pots, all that is necessary is a number of large flower-pots, boxes or small apple barrels—in fact, anything that will exclude light and admit of sufficient head room to allow the rhubarb to grow. These should be inverted over selected roots and the surrounding ground covered thickly with fresh stable manure to keep the roots warm; and if sufficient of this material is available, the whole pot or box may be covered with advantage. Should stable manure not be procurable, leaves may be substituted, although these do not induce such rapid growth. If the top of the box or barrel is made detachable, it will be found much more convenient for examining and pulling the "sticks" as they attain a usable size. Roots treated in this manner are not in any way deteriorated. —T. H. EVERETT.

Growing Onions to Perfection.

THE onion is one of our most valuable vegetables. From its seedling stage to full maturity the plant can be used in the household; instead of discarding the surplus seedlings like those of turnips, for instance, they may be eaten by themselves or in a salad. Some cultivators may be obliged to depend upon spring or box-sown seeds; others may wish to supplement their autumn-raised stock. In both cases box-raised seedlings will be valuable, as the onion plant requires a long season in which to grow and mature. Furthermore, where soils are stiff and retentive of moisture, they are not, generally, in a fit state for seeds to be sown in them before the month of April, whereas there is nothing to prevent the cultivator sowing seeds in boxes or in beds in frames now. The resultant plants will be available for planting out in prepared beds about the middle of April. Thus, we can realise how important a good start is. It means a little extra work, but fine vegetables are not grown without trouble being taken with them—and we all know how keen amateurs are to grow big onions. The boxes must be sound ones—avoid old fungus-infested boxes—about 6ins. deep and not too large, so that they can be easily handled. The best compost is one of maiden loam two-thirds, and leaf-soil one-third, with a fair quantity of old mortar rubble added. Sow the seeds thinly, cover them ¼in. deep. Seeds barely covered with soil produce crooked-necked seedlings and many deformed bulbs. Place loose squares of glass and some paper on the boxes, but gradually expose the young seedlings to full light at an early stage. Do not over-water nor allow the soil to become dry, and the plants will make good progress. The open borders for all onions should be trenched nearly 3ft. deep.

The Raising of Early Beans.

THE bean is a quick-growing plant; is not difficult to manage during the summer months, and yields a good return for the labour expended. The runner bean is not, usually, grown under glass, except in the seedling stage; but the dwarf or French bean is forced very successfully where sufficient fire heat is available. The broad bean is extensively grown from seeds sown outside in the autumn, also from seeds sown under glass. Cultivators who did not sow seeds in the autumn may do so now, under glass, and in a month's time in the open border. The plants raised in the garden frame in turves in the greenhouse or in pots flower and bear pods one month in advance of those raised in the open border. I prefer to sow seeds in turves in which the grass has just died, and have been very successful in the practice. The work entailed is not great. The turves are shown in the accompanying



sketches; they may be of various sizes. Those, as shown, 1ft. long, should contain five seeds. Make holes, as shown at *a*, *a*, in the turves *b*; one seed is sufficient for each hole, then fill the holes with ordinary soil, watering-in the seeds not after they are covered with soil. Place the turves in any conveniently light position, but preferably on a soil base; then the young plants, *c*, will root through the turves *d*, into the loose soil *e*, and when they are transferred to the prepared trenches early in April, they will not be seriously checked, as the turves will be permeated with roots. Seeds should be sown in warm borders in broad, shallow trenches as shown at *f* and *g*, then covered several inches deep with the soil *h*. Early varieties of dwarf beans should be sown in 6in., 7in. and 8in. pots. Good drainage is necessary, shown at *i*, good fibrous soil, *j*, leaving space, *k*, for additional compost; but put some little branching sticks, *l*, in position when the seeds are sown. A summer temperature and a moist atmosphere, careful watering and ventilation are all essential.—GEO. GARNER.

The Care of Seed Potatoes.

WHEN the fruit is gathered from the trees and bushes, the latter are often very much neglected—in fact, forgotten—by many, for a time. It is much the same with regard to potato tubers for planting purposes. They are safely housed from coming frosts in the autumn, and then left in their snug quarters until the time comes for planting. When uncovered, the tubers, especially those of the earliest varieties, are found with long sprouts growing from them. All such sprouts

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are, of course, useless and are discarded; but a great loss has to be recorded. The tubers are weakened and not capable of producing a big crop, however well they and the soil in which they are grown are treated. Treat the soil well, also the tubers. Begin now with the tubers those that have been quite covered up all through the past early wintertime. Carefully remove all the long, useless sprouts, but retain those that are just beginning to swell, as they will be nice sturdy sprouts about half an inch long by the time they are needed for planting. I have seen such tubers taken into the left hand and vigorously rubbed all over with the right hand, with the result that all sprouts, both good and bad, are rubbed off. Place the tubers in single layers in shallow boxes or on dry shelves in a light position, and by the end of February they will be quite green and nicely studded with stubby sprouts, just the sort that will develop into strong haulm if the cultural treatment is right. Do not retain more than two sprouts on each tuber.—G. G.

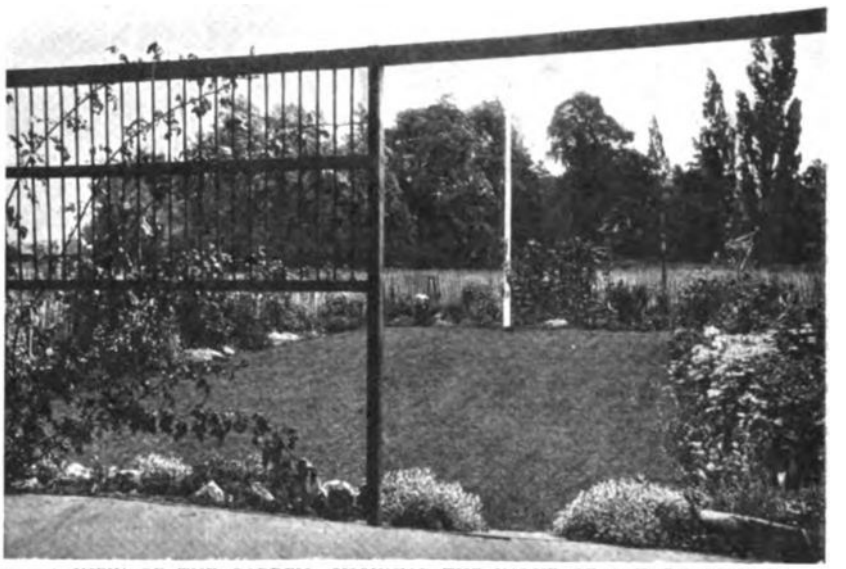
WHAT OUR READERS SAY

THE AUTUMN-FLOWERING FORM OF DAPHNE MEZEREUM.

SIR,—I was reminded by a note which I read the other day that this variety of the Mezereum is still in cultivation. I had lost sight of it for a very long time, and it will be a great pity should it go entirely out of cultivation. It is a good plant for the front of the shrubbery or for the rock garden. It may be called a replica of the ordinary Daphne Mezereum, but flowering in autumn and, in a mild winter, continuing to bear a few of its purple flowers during the dull months of the year. It is commonly sold as grafted plants, but some would prefer those raised from cuttings. Like the double varieties of D. Mezereum, it is exceedingly rare in our gardens now.—S. ARNOTT

A READER'S GARDEN.

SIR,—You are to be congratulated on the recent change that has been made in your paper. With its wide appeal to the small garden owner, I have found it much more helpful and interesting in connection with my own little plot, and as you are now giving designs of small gardens you may like to publish the two enclosed photographs which indicate attempts in gardening during the first year of occupancy. It is the general type of semi-detached villa residence that has sprung up by the thousand during recent years, and when I took over early in the year the ground was just meadow land with a decided slope away from the house; this, I found, was an advantage, as the soil was very heavy clay. I first set to and levelled the ground, which gave me a 3ft. bank at the house end; this, you will see, I made into a miniature rock garden, using a load of large clinkers and broken concrete obtained from the builders. Access was obtained to the house level by a flight of three steps. To cover this rockery simple plants were used—cerastium, arabis, dianthus, etc. This was effectively covered in the first year.



A VIEW OF THE GARDEN, SHOWING THE VALUE OF A WIDE STRETCH OF LAWN SET OFF BY ADJACENT BORDERS.

Above this an unusual type of screen was put to make the garden self-contained; this was built of posts, 3ins. by 2ins., cemented into the ground, and round dowels put through the crosspieces. American Pillar Rose was used as a clothing, and there is every promise that the coming summer will give me a good show. Round the sides and at the end are herbaceous borders, the garden, 35ft. by 100ft., being too small for vegetables, and it being necessary to have as much lawn as possible as a children's playground. The view from the house, as you will see from the second photograph, is quite pleasant — marred, perhaps, by making the mistake of painting the inevitable wireless pole white: but we learn by our mistakes.—H. C.

A MINIATURE ROCK BANK BUILT IN LIMITED SPACE.

PLANT LABELS.

SIR,—"T. A. W." (page 746, December 25th, 1926) is surely pessimistic on the subject of labels. Evidently he has never come across the "Wizard" labels, which solved my problem about four years ago. This label fulfils the two conditions "T. A. W." lays down as necessary for the ideal label—it costs very little, and it certainly lasts for years. In addition, while it is perfectly legible, it is never staring or unsightly.

It is made in two shapes, the one about 5ins. long and 1in. wide. This is similar in shape to the small pointed wooden labels sold in boxes of 100. The other shape—and the one I would recommend, on account of its extra strength—is a small oblong tablet; these are in two sizes—2½ins. by 1½ins., and 1½ins. by 1in. They are fitted either with rustless wire supports for standing, or with loose wire ends for hanging. All the labels are made in a fine quality clay, baked to the shade of a good red brick. The surface is as smooth and easily written upon as writing paper. A

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waterproof ink is used. After the names have been neatly written and allowed to dry, I dip all my labels into clear copal varnish and allow them to dry thoroughly before exposing them to the weather. For a few days they are unpleasantly shiny, but this very soon wears off. If the larger size is used, there is the advantage of being able to add, in addition to the name of the plant, the country from which it originated, the name of the giver, or brief cultural directions, such as "prune hard in April," "No lime," etc.

Every year, during a spell of warm, *dry* weather, I make a round of the garden with a shallow tin of copal varnish, into which I dip each label, replacing immediately where it belongs. Please note, the weather must be dry, or the varnish clouds. By means of this annual dip the names are preserved perfectly distinctly for years. I have several labels now entering upon their fourth season. —GWENDOLYN ANLEY, *Woking*.

[Our correspondent, "T. A. W.," will find particulars of these labels as described by this writer in the advertisement columns of THE GARDEN.—ED.]

CYANOGAS FOR RAT DESTRUCTION.

SIR,—I have been informed that cyanogas is a very effective rat's bane in outside rat holes. If this be so, I should be grateful for details as to its use. Whether the cyanogas is laid in windward holes and the fumes allowed to drift through the earth, or whether a blower is used. Also, what amount suffices, and if, as in a greenhouse, a temperature of 60° Fahr. is essential for the best results.—J. C.

SCILLA MARITIMA

SIR,—As is well known, the chopped root of this bulb is an admirable rat poison, possessing the great advantage of being harmless to domestic animals. Have any of your readers grown or attempted to grow it in this country, and with what success? If it can be grown, any hints as to cultivation and position would be acceptable.—C. J.

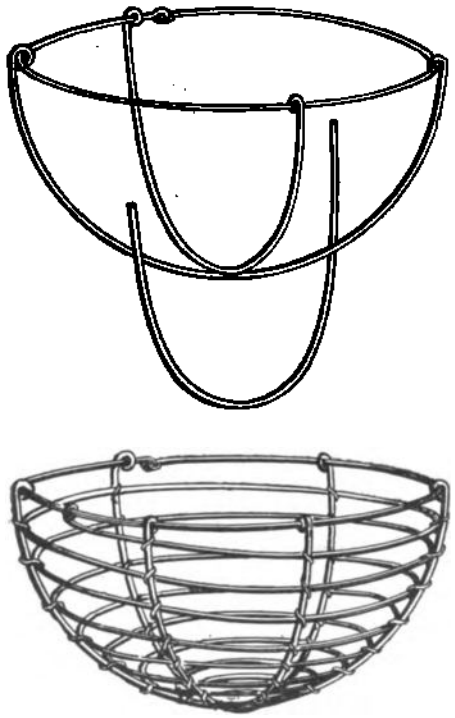
[We should be glad to have readers' opinions on this point.—ED.]

HANGING BASKETS for FERNS and FLOWERS

How to Make and Repair Them.

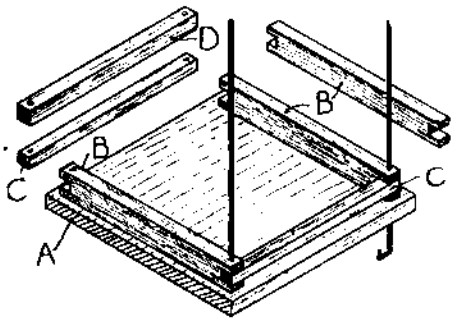
THERE are several methods of making hanging baskets to hold ferns and flowers, the best materials to use being either metal or wood. Ordinary osiers or cane may be utilised, but these materials do not last very long.

Wire baskets are not difficult to make, a typical shape being shown at Fig. 2. It is usual to hang these baskets with three or four lengths of chain. The method of forming the framework is shown at Fig. 1. A suitable diameter is 10ins., with a depth of 5½ins. The wire, which should be galvanised, is



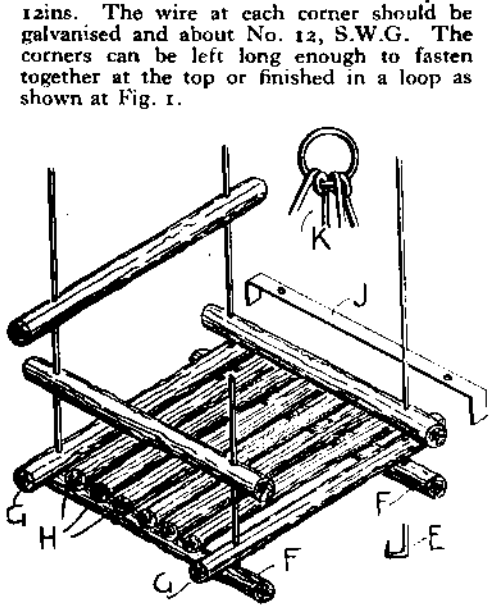
Figs. 1 and 2.—Method of making a wire basket.

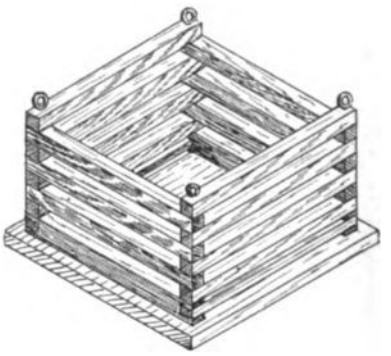
No. 10 S.W.G., will not be difficult to shape if kept in the original coil. When the four lengths composing the framework are joined together as shown, the sides should be filled in with No. 15 S.W.G., commencing at the top as shown at Fig. 2. These pieces should be spaced apart evenly and held in position with No. 18 S.W.G. wire. The whole of the wirework can be done with a pair of flat cutting pliers and a pair of round nose pliers, but extra strength can be imparted to the work by touching the main joints with solder.



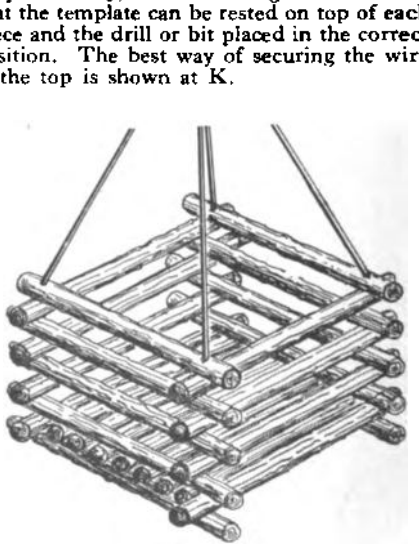
Figs. 3 and 4.—A simple basket made from odd pieces of wood.

A simple form of basket is shown in Fig. 4, it is made from odd pieces of wood with strong wire corners. The method of construction is shown in Fig. 3, the basket being built up with a base A, two fairly thick pieces nailed or screwed across the grain, as at B, two narrow strips which fit into slots cut into the ends of the two side pieces, as at C, and then the sides are completed by a number of strips of square section as at D. The actual dimensions do not matter very much, the particular basket shown at Fig. 3 being made with a base of 10ins. square by ¾in. thick, two side pieces 9½ins. by 1 in. by ¾in., two narrow pieces 9½ins. by ¾in. by ¾in., and fourteen lengths 9½ins. by ¾in. by ¾in. The latter dimensions are suitable for a base up to 12ins. The wire at each corner should be galvanised and about No. 12, S.W.G. The corners can be left long enough to fasten together at the top or finished in a loop as shown at Fig. 1.





A similar form of basket, made from short lengths of tree prunings, hedge trimmings or branches of larch or other trees, is shown at Fig. 6. The method of threading the pieces on the wire supports is shown in Fig. 5. It will be seen that the lengths of wire, about 12 or 14 S.W.G. galvanised iron, are bent at the bottom ends as at E, and are first threaded through four lengths, as at F and G. These pieces project at the corners, but the bottom pieces, H, are cut to the outside length between the two pieces at F and are nailed to them with oval brads or wire nails. With the exception of the bottom pieces at H, the rest of the strips are cut to the same length and bored at the ends with holes the same distance apart. In order to do this accurately, a strip of tin should be shaped as at J, the ends being bent down so that the template can be rested on top of each piece and the drill or bit placed in the correct position. The best way of securing the wire at the top is shown at K.



Figs. 5 and 6.—A similar form of basket easily made from thin pruned branches.

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FLOWERS, FRUIT & VEGETABLES UNDER GLASS

Early Cucumbers.

THESE should be grown in a house or pit heated with pipes, then there will not be any danger of a big drop in the temperature during any night, as might happen if a hot-bed under a frame were relied upon. I strongly advise the amateur to try to form a mild hot-bed in the pipe-heated house, because the heat arising from such bed keeps the soil warm and the roots in it, therefore the plants make good progress, because they do not suffer any check. Usually, the most critical stage of the plant is its seedling one. Very careful attention should be paid to the watering. If the young plants are raised in small pots the water should not be poured in at the top. Place some water of a temperature of 75° Fahr. in a vessel and simply hold each pot half immersed in it for about five seconds. The soil in the bottom of the pot will be quite wet and that near the top just moistened—quite enough—and the loss of young plants through damping will be *nil*. The compost in the bed should be 9ins. deep, of fibrous loam and leaf-soil in equal proportions. Plant out at 3ft. apart. Ventilation will not be necessary for several weeks. Stop the leading stem at 18ins. high and all side shoots beyond the joints bearing tiny fruits.—G. G.

Hints on Forcing Vines.

WHERE adequate heat is available, the grape vines may be gently forced now if ripe grapes are required in July. At the present time, with regard to temperatures, a great deal must depend upon prevailing weather conditions. It is not wise to maintain a temperature above 65° Fahr. by day and 55° Fahr. by night during a spell of frost. In calm, open weather the day temperature should be about 70° and the night heat 5° lower. Some cultivators are so placed that they can command stable litter. A heap of this litter placed on the vine border inside the structure will warm the soil and promote early root-action, but, before there is any attempt made in the way of forcing, be sure that the soil is thoroughly moistened. For the first few weeks it will not be necessary to ventilate the vinery; neither is it advisable to syringe the rods except early in the morning of bright days.—G. G.

Grasses for Interior Decoration.

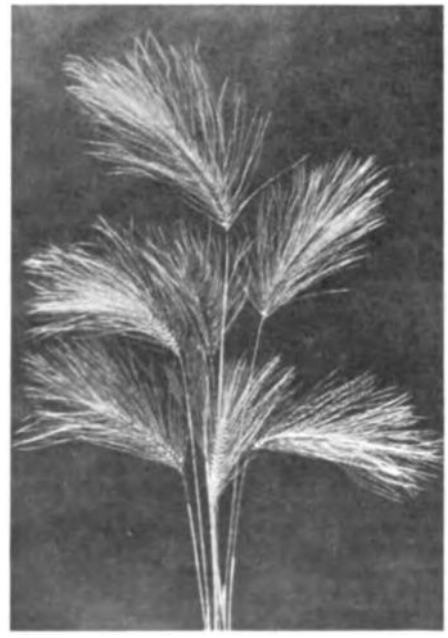
TO introduce some variety into the decorative plants that are grown in pots one might usefully consider the merits of some of the ornamental grasses. Several of our hardy grasses readily lend themselves to pot culture and, with the simplest treatment, will give a very pleasing effect. No heat is needed and the seed may be sown at any time from the autumn to the late spring. The best plan is to sow the seeds in the pots where the plants are to remain. Any good garden soil may be employed, but make sure that the pots are well drained with a good number of crocks, as few of the grasses will flourish in water-logged conditions. Fill the pots with soil, pressing this firmly down until within three-quarters of an inch of the rim. Sow the seed thinly and cover very lightly with soil. Keep the pots in a cold frame, in rather a close atmosphere, until germination takes place. When once the seedlings have started, plenty of air must be admitted to encourage a sturdy growth.

The beauty of grasses in pots depends very largely on proper support being given. A good plan is to insert four sticks at equal distances apart round the edge of the pot. Then pass a piece of stout thread from one to the other, giving it a twist round each stick to hold it in position. If this is done directly the grass plants are 3ins. or 4ins. in height the subsequent growth will hide both the sticks and twine, while at the same time the plants are prevented from falling over.

Some of the best grasses for pot culture are Agrostis pulchella, A. nebulosa and both

THE DECORATIVE HEADS OF THE QUAKING GRASS.

forms of the quaking grass (Briza maxima and minor), Hordeum jubatum, the long barley-like awns of which are of a purplish tint when young, and Lagurus ovatus. All of these provide graceful foliage through



THE FEATHERY AWNS OF HORDEUM JUBATUM.

the whole period of growth and when in flower are extremely beautiful. Seeds of these grasses, in addition to those of other kinds which are interesting, can be obtained from the usual sources.

Plants in Frames.

FUCHSIAS, geraniums and many other plants are often placed in a cold frame during the winter months when there is difficulty in finding room for them in the greenhouse. In these cases damp is usually a greater enemy than cold. Plants of this nature should be kept on the dry side—this does not mean that they should become dust dry—and then there is not much fear that they will be damaged by frost, especially if the glass is covered with sacks or mats in sharp weather. As far as possible any watering that becomes necessary should be given on bright sunny days and in the morning. Then fairly free ventilation of the frames will dispel the superfluous moisture. Water straight on to the soil and avoid wetting the upper parts of the plants. Each day when the weather is mild it is an excellent plan to ventilate freely for an hour or so. When the frames have to be kept close it is wise to wipe away the moisture that has condensed on the glass once or twice during the day, as this dropping on to the plants will keep them in a very wet state. Examine the plants closely at frequent intervals and at once remove any decaying leaves. If these are allowed to remain it is likely that mildew will appear and the trouble may spread to healthy parts of the plants. Plants attacked by mildew may be treated to a light dusting with flowers of sulphur.

Tying and Starting Peaches.

I AM referring to trees growing in heated and unheated houses, and not to those grown on the open wall. Judging from recent experience, I believe that more peach trees are now grown under glass by amateurs than was the case a few years ago. The inexperienced cultivator generally makes three mistakes at this season. The first, failing to water the soil in the border thoroughly; the second, subjecting the trees to a too high temperature to begin with; the third, tying in too many shoots and making the ligatures too tightly. Of course, it is obvious that I advise thorough watering of the border with clear water; that a day temperature of 58° Fahr. and a night one of 50° Fahr. will be high enough until the young buds become active; that there should be a space of at least 4ins. between the tied-in shoots, and that, when tying them to the wires, room should be left for the shoots to swell during the coming summertime without the bark being bruised. Syringing on fine mornings with tepid water will only be necessary during the first week; afterwards and until the fruits have set, damping the paths and borders will be sufficient. If the border is sprinkled over with manure water twice a week and once each week a light dusting of soot is given to the border, red spider will not be very troublesome.—G. G.

Antirrhinums from Seed.

IN order to get the very best results with antirrhinums it is usual to sow seed towards the end of January or early in February. Shallow seed pans are filled with a good porous compost in the usual way; this is watered and allowed to drain; the seed is scattered very thinly on top and a thin sifting of sand and soil mixed is used to cover it. Germination will take place quickly in a warm corner of the greenhouse; whenever the plants are noticed, however, they must be kept on a warm shelf near the glass, well ventilated so that "damping-off" may not play havoc among them. When the plants show their second leaves, they are transferred to boxes of loam and sand; this may be rather coarse in the bottom of the box, but sifted on the surface. It

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planted 3ins. apart in these boxes, no further transplanting is required. It is usual to pinch the plants later when they are about 4ins. high; this is done shortly before transferring the boxes to the frames in March. During the thirteen years I have grown antirrhinums for bedding purposes, I have tried many different kinds and frankly confess to finding excellent varieties listed by every good firm. Among tall kinds the following are grand—Cottage Maid, Old Rose, Dawn, Orange King, Peachblow, Moonlight, White King, Torchlight and various collours. Intermediates are much more popular—Amber Queen, Enchantress, Morning Glow, Nelrose, Peace, Prima Donna, Fascination, Fiery Belt, Eclipse, Mauve Queen and many others. Of Tom Thumb varieties we would plump for Beauty, Crimson King, Apricot, Ruby and White Queen. Worthy of note, too, are the new compact bedding varieties which have a great future before them.—CLYDESDALE.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

To Wheel a Heavy Barrow Without Fatigue.

Get an old bicycle inner tube, pass it across the shoulders and loop each end over the barrow handles. This, when you stand upright, lifts the barrow legs clear of the ground and takes all the weight off the arms. The "give" of the rubber tube prevents it cutting the shoulders as a rope would do. From experience I find this device increases the barrow pusher's capacity twelve times.—C. H. B.

A Vegetable Marrow Hint.

Heap all the grass cuttings from the lawn in a disused corner of the kitchen garden and leave to rot. About the beginning of April spread over the rotted mowings a thin layer of fine loam or other soil a few inches deep. Insert the marrow seeds in this soil in the first half of April. The plants soon show themselves and make much better progress than if first grown under glass in the usual way. We have never had such a good crop as this year when this method was followed. The rotted grass supplies heat and moisture, and the plants grow at a tremendous rate. Watering can be dispensed with in the warmest weather.—M. H.

Bird Baths.

No garden is complete without its bird bath. It provides our feathered friends with refreshment and gives onlookers endless pleasure in watching the birds' antics while drinking and bathing. We have a shallow bath for small birds, and one a little deeper for starlings and throstles. These bird baths were home-made in the following manner: Mix three parts of coarse sand with one part cement, and make a pliable paste with water. Put this into an enamel bowl (paper-lined) 18ins. by 6ins. in depth. Into this press a smaller bowl, allowing it to remain until the mixture is hard enough to turn out. This forms the bath 1½ins. in thickness. For the base fill a 6in. flower-pot with similar mixture. When hard turn it out, joining the bath and base with cement.—F. L.

Spraying Standard Fruit Trees.

A knapsack sprayer when carried on the back is useless for standard trees; one cannot get sufficient power. Get the wheels and frame of a water cart, two pieces of quartering long enough to reach across the handles, place on these a strong box, nail to the quartering. On top of box place sprayer, fasten a piece of wood each side of sprayer to keep from moving, rope all down securely. Attach 20ft. of hose, wear tortoiseshell goggles, and you then can face the tar-distillate washes and do your tall trees efficiently and in comfort.—W. P. W.

Striking Chrysanthemum Cuttings.

In the following method of striking chrysanthemum cuttings one can be sure of 100 per cent. success. Soak as many pots as are wanted in water all day previous to their being used, stand to drain all night. Although manures are not wanted in striking compost, powdered burnt bones are an advantage, using a sprinkling. After the cuttings are inserted give a good watering and place in a propagating frame on closed stage and put on glass top. The important point is to take this glass top off *every evening* about 5 p.m. *and leave off all night*. In the morning about 9 a.m. sprinkle the cuttings with a syringe and replace glass top, keeping it shut all day. Should the point of a leaf show decay the first day or so, pinch the piece off, but not the good part of the leaf, as sometimes it is already in the tip of the cutting while still on the plant. No other watering will be needed. Seventy-eight cuttings which were inserted on November 30th (one per pot) are now rooting. Warmth in greenhouse only at night.—S. H. C.

Propagating Tuberous Begonias.

Those who want to work up a stock of these lovely plants quickly, and at the same time true, will find the following method well worth a trial. Old tubers should be started in boxes of fibre. These should not be in any way forced, and should be left in the boxes until they are about 2½ins. long. Then with a sharp knife they should be cut off close to the tuber. The cutting should be potted into 3in. pots, using a compost of two parts maiden loam, one part leaf-soil and one part sand. Potting should be done in the following manner: After putting a large piece of crock in the bottom of the pot for drainage, place a small quantity of moss, then fill up with compost to within ½in. from the rim. Dibble a hole in the centre of the pot, and before inserting the cutting put a pinch of sand into the hole for the base of the cutting to rest upon, then insert the cutting and press the soil down moderately firm. Water with tepid water and plunge the pots in a propagating case where a temperature of between 70° to 75° is maintained. When the roots have formed, remove the pots to a cool pit, and as they require more root room repot them into larger pots. Where more plants are required two or three shoots should be left on the old tuber and again propagated in the same manner as the maiden shoots.—J. M. B.

THE MERITS OF DRY SPRAYING

IN a comparison of the merits of dry spraying and wet spraying, no preference can be given to one over the other, although, possibly, through a paucity of knowledge in the case of the former, the other is more constantly in use.

Both have their uses in horticulture to combat the many and varied insect and fungus pests and the diversity of their methods of attacking plants. In the application of the numerous "specifics" concocted and adapted for their destruction, many of these substances, used alone, are too caustic in their action on young foliage and require the addition of others to make their use a beneficial work. For example, the use of paraffin by itself is injurious to plants, but mixed with water and soft soap in the form of an emulsion it makes an effective spray for sucking insects, and if dissolved liver of sulphur be added, an ideal combination spray for insect and fungi destruction is evolved.

The same applies to copper sulphate, probably the best anti-fungicide known and used in most remedies for brown rot, peach blister and other like diseases.

Sulphur.

Flowers of sulphur may be cited as an example of dry spray, and further, it requires a fairly high temperature to be effective, which limits its use out of doors to the months between June and September. Flowers of sulphur will be superseded, I think, by green sulphur powder once the latter becomes better known, owing to it being in a more divided state, thereby coating the leaves with a denser film and increasing the vaporising surface.

Lime.

As a base for the preparation of numerous wet sprays, lime is invaluable, but is in greater demand as a powder spray. To minimise the depredations of slugs on young plants, nothing equals a dusting of lime. Its caustic effect causes them to slough their protective covering—a wasteful process from which they ultimately die.

In mixture with sulphur and applied at intervals from March to May, it will act as a preventive to the spread of big bud on black currant bushes. This preparation is also advised, in the proportion of 2 parts sulphur to 1 part lime, as a preventive of onion mildew; and from experience I can testify to its effectiveness as a sustainer of perpetual carnations against the ravages of rust and red spider.

In parenthesis, may I say that in my opinion wet spraying of these carnations is to be deprecated, for the reason that it denudes the leaves of their protective coating, thereby weakening their resistance against a further infection.

Hellebore Powder.

This powder, which is a poison spray for biting insects, can be used in either form, but owing to its immiscible qualities, is best applied in the powder form, dusting the affected plants or bushes while damp. It loses its poisonous properties on exposure to air, and is therefore valuable where edible plants need to be sprayed.

Tobacco Powder.

Powdered tobacco is a handy form of spray where only small quantities are required, as in application to the tips of chrysanthemums.

It may be said of dry sprays that, being in a form ready for use, a saving of time in preparation and application is effected. Also, it is claimed by their advocates that a greater area can be sprayed at the same cost than could be carried out with wet spraying, for the equivalent outlay.

WM. MCCARRELL.

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BEGONIAS FOR HANGING BASKETS (see Page 49).

FEB 3 1927

THE GARDEN

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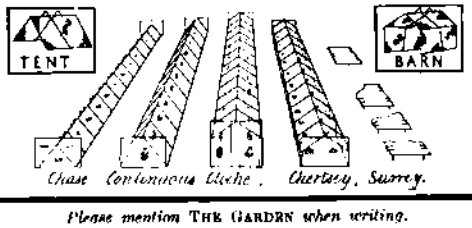

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THE GARDEN

VOL. XCI.—No. 2877. JANUARY 22, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

The First Show of the Year.

THE opening flower show of the year is one which holds unusual interest for most gardeners. It comes after a lull of a few weeks in gardening activities and serves to remind us that the turn of the year has come and that we may look forward to another and, what we all hope will be, a successful garden year. The first show of the Royal Horticultural Society, held on Tuesday the 11th inst., certainly augurs well for those of the future. The exhibits were bright and varied in nature and on the whole surprising in their excellence for this time of year. The collections of orchids were especially good and the groups of cypripediums and cymbidiums hybrids were particularly striking. Among the more general displays was a fine collection of vegetables arranged by Messrs. Suttons. It was a lesson in vegetable culture and exhibition and a testimony to the productive powers of British gardens and growers. Since the selection of vegetables for the garden must be made within the next few weeks, the exhibit had a certain instructive value in indicating those varieties of vegetables which are suitable for general all-round garden purposes. Exhibits of greenhouse primulas, hyacinths in baskets, carnations, lachenalias and greenhouse plants lent a touch of colour to the hall. There were many exhibits of sundries, which, as usual, hold more than a passing interest for the keen gardener. This year has every indication of being a good show year and all amateurs should make a point of beginning early to visit their own horticultural shows where these commence during the next few weeks. Those gardeners around London should not fail to pay a visit to these fortnightly exhibitions of the Royal Horticultural Society. In Spring the shows are full of interest and the keen amateur will undoubtedly learn much to his advantage by an hour or so spent looking round the exhibition tables.

Heaths at the Wisley Gardens.

THE heath garden at Wisley at the present time is particularly interesting and attractive. Many varieties of Erica carnea are in full flower and the tufts of bright blossom indicate the value of this group of heaths for decorative effect in the garden in winter and early spring. E. carnea is a well known plant and one of the best of the hardy heaths, but at the same time is superseded by many of its hybrids—which have only to be better known to be more fully planted—as they come into bloom earlier and the range of colours is wide and all are most attractive. Among the best at the present time may be noted E. c. King George, a choice compact free-flowering variety and one of the earliest to bloom; E. c. præcox rubra, a charming variety, being of neat habit with flowers of a particularly bright colour; E. c. Thomas Kingcote, an attractive pale coloured variety; likewise E. c. Pink Beauty, which, in the mass, does not impress one much, but on closer inspection shows a pleasant colour. That useful strong growing hybrid, E. darleyensis, also carries a wealth of flower buds, and from the appearance of the groups of this, a great display may be expected in a few weeks. Other heaths at present in flower are E. c. gracilis, E. c. Queen Mary, E. c. J. Backhouse, E. c. Queen of Spain, E. c. Mrs. S. Doncaster, E. c. Prince of Wales. All are worthy of being more freely planted.

Those who are at all interested in winter and spring colour in their garden, should certainly make a point of visiting the Wisley Gardens to see this fine display of flowering heaths. All are plants of easy culture and eminently suitable for the amateur's garden either in the north or in the south.

HAVE YOU

¶ *Made sowings under glass of antirrhinums, lobelia, pentstemons, East Lothian stocks, begonias, sweet peas, etc.?*

¶ *Protected from birds the buds of your fruit trees?*

¶ *Planted a bed of ranunculus?*

¶ *Pruned the roses growing in your greenhouse?*

¶ *Repotted your greenhouse ferns?*

¶ *Removed all suckers from the base of your lilac bushes?*

¶ *Sprayed your fruit trees with lime-sulphur to destroy any hibernating larvæ of insect pests?*

¶ *Patched the worn places in your lawn?*

¶ *Sown a small quantity of onion seed in boxes placed in your warm greenhouse?*

Secretaries.

WE would again ask secretaries of horticultural societies who may not have seen our previous notices to send in to the Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2, a list of their meetings and shows for the coming year. In this way we shall be able to print week by week a complete diary of events in the horticultural world.

R. H. S. Trials.

THE Royal Horticultural Society will carry out trials of annual poppies, sweet sultans, culinary peas (late varieties only, half pint of each required), onions, parsley, sweet corn and beet during the coming season. One packet of each variety should be sent to reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, on or before March 31st, 1927.

The Summer Rose Show.

THE Secretary of the National Rose Society informs us that the Summer Rose Show will be held, this year, in the grounds of the Royal Hospital, Chelsea, on Friday and Saturday, July 1st and 2nd. Rosarians should make a note of this date and place of meeting.

The Crossword Prizes.

THE two prizes on One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 8, which appeared in our issue of January 8th, have been awarded to

Mrs. M. E. Sykes,
Dungarth,
Honley, Huddersfield.

and

Mr. T. W. King,
8, Park Terrace, Crescent Rd.,
New Barnet, Herts.

To each of whom a cheque for that amount has been sent.

We are indebted to Messrs. Sutton and Sons of Reading for the use of the illustration of zinnias which appears on the front cover of this issue.

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GARDENING ON A SLOPE

Many amateurs whose gardens are situated on sloping ground find difficulty in striking on a suitable design for their garden. Here is a suggested scheme for a small garden which may prove helpful in such circumstances.

IT often happens that the purchaser of a house finds himself in possession of a garden that is inclined towards the building, and in many ways this may be considered disadvantageous, but on the other hand, by judicious planning and careful draining it can be made very attractive and out of the commonplace.

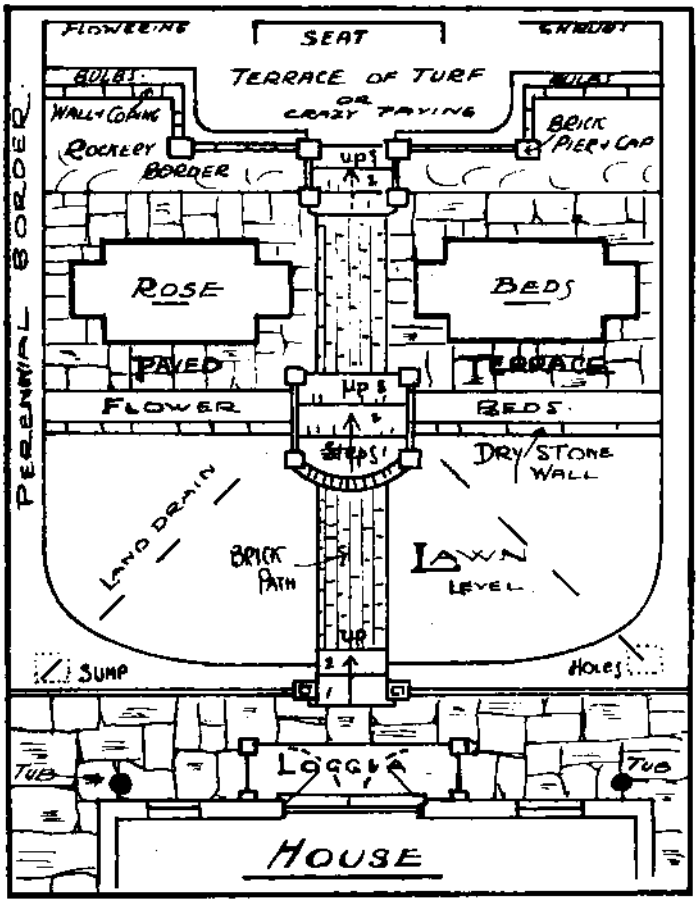
The plan shown can represent the entire garden, if on a small scale, or an inclined path could be formed on one side leading to the kitchen garden or orchard, if the dimensions are larger. Rectangular random jointed paving is shown as a dry walk round the house at the back portion, where standard bays or box trees in tubs would look very well at each corner of the house. A loggia is shown in the centre, but, of course, this could be a conservatory, veranda, etc., according to the style of house and aspect of site.

The first portion of the garden comprises a level lawn, which, in this case, needs carefully draining, not only with clinker or ashes, but with proper 3in. land drain pipes laid to a suitable gradient and carried to sump holes dug in a convenient corner, as indicated. Draining is really essential in a garden of this type and once installed needs no further attention; the sumps should be excavated about a yard square and as deep as possible, with a good layer of some porous material at the bottom; rough clinkers are good, or even old tins or pieces of brushwood tied together can find a final resting place and do good service as a soak-away; the two top spits of soil can then be replaced and planted in the usual way. The ordinary house drainage system will often dispose of surplus storm water, but it is not advisable to rely entirely on this means, but to intercept the water by an independent drain, as described.

The centre brick path arranged to some quaint design, is approached by two broad stone steps, with a brick or stone vase on either side as receptacles for evergreen shrubs or flowering plants; abutting these ornaments a low retaining wall is required and which encloses the perennial border on the one side, the grass edge of the lawn forming the other. The three centre steps are rather larger and more elaborate, and are intended as a distinctive central feature of the garden, with neat red brick piers about 18ins. high, with flat stone caps which provide a suitable place for a bird bath, sundial or even a seat; shallow steps with broad treads are really artistic and always look well in any position, and the crevices may be planted up with various low-growing plants to provide decoration and enhance their attraction.

The next position is in the form of a paved terrace, with rose or other flower beds introduced therein; the particular design of these flower beds can, of course, be adapted to one's taste and requirements; it is important, however, that the beds should be symmetrical and in character with the general surroundings.

The front edge of terrace is devoted to narrow flower beds, where purely bedding plants can be displayed to advantage. A dry stone wall is built on each side of the central steps, where many choice alpine and rockery plants will thrive in the crevices of the stones and look very picturesque; this wall should not be built exactly perpendicular, but battered slightly, *i.e.*, projecting at the bottom thus forming a revetment for the terrace above; this is a very essential factor on loose or made-up ground, as it gives greater strength and a better effect when planted.



A SUGGESTED DESIGN FOR A GARDEN ON SLOPING GROUND.

Two more steps are shown at the top which lead up to a terrace of turf or crazy paving, where seats can be placed if desired or any other more suitable innovation; narrow flower beds are again introduced at the front edge and would be ideal for planting bulbs, etc., for spring flowering. The retaining wall here could have a flat stone coping or a brick on edge as a finish and divided into sections by brick piers and caps as indicated on plan; a good rockery bank or border is formed sloping from wall to the edge of paving, and if suitably planted should produce a very beautiful effect at all seasons of the year.

This scheme can easily be varied to suit the individual taste of the owner, and the particular aspect of the site being developed, the natural slope of the land in question being of primary importance; needless to say the levels should first be ascertained, when the number and depth of the steps can be decided upon; the paths can then be arranged with a slight fall towards the house and a gentle camber in the width, this ensures a dry walk at all times; the joints of brick paths or stone paving should be kept quite open, the natural elements and vegetation will add beauty and colour as the garden matures, giving the whole scheme a very pleasing appearance.

ROSES FOR THE BEDS.

Crimson.—General McArthur, Etoile de Hollande.

Pinks and Salmon Pink.—Mrs. Henry Bowles, Caroline Testout.

Cerise.—Betty Uprichard.

Yellow.—Christine, Independence Day.

White.—Marcia Stanhope.

Use only a few of these varieties, massing, say, two colours which blend well together.

PLANTS FOR THE ROCKERY BORDER.

Alyssum saxatile citrinum; Arenaria balearica; Arabis albida; Aubrietia Dr. Mules and A. Lavender; Campanula carpatica Riverslea, C. Portenschlagiana; Cheiranthus Allionii; Dianthus alpinus, D. neglectus, D. cæsius; Erinus alpinus; Geranium sanguineum lancastriense; Iberis sempervirens; Lithospermum prostratum Heavenly Blue; Phlox subulata; Saxifraga sanguinea superba; S. apiculata, S. Aizoon rosea, S. Elizabethæ; Sedum Sieboldii; Sempervivum arachnoideum; Silene Schafta; Thymus Serpyllum; Viola gracilis, V. cornuta.

PLANTS FOR THE DRY WALL.

Arenaria montana; Alyssum saxatile; Arabis albida; Aubrietia Excelsa, A. Dr. Mules, A. Fire King; Dianthus deltoides; Gysophila repens; Sedum acre; Silene Schafta; Armeria maritima; Saponaria ocymoides.

SOME SHRUBS TO GROW.

Berberis Darwinii, B. stenophylla, Buddleia variabilis Veitchiana, Ceanothus Gloire de Versailles, Forsythia intermedia spectabilis, Philadelphus Virginal, P. Lemoinei, Deutzia discolor flore-roseo pleno, Diervilla amabilis, Ribes sanguineum, Santolina chamæcyparissus, Viburnum tomentosum plicatum, Skimmia japonica, Lilacs Souvenir de L. Spath, Marie Legraye, Mme. Lemoine and William Robinson, Lavenders Wargrave Dwarf and Munstead variety, Olearia Haastii, Spiræa Thunbergii and Veronica Traversii.

PERENNIALS FOR THE HERBACEOUS BORDERS.

Achillea eupatorium, Aconitum Spark's Variety, Anchusa italica Dropmore Variety, Anemone japonica, Asters Climax, King George, Little Boy Blue, Anita Ballard and Barr's Pink; Campanula persicifolia, Chrysanthemum maximum, delphiniums, doronicum, coreopsis, Erigeron Quakeress, Eryngium Oliverianum, gaillardias, Geum Mrs. Bradshaw, Helenium autumnale Riverton Gem, Helianthus rigidus Miss Mellish, bearded irises, Kniphofia Royal Standard, lupins, nepeta, peonies, oriental poppies, phloxes, pentstemons, pyrethrums, violas and pansies. Any gaps which occur can be filled with annuals, dahlias or gladioli.

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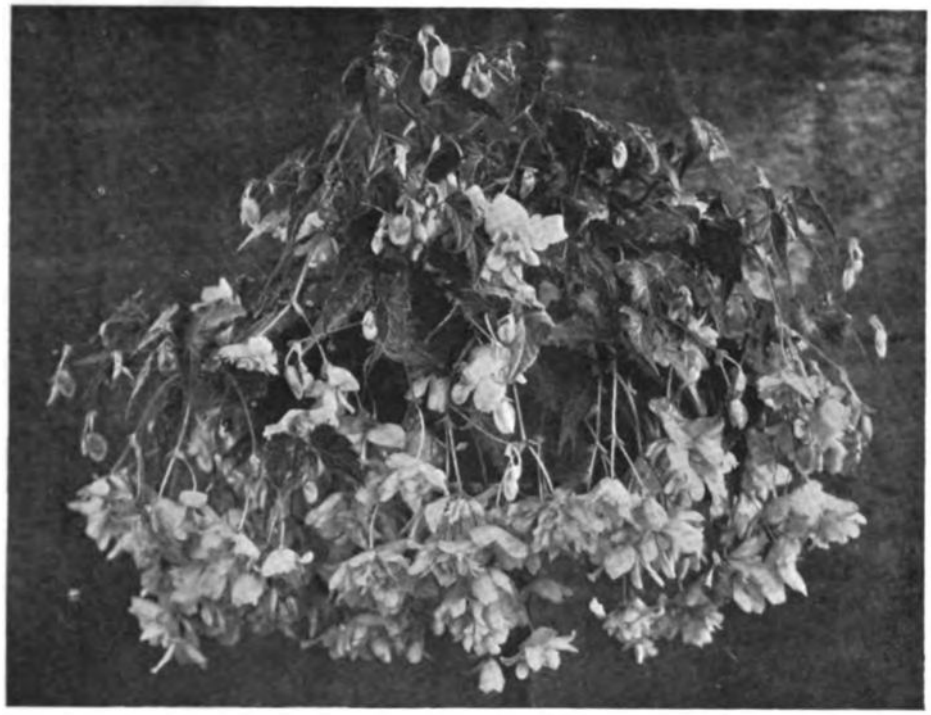
BEGONIAS FOR HANGING BASKETS

Begonias make most admirable decoration for hanging pots and baskets. They are graceful and feathery in habit, are free-flowering, with blossoms of the most delicate shades, and also supply the much needed foliage along with their flowers. They are easy to grow and reasonable in price.

THESE are the most decorative and easily grown of all the numerous types of tuberous-rooted begonias. Their remarkable freedom of flowering, the great variety of colours, their elegant and graceful habit, demand for them a place in every well directed conservatory or greenhouse. Only in very recent years have tuberous begonias been adopted for hanging baskets, and among the first used were some of the oldest double varieties, viz., Alice Manning, etc., their pendulous habits making them so very suitable for that purpose. While the range of colour among the earlier types was very limited, the present varieties embrace all colours from bright scarlet through shades of salmon and pink to the purest white.



EUNICE IS A WONDERFULLY FREE FLOWERING VARIETY WITH LIGHT PINK BLOSSOMS.

For the amateur, the most simple, straight-forward method of producing plants of these subjects, is from tubers. These should be purchased during January, February or March, and on receipt should be put into boxes about 3ins. deep, which have been prepared by having a layer of coarse leaf-mould, or some similar material, spread over the bottom of the box, to ensure good drainage, and then filled to within half an inch of the top with a good soil mixture containing two parts of well seasoned fibrous loam, one part decayed leaf-mould, a little coarse sand, and a sprinkling of soot and lime. The tubers should be put "in" the soil, being just buried and not "on" it, as is so often erroneously recommended and practised. The boxes should be placed in gentle heat of 55 to 60 degrees, if the display is required during June and July, but fine plants may be obtained by starting the tubers in March in a cold house, for late July, August and September flowering.

CULTURE.

When the plants are about 3ins. to 4ins. high, they should be potted into 3in. to 4in. pots, according to the size of the plants, using a compost similar to that recommended for the boxes, with half part of well decayed cow manure added, making sure the plants are potted firmly, without making the soil hard. In three or four weeks time these should be ready for transplanting into the baskets in which they have to flower. A basket 10ins. to 12ins. in diameter is the most useful size and should not be too deep. First of all get some good moss, that found on stones or on old tree trunks being the best, as it is more easily pulled off in slabs, and is generally a good colour. Place this inside the basket and fill it with a compost consisting of three parts fibrous loam, one part leaf-mould, half part decayed cow manure, a little soot and lime, and bone flower or bone meal. Take the plants out of the pots if they are already well rooted (this is essential), and plant either two or three in the basket, being certain, as before, that the soil is made firm. This particular point applies equally to all tuberous-rooted begonias. None of them will give of their best if the soil is loose around them. If a smaller basket is used, say from 6ins. to 8ins. in diameter, one plant will suffice, but the larger one is recommended. It will not dry out so quickly when the plants are well established, and is much more imposing.

Basket begonias commence flowering when quite young, and all flower buds must be removed for at least three to four weeks after their final move. This is a very important point to remember in growing all begonias, and particularly the basket varieties. If they are permitted to flower before the plants are established the subsequent growth becomes stunted and thin. Get good stems and foliage first and a profusion of flowers will be the inevitable result.

Many growers get excellent results by giving the plants their final move into 6in. or 7in. pots, according to the size and vigour of the plants, then placing the pot in a basket. The chief advantage of growing them this way is that the watering is more easily controlled.

TREATMENT IN THE BASKET.

Everyone has seen baskets with various kinds of plants growing in them, suspended from veranda roofs and at hotel entrances, and other similar places, in which the moss

ALICE MANNING, A YELLOW VARIETY WORTHY OF GROWING FOR ITS COLOUR ALONE.

VENUS, OF A PURE WHITE, ONE WHICH SHOULD BE IN EVERY COLLECTION.

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looks like thoroughly seasoned hay and everyone will admit it does not improve the appearance of the display. If only the gardeners or men in charge would spray the moss with water from a syringe once a day, they would be astonished at the result. The moss would quickly respond and after a few days be of a pleasing green. This syringing should be done daily when begonias are used, for not only does the green moss enhance the beauty of the basket, but the begonia roots will eventually find their way to the moss, and will find nourishment instead of being scorched.

Care must be taken in watering begonias, especially when newly potted. Be sure the soil is on the dry side before adding more water. When well rooted they can be watered more freely, and a weak solution of liquid manure may be given occasionally with beneficial results.

VARIETIES TO GROW.

There are quite a number of varieties now in the market, and a selection of them, say two or three different kinds, will serve excellently for basket decoration. Among the varieties the following are good: Alice Manning, with fine yellow flowers; Coralina, a salmon pink; Eunice, of a delicate light pink with deeper flush; Lettie, a good rose pink; Meteor, a bright scarlet; Mollie, a blush white; and Venus, with flowers of a greenish white on opening and later becoming pure white. For those who find difficulty in making a selection, the best way to proceed is to purchase a collection of so many sorts. These are supplied at reasonable prices by the growers, and this method of purchase will be found a most satisfactory one.

A. G. L.

YOUR HERB BORDER

A COLLECTION of culinary herbs is one of the most useful things that a garden can contain. With the possible exception of parsley, which is often grown as an edging plant in the vegetable garden, it is really a good plan to have a special herb border. The ideal aspect for the herb border is west, for if the border faces south the situation is likely to be too hot. With a north or east aspect the herbs, with the exception of thyme and sage, will be very late in coming to perfection. Dig the ground up well and manure prior to planting. In addition it is an excellent plan to give a mulching of half-rotted manure in the late fall, not only to nourish the roots, but also to provide some protection during the winter. Here are a few useful points about the more important of the culinary herbs.

Basil.—This is a sweet-scented annual, the tops of which are used for flavouring and other purposes. To secure an early supply a few seeds should be sown in February in a pot, the little plants being hardened off and set out in April. Early in May outdoor sowings may be made. Slugs are very partial to the young plants, and to keep these away a few sifted coal ashes should be placed round the seedlings. The sort known as bush basil should be treated in the same way as the ordinary kind.

Burnet.—This is a native plant used for flavouring salads, etc. It grows best on a light soil, and may be raised from seeds sown in the open in March. Burnet is a perennial, and it must be kept in check or it may spread too far. The flowers should be removed as they appear.

Chervil.—A garden herb employed for flavouring soups and salads. The plant is raised from seeds sown at intervals during spring, summer and autumn to keep up a supply. The first sowing may be made about the middle of February. Chervil may be raised in boxes under glass during the winter if desired. Stop the plants flowering to encourage a free production of crisp leaves.

Chives.—The leaves of this plant are useful for flavouring and as a substitute for onions. Propagation is easy from seeds sown in the spring, or the plants may be increased by dividing the clumps at the same season and replanting. The leaves are fit for use as long as they remain green.

Mint.—Mint is propagated by division of the clumps in the early spring. Another easy way of growing mint is to plant offsets in the spring or cuttings with roots attached in the early summer. In dry weather mint is all the better if it is watered freely. When gathering pick off the tops of the stems to encourage the production of shoots below.

Marjoram.—This herb is usually grown as an annual, although plants will live through the winter. Marjoram may be sown in March under glass, and the seedlings are then placed outside in April. It is a good plan to lift a few plants in the autumn and put these into pots. In this way a supply of the herb in a fresh green state is maintained.

Parsley.—It is better to grow a variety

MARJORAM IS A USEFUL HERB, SEEDS MAY BE SOWN IN MARCH.

TARRAGON IS EXCELLENT FOR FLAVOURING SALADS.

with finely curled leaves, as this will do for garnishing as well as flavouring. Propagation is carried out by means of seeds sown in drills. Thin sowing is essential, and free thinning out should be adopted so that the individual plants may develop properly. Where only one sowing is made April is a good month, but to keep up a succession of young plants sowings may be made from the end of January until July. When parsley plants tend to become coarse, rather severe cutting should be practised both to prevent heading up for flower and also to encourage the development of young foliage. Although parsley is hardy, the plants which are to carry through the winter should be protected in severe weather with lights or by scattering some straw, dead fern, etc., among the specimens.

Sage.—This herb is easily propagated and grown, but it is a mistake to leave it too long in one place, as old plants have a habit of dying off during, or just after, the winter. The best way is to raise a new lot of plants from cuttings every two years, destroying the old specimens when the new ones are well established. Cuttings or slips with a heel of old wood will root freely from the end of April onwards. Another way is to pull down a few of the outer branches of an old plant and to place a little soil over the lower part so that the shoots may take root. Sage is also easily raised from seed if cuttings do not happen to be available.

Summer and Winter Savoury.—The first named is an aromatic herb used for seasoning and flavouring. Seed may be sown out of doors in April in rather shallow drills. Thin the seedlings to about 6ins. apart. Winter savoury is a hardy evergreen perennial. Propagation is carried out by cuttings and divisions in spring or by seeds.

Tarragon.—This plant is largely employed in flavouring salads and for other culinary purposes. As a perennial the best way of propagating tarragon is by means of offsets taken away in the spring with a piece of root attached. To obtain a succession of nice young growths all the summer, the shoots should be cut down at different periods to induce a succession of young stems to spring up.

Thyme.—There are two distinct forms of thyme grown, namely, the common and the lemon thyme. The first is easily grown from seeds sown in April, and it is also increased by means of divisions in the spring and cuttings in the autumn. Lemon thyme has a distinctive yellow-green foliage and a citron fragrance. Lemon thyme is somewhat less hardy than the common sort in a cold soil and it is not raised from seed. In many localities it is found to be a good plan to lift, pot and protect the best plants in the autumn, propagating from these by division in the spring. Another way is to strike a batch of cuttings in the autumn and keep these in a cold frame. In dry, warm districts lemon thyme will usually survive the average winter.

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DWARF FLOWERING BULBOUS IRISES

These dainty little subjects are fast coming into flower and the rock garden enthusiast should make a note of those species which arrest his attention. They number among their ranks many choice and beautiful plants worthy of a corner in any garden, however small.

THE early-flowering bulbous irises are delightful little plants and flowering, as they do, at a time when the majority of plants are dormant, their beauty is the more arresting; possibly the most popular of these small species is I. reticulata, a lovely and well known plant. The bulbs should be planted in well drained soil in a sunny position on the rock garden or in a warm border, and under favourable conditions, they will freely increase and during February will prove a veritable joy with their deep violet and orange fragrant flowers; the bulbs may remain undisturbed for a number of years, unless they should show signs of deterioration. Failure with I. reticulata may often be attributed to a minute fungus which sometimes attacks the bulbs when left in the ground, and the presence of this disease may be recognised by the coats or tunics of the bulbs being streaked with black, and, of course, by a marked deterioration in the growth of the plant.

The variety of reticulata known as Krelagei, is dwarfer than the type, and of deeper colouring, albeit the latter varies, passing through shades of plum, purple and reddish-purple, but always of a deep tone.

I. Danfordiæ is an extremely pretty and very dwarf species with golden yellow flowers; the blooms appear almost before the leaves have speared and, like reticulata, it flowers in earliest spring and is happy on the rock garden in a sunny and well drained "pocket."

I. persica is a flower of refined beauty, the colouring bluish-green, with some orange and black markings; the very short stem bears, in March, sometimes a little earlier, one or two and sometimes three flowers; although occasionally met with in thriving condition on the rock garden, this plant is more satisfactory when cultivated in a pan for the embellishment of the cold greenhouse or the alpine house.

I. Histrio and I. histrioides are very lovely and very satisfactory little irises; the former is of blue and white coloration, the latter is similar in colouring and distinctly later in blooming, the flowers appearing usually in March, with those of Histrio almost a month earlier. There are, too, differences of habit and form, but the two plants are of equal merit and should succeed admirably in the rock garden.

I. Vartani, of slaty blue colouring, often blooms in mid-winter, so that if it is grown in the open air, it must be afforded the protection of a hand light and it is, perhaps, better treated as a subject for the cold house or frame.

I. tuberosa should appeal to all lovers of quaint flowers; the apple-green and brownish black flowers on stems about a foot high, appear in March and are undeniably pretty as well as quaint; it is an easy doer and a colony in rock garden or border is of pleasing and striking appearance. The leaves appear in the late autumn and are very similar to those of I. reticulata. This iris has been, by some botanists, separated as a distinct and monotypic genus, under the name Hermodactylus tuberosus.

I. Rosenbachiana flowers in February or March and is of outstanding beauty, the dominant colour notes being purple, yellow and white, but these are subject to considerable variation and in some forms the purple will pass into a rich crimson; this lovely plant from Bokhara is perfectly hardy, but as a protection to the flowers, which appear in early March and to the ample foliage, a sheltered nook should be selected in which to plant it, full sunlight being expedient.

A thorough ripening or "baking" of the bulbs is essential to the successful cultivation of these bulbous irises.—RALPH E. ARNOLD.

THE CHARMING BRILLIANT BLUE FLOWERS OF IRIS HISTRIOIDES.

THE DAINTY IRIS ROSENBACHIANA WITH BLOOMS OF THE MOST GORGEOUS COLOURS.

ONE OF THE CHOICER MEMBERS OF THE IRIS FAMILY. I. RETICULATA.

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THE BUSY MAN'S PAGE

How to Pot a Plant.

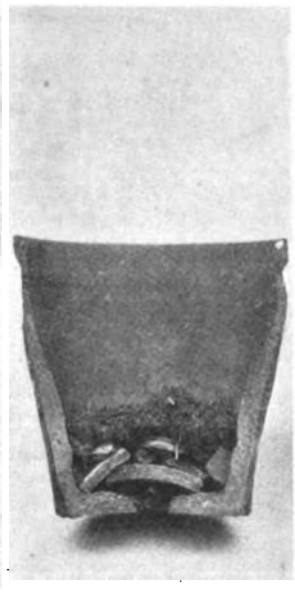
POTTING is one of the everyday garden operations, and yet it is often carried out in a very careless manner. Enormous numbers of plants come to grief just because they were not properly potted in the first instance. At all times use clean pots, and old ones should be carefully washed and then allowed to dry; it is well to soak new pots for a few hours in water, again allowing time for drying. Drainage is a matter of supreme importance when potting. A quantity of broken crocks should be at hand, and one of these which is rounded should be arched over the hole at the bottom. Then build up two or three layers of other crocks. On to these it is a very good plan to place a layer of fibre, moss or similar material. This protects the drainage and prevents the soil settling down in between the crocks and so checking the free passage of water. Now throw in some soil so that the pot is about a third full. Take a ball of the plant to be repotted and, if needful, loosen the soil a little round the roots. Set the plant in the middle and let soil fall all round the sides. A potting stick is very handy, as with this one can ram the mould in firmly. It is most important to arrange that there are no pockets or air spaces in the soil, as these holes will cause the roots to shrivel up. Fill the soil to within half an inch of the top of the pot, allowing rather more in the case of a very big pot.

Do not soak the soil immediately after repotting. If this is in a suitably moist state, as the mould always should be at potting time, it is best not to water at all for twenty-four hours. Newly potted plants should be kept in a cool shady place for a few days, otherwise they may flag badly. At no time should a plant in a pot be watered unless it is really necessary. When the soil is waterlogged much of the air is driven out and it soon becomes sour. It really does all pot plants good to become quite dry now and again, always providing they do not droop seriously. If the soil in a pot remains continuously damp it is a sign that the drainage is defective. No time should be lost in repotting the plant in a proper manner.

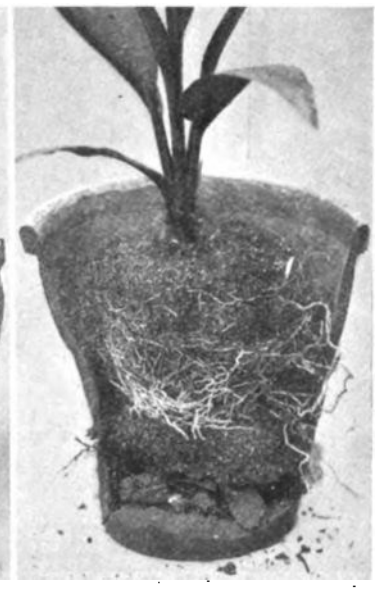
Preparing Ground for Sweet Peas and Gladioli.

BETTER results follow, especially in the case of these two kinds of flowers, if the ground is prepared for the plants—and even the seeds of the first named—and the corms, respectively, several weeks before it is required for their accommodation. Again, if the preparation is delayed until the planting time, owing to pressure of other work and other circumstances, it may not be well prepared. But now we can deal with a loose, moist soil by very deeply digging and freely manuring it, or, better still, taking out soil, forming trenches 2ft. deep and 18ins. wide, putting in the bottom a mixture of soil and rotted manure and filling up with more manure, leaf-soil, bone meal and wood ashes thoroughly mixed. The trenches should be filled, heaped about 4ins. above normal level of the ground to allow for settling down when rain comes. Having done this important work, the lover of these charming flowers can devote some time meanwhile to the young pea plants and gladioli corms, potting a few of the latter to bring them forward. Perhaps, too, the necessary support sticks can be well selected and made ready for use.

An example of bad potting. Note the air spaces in the potting soil.



Drainage is important when potting. The method of placing crocks and moss fibre.



How to repot. The soil round the roots of the plant is best loosened as shown.

Leather Jackets.

IF leather jackets are present in the soil, no time should be lost in taking steps to deal with this pest. The leather jacket is, of course, the grub of the well known daddy-long-legs fly, and in many parts of the country it causes an enormous amount of damage to seedlings and the roots of tender plants. The grub is easily recognised. Usually it is about an inch long and of a dark green or brownish colour; if washed free from soil two light-tinted lines are to be seen running down the back. These grubs are hatched from eggs in the autumn, and they are more or less dormant in the soil most of the winter, doing very little in the way of damage. When the spring comes the leather jackets develop a voracious appetite, and up to the time when they change into a dormant pupa they will cause a tremendous amount of damage.

As is the case with all pests, prevention is better than cure. Cold, ill-drained ground is a fine breeding place for leather jackets, and in such situations the plants fall easy victims. Too much farmyard manure should also be avoided, and when the grubs are known to be present the grower should concentrate on artificial fertilisers. Lime and soot are also good to work into the soil, and one or other of the well known soil fumigants will help in the work of destruction. Remedies of this nature should be applied a week or two ahead of any actual planting. Whenever digging or hoeing the ground keep a sharp look out for leather jackets and kill each one you can find.

Killing Big Weeds.

A VERY effectual way of killing the big tap-rooted weeds like dandelions, dock, etc., is on the following lines. Practically all these plants start growth quite early in the year, and as soon as the leaves are coming up the crown should be cut off quite close to the ground. Hollow out the top of the root and then press into the hole as much salt as possible. In a few days the salt will have worked its way down into all parts of the roots and the weed will never grow again. This simple plan is always effective and it saves the trouble of digging the root up.

Protecting Seeds from Mice.

MICE will often do a lot of harm to the larger kinds of seeds, such as peas and beans. The little creatures seem to take a special delight in digging these up and gnawing just as many as they can find. When the presence of mice is suspected, some preventive measure should always be taken, and one of the best of these is to roll the seeds in dry red lead before sowing. Enough of the red lead will become attached to the seeds to make them distasteful to the mice, and if a few should be eaten it is likely that the little pests will soon die. Another plan is to sprinkle a little paraffin over the seeds after sowing. This does not harm them at all, and it certainly keeps the mice away. Both these measures will discourage any birds which might wish to interfere with the seed-bed.

Seed Germination.

HOW long will it be before the seeds appear in the form of little plants? The length of time varies a good deal in the different plants, and then much depends on the weather, the state of the soil and conditions generally. In the following table the average time which elapses between sowing and germination is given. If a few extra days are allowed beyond this period and the young plants still do not appear it is usually wise to re-sow.

Beans of all kinds	7 to 9 days.
Beet	8 „ 10 „
Cabbage family	7 „ 9 „
Carrots	12 „ 15 „
Cauliflowers	7 „ 9 „
Celery	10 „ 15 „
Cucumbers	8 „ 10 „
Endive	8 „ 10 „
Lettuce	6 „ 8 „
Onion	8 „ 10 „
Pea	7 „ 8 „
Parsnip	12 „ 18 „
Radish	5 „ 6 „
Tomato	8 „ 10 „
Turnip	5 „ 7 „
Vegetable Marrow	6 „ 8

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PRACTICAL PARAGRAPHS ON POPULAR PLANTS

THE SHASTA DAISY (C. MAXIMUM).

SNOW IN SUMMER (CERASTIUM).

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

Chrysanthemum maximum (Shasta Daisy). THIS, the Shasta daisy, is very popular in gardens every where, growing as well in a town as in a country garden, and needing only the simplest of culture to gain a profusion of white flowers useful for cutting. It is quite hardy, and does best planted in a deep rich soil, growing from 2ft. to 3ft. in height. It is a favourite plant for a sunny border, and should be given room clear of other occupants. Three feet apart ought to be the guide when planting out. This is best done in March, at which time division of roots can take place. C. maximum also can be raised from seed sown out of doors in a sunny position in April or May. It commences to bloom in June and continues for many weeks.

Doronicum (Leopard's Bane). BLOOMING in early spring, and doing well in any good soil, doronicums, on account of the yellow flowers, should find a place in the amateur's garden. They are hardy perennials which increase easily by division, which may take place in October, or from seeds sown in sandy soil, in a cold frame or open ground in April. Such plants will be ready for planting out in their final quarters by October. Plants vary in height from 18ins. to 2ft. Blossoms are specially useful for cutting; the plants should, if early gathering is the object, be given a warm sheltered border, though they are not averse to a partially shaded position.

Heuchera (Alum Root). THIS is a fine plant for the border. Culture is not difficult, provided it is given a fairly rich soil, a mulch of old manure occasionally and, above all, a sunny, well drained position. A south border suits it admirably. Flowers are dainty, useful for cutting, and are borne from June to September. They are dwarf perennials with a tufted habit and are propagated by dividing the root stocks in October or March. They can also be raised from seeds, which may be sown in light soil in a cold frame in spring. Heucheras are best divided every three years.

Cerastium (Snow in Summer). THIS is a familiar plant in many gardens. C. tomentosum bears narrow silvery leaves out of which spring a prodigality of intense white blossoms during June and July. It is useful for edgings, for planting in the chinks and crevices of old walls, and for certain positions in the rock garden. Growing in any light soil, it is a plant which appears to be returning to popularity. Cerastiums are easily raised from seed sown in a cold frame in April, or propagation can be made for cuttings taken at a joint in July or August and planted on a shady border until rooted. It seldom exceeds 6ins. in height.

Gypsophila Gauze-Flower (Chalk Plant). SCARCELY any other hardy plant is more popular with those who grow flowers with a view to cutting, than the gypsophila. Its myriads of white blossoms borne on "billowy" panicles help to embellish other cut blooms. It will grow in any garden if it is given a sunny position, a deep rooting run, and soil in which lime forms a part. In planting, it is best to start with young plants, and soil should be dug out to a depth of 3ft., any deficiency of lime being made up in the form of chalk or old lime rubble. The absence of lime in the soil is one of the most frequent causes of failure with gypsophila. Flowers appear from July to September, and have a value owing to their dried character, for winter use. Once established and doing well, the clumps ought not to be disturbed, as attempts to do so nearly always result in the long fleshy roots being broken. Clumps should be planted 6ft. apart, and, as the shoots appear, they should be supported by stakes, as otherwise they are liable to snap off at the base. Propagation is best from seeds sown in pans of light sandy loam and leaf-mould in May, either in a cold frame or greenhouse, or from cuttings which appear on the shoots in July. These should be dibbled round the sides of pots of a similar compost, and wintered in a cold frame. The double form of G. paniculata, as well as the single form, should be planted, as the larger flower clusters are much more decorative.

THE LEOPARD'S BANE (DORONICUM) IS A USEFUL EARLY FLOWERING YELLOW PERENNIAL FOR THE BORDER.

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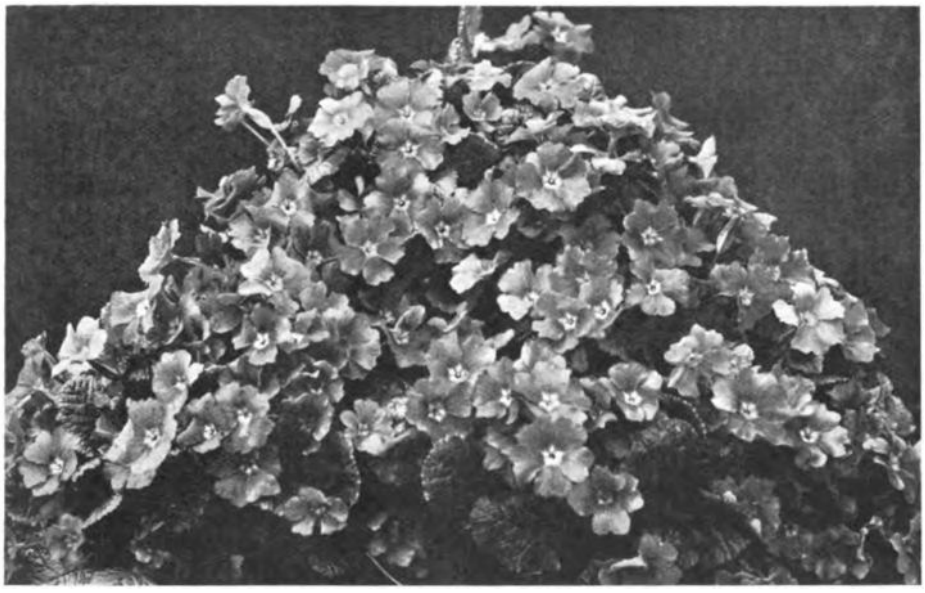
THE FLOWER GARDEN

A Free-Flowering Primula, The Jewel.

THIS beautiful and free-flowering primula is of hybrid origin, and is the result of intercrossing the well known P. Juliæ and P. vulgaris Hall's Blue. When exhibited by Mr. B. D. Webster of Newton Abbot on March 26th, 1918, before the Royal Horticultural Society, it gained an award of merit, which raises it to the class of plants of more than average merit. Like other hybrids of P. Juliæ, it possesses a robust constitution, is easily grown and exceptionally floriferous, a fact clearly displayed in the illustration. P. The Jewel is a remarkably fine hybrid with very bright ruby purple flowers with a distinct small golden yellow eye. They are about the size of P. Juliæ, but much more striking, and a mere written description of the blooms fails to do adequate justice to the charm and beauty of this plant. It is a decided acquisition for the rock garden where a moist and partially shaded position should be chosen. This class of primula requires dividing occasionally, say, every third year at least, otherwise the clumps become overcrowded with leading growths, when the flowers are smaller and less brilliant in colour. Such work is best carried out immediately after flowering, and so free growing is the plant that a good stock can be obtained in a few years.

P. The Jewel is a great improvement on P. Juliæ. It is only a few inches high, and the crinkled primrose small leaves are a dark olive green.



THE BRIGHT RUBY PURPLE BLOOMS OF PRIMULA THE JEWEL.

A Fine Winter-Flowering Shrub.

CHIMONANTHUS fragans (the winter sweet) is one of the most delightful of winter-flowering shrubs, and no garden of reasonable dimensions is complete without one or two representatives. It is sometimes referred to as Calycanthus præcox and Meratia fragrans. The flowers are produced during the winter months, the actual time being governed by the mildness or otherwise of the weather and the position. On a south wall with open weather, the yellowish green flowers will appear in December; the wood is void of any foliage and the blooms are not at all conspicuous, but the delightful fragrance is most pleasing. A few cut sprays are sufficient to scent a large room for several days, and when associated with light evergreens, a charming vase is made up, considering the period of the year. This plant may be termed quite hardy in the south and west, and even in colder districts it will succeed if treated as a wall plant with a south or west aspect. A little pruning will be needed each year, and such work is accomplished in February or directly the flowering period is over. If consideration for the future welfare of the shrub is shown when cutting flowering sprays for the dwelling house, the pruning required will be reduced to a minimum.

Plants against walls need most pruning, all useless wood and old short flowering shoots are cut out in order to encourage young growth. If well ripened next autumn these new shoots will produce a quantity of bloom in due season. Although often treated as a wall plant, it should be also planted in the open, where it will form a nice shaped shrub some 8ft. or 9ft. high. Such specimens do not require any pruning, perhaps beyond a little thinning out occasionally in February to allow plenty of sunlight to enter the centre of the shrub.

C. fragrans is increased by layers and seeds, and the former method is often practised in private gardens; any shoots near the soil being pegged down at the time of pruning, much in the same way as carnations. In addition to the type, there is a variety known as grandiflora, and this is preferred by many on account of its larger flowers, which are a purer yellow, and its stronger growth.—CHEPSTOW.

Why Not Plant Primroses Under the Garden Hedge?

I HAVE long since come to the conclusion that hardy primroses, although easy to raise, and presenting no particular difficulties of culture, are not grown very largely by the average amateur; yet there are in many gardens places where, without taking up much, if any, room needed for other plants, their presence in the springtime, when flowers abound, would be a real source of attraction. Let me press their claims upon anyone reading this note who may have in the garden a privet or quick or other hedge. We do not, as a rule, view the foot of a hedge in a very favourable light for growing anything, but even there, with a little preparation of the soil and a mulch now and again, one may have these old plants with the cheer they bring in the time of their opening leaves and blossoms. The common primrose of the woodlands and hedgerows is readily raised from seed sown in May or June. The border skirting the hedge should first be forked over, and a little old manure and leaf-soil worked in; but the best results follow individual plantings from a seed bed. Attractive as the common form is, modern hybrid primroses are doubly so, and anyone desiring a wealth of beautiful blossoms should not fail to procure a packet of seed for sowing. Dryness at the foot of a hedge is a difficulty one has to contend with, but it can be overcome very largely by improving the soil as suggested and in affording a mulch of manure to conserve humus about the roots of these welcome spring-flowering plants.—CLAREMONT.

A Perennial for Light Soils, Asclepias tuberosa.

THIS may reasonably be regarded as one of the most desirable hardy herbaceous perennials, but for some inexplicable cause it is seldom met with, even in gardens where herbaceous subjects are a speciality. It attains a height of about 2ft., and the brilliant orange flowers are borne in umbels during the months of July and August. The reason for its scarcity in some gardens may be one of soil, as this plant is never at home where the rooting medium is of a heavy clay or retentive nature. The ideal then would be found in those gardens where the soil is on the light side, such as a sandy loam and especially where it is well drained. There are numerous gardens which can supply these conditions, and it is here that this handsome border plant should be well represented. When once planted it ought not to be disturbed for several years, and when digging over the border in autumn or winter care must be taken not to injure the tubers. This I know from experience is one cause why A. tuberosa often fails to become established. Given the right soil and a light position, no difficulty will be found in the successful culture of this distinct plant. The unique colour of its flowers makes it one of the most noteworthy and conspicuous occupants in the border during the summer months and, moreover, it is of a suitable height for small gardens, while it is not liable to become too rampant. Early spring is a good time to plant.—T. W. BRISCOE.

The Newer Zinnias.

WHILE British florists have a brilliant record in the evolution of many of our popular garden flowers, we owe to American and Japanese horticulturists the newer varieties of the gorgeous zinnia. The best of all, as far as my experience goes, are the giant dahlia-flowered varieties; well grown plants in rich soil bear a wealth of extra large and beautifully tinted flowers, some of them equal in size to the average run of decorative dahlias. Most dealers stock seed, but I would remark here that a really good strain must be obtained to ensure the best result. In striking contrast to the giants are the dwarf hybrids, particularly the doubles; these produce flowers equally as large as the ordinary varieties, but they only grow to half the height, some 12ins. The miniature pompons might be regarded as "reduced dwarfs"; they only grow to 9ins., are wonderfully compact and very free. Nor must we neglect the ordinary sorts, which, in the improved or selected strains now offered, are really wonderful. It would be indivious of me to select any particular strain, for there is little to choose

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in the four different sources from which we get seed. Achievement is one class by itself, the flowers being partly tubular and partly cactus-form. Hageana is another worthy of note, a single in this case; Sutton's Quilled and Fireball also deserve a word. In closing I advocate a first sowing made at the end of February, but main sowings a fortnight or ten days later; the seedlings must be kept near the glass to encourage sturdiness and branching. Transferred to the frame in May, they can be planted out the first week in June. They also require a rich soil and there is no better time than the present, when ordering seed, to set about the usual trenching and heavy manuring so essential to success. I might remark, too, that zinnias make good pot plants for greenhouse decoration in summer and autumn, March sowings may be made for this purpose. —LANARKSHIRE.

A Delightful Spring Association.

Rhododendron præcox and Erica carnea.

I BELIEVE Rh. præcox was raised by the late Mr. Isaac Davis of Ormskirk from two early-flowering rhododendrons, *viz.*, Rh. ciliatum and Rh. dahuricum, and the result is a charming early-flowering plant, suitable alike for beds and the cool greenhouse. When grown in pots for the latter it can be had in bloom early in the year without any forcing in the ordinary sense of the term. This plant has been raised by others, and in consequence there is a certain amount of variation in the colour of the flowers even if not in the actual time of blooming. The variety quoted in this note is Early Gem, a Veitchian introduction, and this will be in flower towards the end of January given open mild weather, but if cold they will be later—the photograph was taken on February 21st, 1926. The flowers are a bright rosy purple, and if the weather proves congenial a bed of this dwarf rhododendron is indeed a lovely sight. The plant is quite hardy, but it should be understood that occasionally the expanded blooms and buds are ruined by frosts or wind and rain. Nevertheless, it is worthy of a place in gardens on account of its early-flowering qualities, especially if it can be afforded a sheltered position. The illustration shows a bed of Rh. Early Gem and Erica carnea at Castleford, Chepstow, and the twain make a pleasing combination. Both are in flower at the same time, and the rhododendrons rising above the erica take away any idea of stiffness. The rhododendron rarely requires any pruning, but the erica should be trimmed over with a pair of shears directly the flowering period is over. To be successful with these plants it will be advisable to prepare the root-run, unless it is free from lime. Otherwise leaf-mould and peat should be freely added.

A FINE BED OF RHODODENDRON PRÆCOX AND WINTER-FLOWERING HEATHS.
Such an association will give colour to the garden during the late winter months.

New beds or borders should be prepared and planted during the winter months or immediately after the flowering period.—T. W. BRISCOE.

Sidalceas for the Garden.

THE grower or gardener who wishes to keep up with the times and also to possess representatives of a charming family of plants, must include several of the newer sidalceas. For many years we only knew S. Listeri, a poor thing in spite of glowing descriptions in catalogues, and the white S. candida. Now, however, Mr. H. Hemsley of Crawley has produced a wonderful series, by hybridisation and rigid selection. A few of the named varieties include Rose Queen, Rosy Gem and Sussex Beauty, the latter being a charming plant with large open pink flowers. Rosy Gem is bright rose and obtained an award of merit from the Royal Horticultural Society. Unnamed seedlings can be obtained from several firms on very reasonable terms, and these furnish a wonderful range of colour, through various shades of pink, terra cotta, ruby and brick red. All the flowers are furnished with a beautiful satiny sheen and the plants as a whole are most graceful. They attain a height of 2ft. or 3ft., the light spikes of bloom being admirably suited for cuttings, in addition to making a fine display in the border. Owing to the strong stems, they need little or no staking, but in exposed positions it is advisable to use a few twigs as supports.

Sidalceas possess all the attributes of good garden plants, they grow freely, are perennial and can be readily increased by division in the early spring or just before growth begins. They commence to push up their spikes about May, and continue in bloom from July till September. While the named kinds could very well be grouped in the herbaceous border, beds of seedlings or unnamed varieties are sure to be appreciated, especially where a fine display is needed in August. Providing the site is away from the permanent shade of large trees, the sidalceas will be a success, they will revel in an ordinary border and, judging from last summer, they do not object to a dry time, in fact they were fresh and pert when other plants near by were drooping. It is a gardener's plant *par excellence*, not only on account of its easy culture and floriferousness, but also for its fertility, seeds being produced in quantity. Although saving one's own seed from selected plants is an interesting and often profitable pastime, it is advisable to purchase seeds, which can be obtained from most seed firms; but a good strain should be chosen, as finer plants and better colours are then obtained.

Seeds may be sown in February or early in September, and if raised in a warm greenhouse, some of the plants will bloom a little this year. They may also be sown outside in March.—W. B.

SIDALCEAS LOOK WELL IN THE BORDER.
This is the variety Sussex Beauty of a rose pink colour.

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THE FRUIT AND KITCHEN GARDEN

Do Not Forget to Plant Shallots.

THE inclusion of this vegetable among kitchen garden crops is usually appreciated by those who have charge of the kitchen, and they are certainly exceedingly useful, not only for pickling, but also for flavouring soups, stews, etc. An additional merit lies in their long keeping qualities, which render them available for use all the year round.

Although a native of Palestine, the shallot is quite hardy and it is the rule in certain localities to "plant on the shortest day and lift the crop on the longest day." This early planting is not to be recommended, however, except in small quantities, for the production of a few early bulbs.

The shallot thrives best in a warm, light, rich soil, that has been liberally manured for the previous crop. On recently manured or badly drained soil it is liable to become attacked by a maggot or a mould.

The principal planting should be made during the first open weather in which the soil is in a crumbly, friable condition in January or February. Later planting does not favour good results.

A distance of 6ins. will be sufficient between the bulbs or "cloves," as they are often called, and 1ft. may be allowed between the rows. An alternative plan is to use them as an edging for beds of other vegetables. Do not bury the cloves deeply, but merely press them into the soil about one half their depth. It is usual to scrape away the soil from around the bulbs when they have become well rooted later in the season, thus leaving the bulbs above the surface of the ground and allowing them to receive the full benefit of the sun.

During the growing period, hoeing to suppress the growth of weeds is the only necessary operation. About July or August, when the leaves begin to turn yellow and wither, the tufts of bulbs may be pulled up, left on the ground for a few days to become thoroughly dry, and then divided and stored in a dry, airy, frostproof room. A proportion of sound, well-ripened bulbs, should be selected for planting the following year.—T. H. EVERETT.

Giving Assistance to Bean Seedlings.

THE most critical time in the growth of dwarf and runner beans is the period during which the shoots are pushing through the soil as the seed germinates, when they are subject to the attacks of slugs in particular and may find difficulty in getting through the crust of hard soil where such exists.

The best procedure is to apply lime. It should be strewn thickly in a ring around the shoot—about an inch away from the latter. This is effectual in keeping the slugs at bay, and it should be renewed occasionally until the bean is at least 3ins. above the ground, for the smallest opening in the ring of lime will be taken advantage of by slugs. Soot and salt have the same effect.

Meanwhile, every effort should be made to assist the bean shoots in their struggle to get clear of the soil. Should the ground have become hard and caked by heavy rains or drying winds, it is best to stir the soil around the shoots with a pointed stick, so as to keep it loose around the plants.—A. Y.

Mint.

MINT, in some soils, is almost as easy to grow as couch grass. In others, it is a difficult plant to manage. There is always a demand for fresh mint in the household and, as it is not difficult to force an early supply where there is a glass structure quite warm enough to excite the roots, a start should be made now. Begin at one end of the bed of mint and lift every piece of root found there. Then pick out the strongest and bury the weakest in soil again, but only temporarily. Procure two or three boxes about 18ins. long and 14ins. wide, 5ins. deep; place a thin layer of old potting soil in the bottom of each, then the mint roots, lengthwise, covering them 2ins. deep with the same kind of compost; make it firm while it is rather dry, then thoroughly saturate it all with clear water, applied through a rosed watering can. The boxes may be placed under the stage near the hot-water pipes till the new shoots begin to grow; afterwards, of course, full exposure to the light is essential, as the leaves must be quite green. The small roots, heeled-in, should be planted in a moist soil, if such is available in the garden, or in a position partly shaded from the sun's rays. Mint thrives in a moist rooting medium and is often very disappointing in a shallow, dry or sandy soil on high ground. Watering it in such positions is practically useless, as the leaves soon become covered with a rust on the undersides.—G. G.

How to Get an Early Crop of Peas.

IN many soils it is impossible to sow peas with safety in the early weeks of the year, while in some districts the weather is far too cold to permit of this being done successfully; but there is a method by which both soil and climate can be circumvented and the early crop of peas secured.

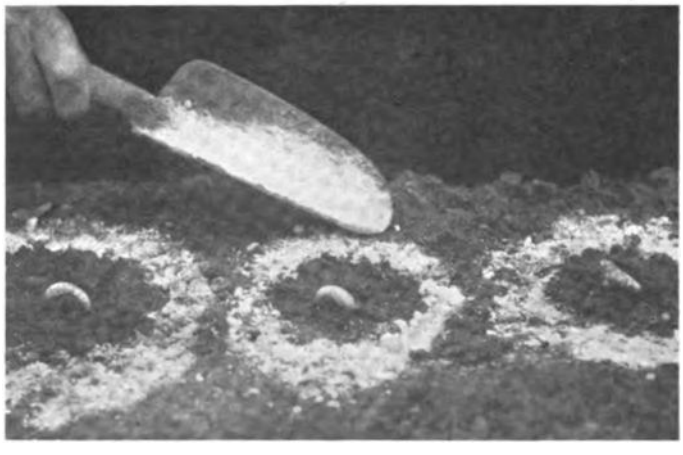
The means of bringing this about is the possession of a quantity of glass, of any size and shape. Those who can get old photographic plates will find them a boon; builders will be willing to supply odd pieces of glass for a small sum, and those who can afford a quantity of glass cut to long or short lengths of about 6ins. wide will find them useful each year for many similar purposes. The pieces of glass may either be tilted against each other to form an apex shelter over the seeds, or can be pushed into the ground on each side of the row and another piece laid on top. Whichever way may be adopted, a snug little glasshouse

A SURE METHOD OF OBTAINING AN EARLY CROP OF PEAS.

is erected over seeds and seedlings which induces quick germination and protection from birds, mice and insects.

The best way to sow the seeds is to make a deep drill and half fill it with a fine sandy compost. Sow the seeds on this, and then place the glass along either side of the row. Cover the seeds with more of the good soil, press it down gently and then place the pieces of glass over, or gently press the top edges towards the centre of the row. The edges of the glass need not meet—sufficient protection and warmth will be afforded even if no glass is placed over the seeds, the side pieces doing this work well. Of course, the top covering will form an excellent protection against the attacks of birds and mice.

After the pea plants have attained a "safe" size, the glass should be removed and it will be found equally useful in the sowing of other crops.—H. D.



TO CIRCUMVENT SLUGS, PLACE A RING OF LIME, OR SOOT AND SALT ROUND EACH YOUNG SHOOT AS IT APPEARS.

Potash for Tomatoes.

IN animals and plants it is gradually being recognised that certain diseases are due wholly to, or owe their virulence mostly to, a deficiency in diet. In the raising of tomatoes this is probably at least partly true; at any rate, we ourselves have clearly proved that when potash is overlooked in the compost then the plants are not so good as they might otherwise be. Again, potash in sufficiency has much bearing on the quality of the produce; "potash for quality," indeed, ought to be a slogan among growers. Thirdly, we are certain that a balanced food ration is conducive to that stubby, uniform, hardy growth which betokens fruitfulness, and that excessive use of phosphates and nitrogenous matter may defeat its own end. Wood ashes form the best source of potash, but few there are who can supply the large quantity needed; where it is plentiful a trowelful per plant is a fair supply, scattered over the soil and then forked lightly in. So soluble is this potash, however, that it pays to apply the above

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quantity in two or three dressings before planting, before fruiting and in mid-season. Sulphate of potash is the best artificial to apply before planting; in a greenhouse border I should apply 1½oz. per square yard up to 2oz., in two dressings, one before planting and one when the first fruits are forming. For application in liquid form during growth, a very effective way of using potash, saltpetre is slightly better than sulphate, ½oz. per gallon of water is the usual amount and this for four plants weekly, during the time growth is active and the plants in full bearing. Proprietary artificial manures usually contain the correct proportion of potash.—LANARKSHIRE.

POTATOES FOR THE AMATEUR

THE selection of seed potatoes suitable for planting in the amateur's garden is not an easy task when we consider the many hundreds of varieties from which we can choose. Many, it must be admitted, are old and would be out of date when considered along with the newer varieties that have been recently introduced. Champion, Buchan Beauty and Paterson's Victoria are

A GOOD CROP OF KERR'S PINK, A FINE VARIETY FOR THE AMATEUR.

now not often to be seen in gardens; however, they served their day, and it might be of interest to note that those varieties have been used as parents for many of our recent introductions.

First Early Varieties.

As a first early variety, one cannot do better than plant a few rows of *Di Vernon* (*Immune*), for, if sprouted and planted out early in March on a south border, they can be lifted in about ten weeks' time. The habit is dwarf, the tubers are flat kidney shaped with purple markings around the eyes. Quality excellent, and one which should be grown by all who wish to grow a really good first early.

May Queen (*Non-immune*) is an early of rapid growth, haulm dwarf. Tubers white kidney with very shallow eyes and smooth skin. A variety well adapted for growing in frames and early borders.

Finally, among earlies of merit, we have *Duke of York* (*Non-immune*), thick kidney shaped, yellow-fleshed tuber, too well known to need description here. Many stocks, unfortunately, are poor, and care should be taken to obtain a healthy strain if the best results are to be expected.

Second Earlies.

Snowdrop (*Witch-hill*) *Immune* should follow the first earlies. Kidney in shape, white flesh and skin, very dry, and of fine flavour. It is certainly an old variety and one which, we might say, has a history, for it was the first potato which was discovered to resist wart disease. The plants are tall; flower white and fairly profuse. Many times we find it classified as an early, but, to my mind it is an early second early.

If one wishes to grow something new, *Clovullin* (*Immune*) should be given a trial. Raised by a famous grape-grower—Mr. McInnes, Glamis. A variety that will fill a gap among second earlies, and I would thus recommend it for garden culture. The tubers are white with shallow eyes. The growth is robust, with large flat pale green leaves of spreading habit.

Arran Comrade (*Immune*) may not now be called a new variety, still we cannot be without this potato, it is so beautiful and even in shape and pleasing to the eye. The tubers are round, white with shallow eyes, and of good quality. A potato seen on every exhibition table. A heavy cropper; as many as thirty tubers may be produced at one stem. Rather susceptible to ordinary blight and should be sprayed and lifted as soon as ripe.

Great Scot (*Immune*) is another popular variety, and when sprouted before planting matures fairly early. The tubers are round, skin lemon in colour but with white flesh. A heavy soil suits this potato. The growth is very upright and vigorous. It should be eaten before Christmas, as it is liable to turn black in cooking if kept too long.

Maincrop Varieties.

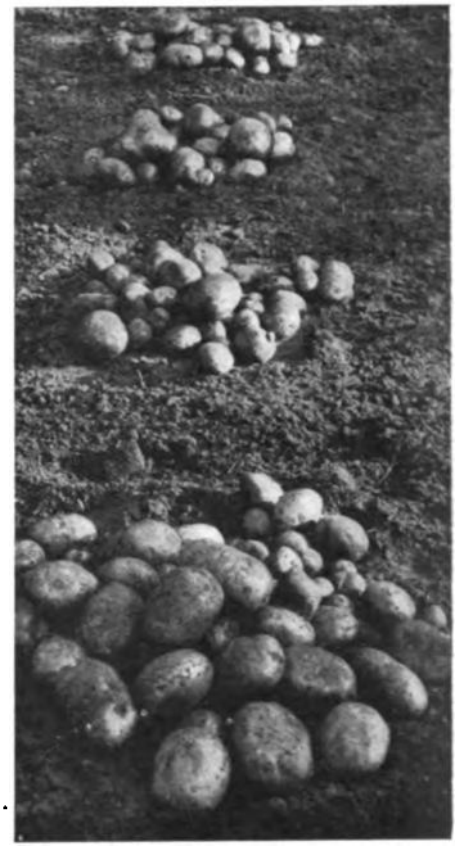
Taking maincrop potatoes, *Incomer* (*Immune*) is something new, for, I believe, it is put on the market for the first time this year. A tall, upright grower, strong, robust habit with white flowers. Broad oval white tubers with shallow eyes. I had the pleasure of seeing this potato growing for two years, and it was certainly very promising

Another maincrop potato also introduced this year is *Claymore* (*Immune*). It stands out pre-eminent as a cropper. The tubers being large pebble-shaped with shallow eyes. Growth strong, with dark green foliage and a profusion of white flowers. For garden culture this variety is certainly a great acquisition. Quality is said to be excellent. Very resistant to blight.

Two other immune varieties suitable for garden culture are *Kerr's Pink* and *Golden Wonder*. Kerr's Pink is a Banffshire variety, too well known to dwell upon its merits here, both for quality and quantity. It is round, pink, deep eyes certainly but of lovely white flesh, and cooks like balls of flour. Unfortunately, this variety is frequently substituted, and care should be taken to secure the proper stock. Golden Wonder produces shapely kidney tubers, not a particularly heavy cropper unless heavily manured. Does best in a wet season. Snails and slugs are very partial to this variety.

Finally, we have *Bishop* (*Immune*), one of the finest exhibition potatoes grown. The tubers are kidneys with very shallow eyes. Skin white, flesh slightly lemon. The flowers are rose purple and very profuse. Quality splendid.

The above selection does not by any means exhaust the number of good varieties. A perusal of catalogues of the firms dealing in seed potatoes will give abundant evidence that there are other sorts which might be considered as good as those already mentioned. Harbinger and Ninetyfold among earlies;



ARRAN COMRADE, A HEAVY CROPPER AND OF GOOD QUALITY.

Catriona, Sharpe's Express, British Queen and Stirling Castle for second earlies, and maincrops' Ben Lomond, Ben Cruachan, Celt, Tinwald Perfection, Norna, etc., have all established reputations.

Preparation of the Ground.

As the potato is a sun-loving plant and appreciates a well aerated soil, no care and trouble should be spared in providing these important essentials. It, therefore, pays to have the soil well broken up and left rough during winter. Decayed farmyard manure should be mixed with the top spit, and also plenty of partly decayed leaves incorporated near the surface. This, to a certain extent, will make the soil more friable and lessen the attack of corky scab.

Planting

March and April are the two planting months. First and second earlies which had been sprouted should be planted out about the end of March, and the maincrops during the month of April.

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Drills should run north and south to obtain the maximum sunlight for the plants. The distance between the drills will, to a certain extent, depend upon the growth of the variety. As a rule, first early and dwarf varieties should have 24ins. between the drills and 12ins. between the sets; while second early and maincrops should have 27ins. to 30ins. by 12ins. to 15ins. Plant so that the tubers are placed 4ins. below the surface and kidney varieties set on their sides, this being the natural way in which the potato is produced on the plant.

Manuring.

It has been proved beyond doubt that it is more economical to give farmyard manure during winter and a dressing of artificials at planting time. The following mixture has proved effective on medium soils: 1½lb. sulphate of ammonia, 3lb. superphosphate, 1lb. steamed bone-meal and 1½lb. sulphate of potash, mixed together and applied on the top of the drills and raked in after the tubers are planted and covered in. The above quantity should be sufficient to manure a drill 10oft. long. Artificial manure applied in the drills and the sets planted on the top of the manure is a practice that cannot be too strongly condemned. Clean-skinned, healthy tubers can only be produced when the manure reaches the plant in a soluble state.

Treatment after Planting.

When the plants appear the ground should be hoed over and the area between the rows loosened up with a digging fork. Earthing up should take place when the haulm is 6ins. to 8ins. high. Endeavour to build up broad, flat-topped drills.—GEO. STUART.

WHAT OUR READERS SAY

POTENTILLA NITIDA.

SIR,—It may interest Mr. Fox to know that I succeeded in getting this beautiful plant to flower by putting it into scree mixture, including old mortar and planting it in full sun. I cover it with a bit of glass in wet weather. I also had failed in ordinary garden soil.—C. G. FIELD-MARCHAM, *Tunbridge Wells.*

GENTIANA SINO-ORNATA.

SIR,—Do the flowers of this gentian vary in colour according to the nature of the soil in which the plant is grown? I am inclined to think they do, for the following reason: My plants, from two sources, have flowers of an intensely brilliant blue, like those of G. acaulis at its best, when grown in the garden here in a soil largely composed of leaf-mould; but pieces given to a friend and grown in what appeared to be suitable conditions, developed flowers of a dull slaty blue, giving one the idea that there was a larger proportion of red in the colour, neutralising the blue. I have also noticed in other gardens flowers of this dull blue and have put it down to a poor strain, but perhaps I was wrong in this and it was something in the soil that was responsible. I wonder if any of your other readers have had a similar experience with this wonderful autumn-blooming rock plant.—R. B. C., *Northumberland.*

PLANTS WHICH CAN BE GROWN IN A DISUSED QUARRY.

SIR,—"J. D. B." asks in THE GARDEN for information as to what plants may be grown in a disused stone quarry, and the names of certain plants have been furnished. In addition, I would like to call his attention to one very partial to such an environment. It is the dipsacus, or teazel. Some years ago, when in an old quarry, I came across quite a number of plants carrying many heads, and brought a few home, shaking out the seeds and sowing them in the open ground in the following April, to be rewarded by plants which produced the peculiar thistle-like heads the next year. They are mostly of biennial growth, quite hardy and will grow in any rough soil and between fissures of stones, so long as they can have a little soil. Two or three seeds should be sown together and one plant only left, as they grow anything up to 6ft. in height, and should therefore be planted where they will not overshadow other things. About July the heads, of a blue-green, are very pleasing, but as autumn approaches, they turn brown and are sometimes used in connection with "everlasting blossoms." Once planted in a garden, it is scarcely needful to sow again, as they perpetuate themselves from the seeds which drop.—W. F.

[If any part of this disused quarry has soil which is chalky in nature, we should like to refer our correspondent to an article entitled "Notes from a Chalk Garden," which appeared in our issue of July 5th, 1924, page 467, where he will find a useful list of plants growing in one of the finest chalk quarry gardens in the country.—ED.]

DO PLANTS PREFER COMPANY?

SIR,—In a note from "G. G." on page 26 of THE GARDEN in reference to the raising of leeks, he points out that it is better to transplant young plants into boxes, rather than to do so in singly small pots. I can corroborate this statement from a long experience with this very useful vegetable. On one occasion, being desirous of having extra good plants, I went to the trouble of potting a number, only to find that they did not make the same progress as plants out of the same seed box did, which were transplanted in boxes made up of the same compost. As pointed out by the writer of the paragraph, it is important that young leeks should be given at least 9ins. of soil when transferred to boxes, so that when the time comes for planting them out of doors, they will be well equipped with roots. I do not know whether the idea is far-fetched, but I have noticed other seedlings—tomatoes, for example—come on much quicker when companied side by side in a pan or box than when isolated in a pot to themselves. An old grower of leeks held tenaciously to the opinion that "leeks grow faster and do better when in a box together." What reason he had for saying so, beyond his own experience, I do not know, but I have certainly noticed that when placed in a pot to themselves, they do not turn out with roots like those in a moderately deep box.—F. W.

CARE OF SEED POTATOES.

SIR,—The decay of seed potatoes in the store often causes serious loss to the amateur grower. This loss may to a certain extent be checked if timely action is taken to look over all seed tubers occasionally and have the diseased ones removed and burned. This decay and loss in the store may be caused by several diseases. One of the worst the grower has to contend with is blight. Early and second early varieties being most susceptible and care must be taken to see that dried and shrivelled tubers are removed forthwith, otherwise healthy tubers would be affected and a whole stock ruined before the planting season comes round. Blight generally, although not always, cause infested tubers to shrivel and dry up, but sometimes the disease appears as a wet rot. This wet rot is due to the presence of a saprophitic fungus which attacks the blighted tubers and spreads to healthy tubers, gaining an entrance through bruised and damaged skins or it may be by the watery and pulpy material coming in contact with the skin and passing through the lenticels. Another serious cause of decay in the store is dry rot. It differs from ordinary blight in that the tuber rots to the centre, while blight may only penetrate underneath the skin, leaving the centre quite firm. The early stages of dry rot cause the tubers to become wrinkled with sunken patches on the skin. Later on white powdery pustules appear to burst through the skin, the tubers feel light, are usually brown and hollow in the centre and the skin hard.

Preventive measures should at once be taken to see that all damaged and diseased tubers are removed and burned at once and the healthy sets placed on trays to sprout and exposed to light in a cool, frost-proof shed. Potatoes should not be left to sprout in the dark, otherwise long, spindly shoots would ensue. There is also the question of "roguing" seed potatoes in the store. This work should be carried out when the sprouts start to grow. Once the variety can be distinguished by the colour of the sprout all those showing any suspicion of not being true to type should also be removed, thus keeping each variety as pure and healthy as possible.—G. S.

THE CULTIVATION OF LILIUM LONGIFLORUM.

SIR,—A correspondent in Guernsey, after announcing his intention of concentrating on the cultivation of Lilium longiflorum giganteum recently, enquired as to the possibility of growing these lilies in the open ground, and further, whether he could obtain a show of bloom in September-October. The well known mildness of the Guernsey climate should present no difficulties to outdoor cultivation, although it is possible that protection both against wind and rain might be, if not essential, at least desirable. (A rain-swept blossom suffers from the pollen being washed upon, and staining, the petals.)

As for obtaining blooms round about a given date: as a broad general rule, unforced bulbs come into flower about three months after planting—forced ones about two months. The trouble arises when the amateur desires to obtain lily bulbs, say in June and July, that are likely to flower. The ordinary man has not the facilities for cold storage and retardation enjoyed by the professional grower and, should he purchase from the average dealer, he will possibly obtain unsold and deteriorated stock, cheap in price—and performance.

The earliest longiflorum bulbs to come on the market are of Japanese origin. These begin to arrive in January, and for some eight to ten weeks gigantic consignments of them and other Japanese lilies reach our ports almost daily. The condition of the bulbs varies greatly: some arrive plump and firm, others the reverse; and, in any case, the wasting of the bulb, removal of damaged scales, a light dusting with flowers of sulphur, to say nothing of a preliminary "conditioning" of the bulb before planting, are desirable. This "conditioning" enables the cultivator to discover, discard and destroy such bulbs as show obvious signs of disease.

Soon after the supply of Japanese bulbs begins to tail off, further stocks start arriving from Bermuda—which, not so many years

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ago, used to enjoy a trade almost as extensive as that of the Japanese.

Last on the list of arrivals come the New Zealanders, which arrive in May - June. So far, the growth of bulbs in New Zealand for export is in its infancy. Some enterprising pioneers have made an eminently courageous and successful start. The consignments of bulbs sent by them to this country being well grown to standard and thoroughly healthy. These latter will provide the late flowers desired by your correspondent.

Brief allusion has been made to professional growers of lilies for the cut-flower market. These gentlemen ensure a constant supply of bulbs by purchasing large stocks, keeping them in cold storage at a temperature just above 32° Fahr., and withdrawing the cases as required. The bulbs are forced, flowered, cut, and the spent bulbs thrown away. It is also worth noting that the market growers take full advantage of each crop as it arrives. It stands to reason that to pay rent for a case of lilies in cold store, when you can get a similar case on the market for which no rent is necessary, is bad business; so that the cold-stored bulbs are only really used when fresh bulbs are not available.

The Japanese bulbs are offered in nearly every January bulb and seed list.

The addresses of retailers of Bermudan bulbs could be obtained from the Secretary to the West Indian Committee, Trinity Square, London.

The New Zealand bulbs from Amos Perry, Hardy Plant Farm, Enfield, Middlesex; and, if your correspondent obtained any from the latter source, why not try L. sulphureum? A lily of conspicuous beauty, late flowering, that in England requires, save in favoured spots, the adventitious protection of a greenhouse in October, but which in Guernsey should, by rights, thrive exceedingly.—C. J.

PETROL AS A REMEDY FOR AMERICAN BLIGHT.

SIR,—In your issue, December 8th, 1926, H. G. Longford, in criticising my hints on American blight, says that petrol is of little use in the winter months, as the pest is safely protected *within* the bark. Does he mean that it burrows into the bark? If he does, I think he is greatly mistaken. It is stowed away tightly in the crevices and folds of the wound in which it has been working, and if petrol is tried as a remedy it will do its work just as effectually as methylated spirits at a *portion of the cost*, and, as I said, is *procurable in every village in the kingdom*. I have never seen a tree so badly infected as to have it on the new growth and if I had one such tree I should certainly grub it up, for my own as well as my neighbours' sake. Such a tree would infect a whole neighbourhood by flying aphides. Unfortunately, there is no cheap means of killing it on the roots; flooding for forty-eight hours will kill it where it can be done; or fumigating with bisulphide of carbon, which is too expensive. Prevention is always better than cure, and can be done by using blight-proof stock —Northern Spy for preference.—R. C.

AN "ADCO" MUSHROOM BED.

SIR,—With reference to the letter from your correspondent "C. J." in your issue of January 1st on the growing of mushrooms on an "Adco" bed, we send you herewith an extract from a letter, dated October 18th, 1926, from Mr. W. Auton, our horticultural adviser. Mr. Auton's remarks on this subject may be of interest to your readers. "*Re* mushrooms, I regret that I cannot report good results. I have made and spawned several beds this summer, but only one of them has produced mushrooms and that a light crop after an abnormally long time. This was with a mixture of grass cuttings and leaf in about equal proportion. 'Adco' Accelerator being used in the usual quantity. The heap was turned every other day for fourteen days, then made into a compact bed and spawned immediately. I am handicapped in that I have no mushroom house, and the fact that I have produced mushrooms under more or less improvised structures gives some satisfaction, as the results in a mushroom house, where moisture and temperature are more equable, would probably be much better. I consider it is quite right to tell enquirers that the mixture as given above can be used as a substitute for horse-manure in making a mushroom bed, and those who make their beds in a mushroom house will probably get much better results than I have got."—MESSRS. ADCO, LIMITED.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Damping-Off of Early Tomatoes.

Many gardeners complain of damping in tomatoes, especially in December and January. To avoid this, smash up a few pieces of brick and pass through a ¼in. sieve, using the rough for crocks and the fine mixed with the soil. The first pricking off should be four around the edge of a small 60-size pot until they have made a little more root; then after a week or two place singly in large 60's, press firmly round the edge, leaving the soil around the stem a little higher so that when water is given it runs around the edge without touching the stem. In both cases use lumpy soil and scatter a little brick dust on the surface. From 100 seedlings pricked off the last week in November only three have damped.—F. D.

Sweet Peas in Seakale Pots.

Lovers of sweet peas whose gardens are very tiny are advised to try growing their peas in seakale pots or tubs. These pots can be stood on the lawn or path or front door steps, thus saving space in the flower-beds. The pots should be filled with the grower's pet compost up to about 3ins. or 4ins. from the top. Sheets of glass can then be used to protect the young plants, thus making autumn or very early spring sowing quite safe. I have followed this plan for several years and have had excellent results. Plants grown this way bloom three or four weeks ahead of those sown in the open ground in March or April, so that those who can afford space in their beds also will find this plan useful for prolonging the season.—K. B.

Remedy for Cineraria Leaves Curling.

This is to erect a tray 3ins. or 4ins. below the staging on which the pots rest and of the same area as the staging. Scatter thickly on this tray moss, ashes or gravel (preferably moss), about 2ins. thick. Keep this moist, and it will afford the best conditions for cinerarias.

I suggest, as an alternative to this, if it is too expensive: to lay slates on the staging and put the pots thereon. This latter will prevent too much hot air rising directly to the plants and thus keep the plants cool.

Cyclamens do well on such a staging also, and any other plants which cannot do with a dry atmosphere.—H. M. G.

A Cheap Frame.

Bricks being costly, I built three frames for the cost of a bag of cement. This I mixed dry with 4 bags of clinker broken up the size of cob nuts. I then made some rough shutters the size of a frame, keeping them 6ins. apart to form the wall. The cement and clinkers were well wetted and mixed and the space between the shutters filled in and left for forty-eight hours to set, when the shutters were removed a solid wall was the result, which, after eight years' use, is as good as ever, and no repairs are ever needed. —H. M. B.

Sprouting Early Potatoes.

Everyone likes to have new potatoes as early as possible, and I generally dig new potatoes in my district before any of my neighbours. Getting the seed fairly early, I place each tuber carefully into a shallow box which has an inch or so of leaf-mould at the bottom, and put them under the greenhouse shelf, keeping them just moist. By March they have strong shoots, and have also started root action into the leaf-mould. Lifted carefully out and planted into the potato plot, they never have a check, and are soon above ground going strong. This is my secret of getting the earliest potatoes. —W. T. S.

The Care of Cyclamen.

Great care is needed in watering cyclamen. A good plan is to plunge the pots in boxes of sand and when water is needed apply to sand. By this means danger of rotting the corms or falling leaves is obviated.—T. H. H.

Propagating late Chrysanthemums

The late-flowering indoor chrysanthemums should be propagated early in the New Year. Some varieties are what gardeners call shy and do not throw up cuttings very readily. In order to make sure of cuttings, knock the old stool from its large pot and repot in a small one (say 6in.). Use good potting compost, when more and suitable cuttings will be thrown up.—T. H. H.

Practical Method to Produce Early Peas and Broad Beans.

Mix 3 parts loam and 1 part leaf-mould with a little sand. Sift through a fine sieve and place the soil in the greenhouse for a few days before using, to warm and dry. Secure some plant pots (large "60's"), put in a few leaves, then three-parts fill them with soil. Place five peas in a pot, broad beans two in a pot. Cover with fine soil, leaving ½in. from rim of pot for watering, then place in greenhouse. One watering is sufficient until the seeds have germinated. When 2ins. high place in a cold frame with plenty of air day and night. When planting outside, open a trench with a spade 3ins. deep. Each pot will form a clump if placed 10ins. apart in rows. I have found Peas Little Marvel and Pioneer, and Broad Bean Mazagan, the best for early use. Recommended by a firm of market gardeners and tried for years without failure.—B. R.

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GREENHOUSE NOTES

Some Hints on Forcing.

THE following are a few general hints on the forcing of vegetables and fruits under glass or in darkness at this season of the year. I will first refer to fruits, mainly grapes, peaches and nectarines. It was a general practice, forty years ago, to place fermenting material in a heap in the vinery, near mid-winter in order to supplement the heat from brick flues and hot-water pipes. In the case of brick flues, the dry heat from them was counteracted by the moist heat arising from the hot-bed on the vine border. The warmth also affected the roots of the vines, and the latter began to grow very kindly.

In these days, when fuel is scarce and dear, amateurs may, with advantage, make up hot-beds in their vineries to assist the growth of the vines. Bulbs in pots and boxes, spiræas, deutzias, azaleas and similar kinds of plants in pots may be placed in the vinery and, at first, near the manure heap, and their growths will be hastened. Directly the vine buds break, remove the heap of manure from the house. Rhubarb and seakale may be forced under stages, being kept in darkness by fixing mats in front of the stage. Hot-beds, under garden frames, do at first emit rank gases, and these would be harmful to tender growths if confined in a closed frame. There will not be any danger to plant life if a small opening is left at the top of the frame, as these gases soon escape.—HANTS.

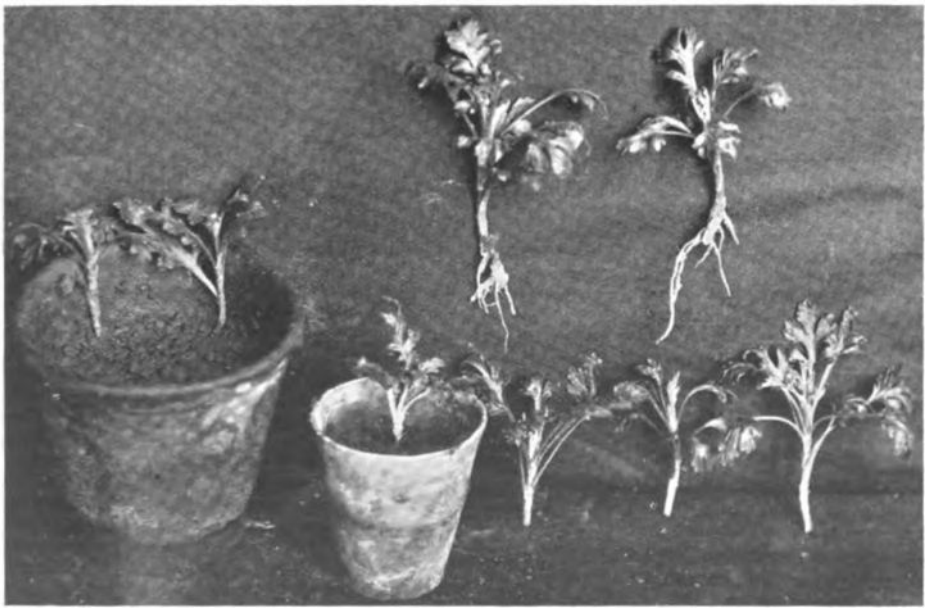
What to Do With Your Regal Pelargoniums Now.

AT the present time there are two sets of plants under notice: those which bloomed last spring and were subsequently cut back, and young plants which were struck from cuttings in July or August. Possibly the latter may have been kept in pans or boxes all winter and are ready for potting off. Now is the opportunity for attending to them. Four parts of old loam to one of leaf-mould and a good sprinkling of coarse silver sand will meet their requirements, and a 5in. pot will suffice for the largest struck cuttings. If old plants were not repotted last year, the same procedure should be followed with them, after shaking away some of the old soil from the roots. In their case an addition can be made of old manure broken up, that from a mushroom or cucumber bed, if available, will answer the purpose.

Cool treatment in all stages is best for regal pelargoniums. This means that during the winter the temperature of the house should be just warm enough to keep out frost and dispel damp. Air is essential whenever it can be given with safety, and it is often better to keep a little fire in the stove to admit of the ventilators being lifted, rather than keep the house close. The coolest quarter of a greenhouse, which may be on a shelf near the roof, or not far from the door, is often the best arrangement one can make, especially when other plants have to be considered; but wherever the position is, it ought to be one where they can be readily seen and easily attended to. During winter and early spring watering should be done sparingly, avoiding a too wet state, or too dry, the latter often accounting for the easy access of green fly and red spider in overheated houses. Sturdy grown plants ought to be the aim of the grower, and this is only achieved when they are grown under temperate conditions, and not too far away from the glass. These handsome flowering plants give the best results when given cool, rational treatment. It is when grown in extremes of heat that trouble begins, and those who have them in hand will be well advised to go slowly in the matter of heat, and, above all, not to forget that fresh air is necessary to their well being between now and their blooming period.—W. F.

Taking Chrysanthemum Cuttings.

THE present is a time when efforts should be made to secure a stock of healthy young chrysanthemum plants for next season. This is accomplished by taking cuttings—not of the stems or shoots of the old plant, but of the numerous shoots that spring up from the roots. These, if severed from the old plant, with roots attached, quickly make new plants, but much better specimens are evolved by the use of simple cuttings, *without* roots. Such cuttings can easily be taken when the new shoots are a couple of inches above the soil. The lower leaves are stripped off and the cuttings are planted around the insides of a pot containing sandy soil, where, in a few days, roots are produced freely, without applied warmth, under the shelter of glass. Then the little plants are potted up into small-sized pots, and thereafter shifted into larger sizes as the growth demands. A simple process that the veriest novice can undertake with success.—H. D.



SHOWING TYPES OF CHRYSANTHEMUM CUTTINGS BEFORE AND AFTER ROOTING.
Method of inserting cuttings round the side of a pot, and potting up rooted cuttings is also shown.

NEW SHOOTS SPRING FROM THE BASE OF AN OLD CHRYSANTHEMUM PLANT.
They quickly make new plants if cut away.

Starting Tuberous Begonias.

THE tuberous-rooted varieties are very useful for greenhouse decoration, and are easily raised from seed if a temperature of 50° to 60° can be maintained. A light sandy soil should be used for seed sowing. The seed pots or pans are best prepared and well watered some hours before it is intended to sow the seeds. The fine, dust-like seed should be carefully and evenly distributed over the surface, and should not be covered with any soil. After sowing, cover the pan with a piece of glass and shade with paper until germination takes place. By this method no watering should be neccessary until after germination. This is the best method of dealing with all fine seeds.

When it is necessary to afford water, stand the seed pan in a vessel of water. Damping often results from watering overhead, especially early in the year when there is not over-much light.

Where there are no facilities for raising seedlings, or one does not wish to trouble, it is an easy matter to get a display from dry tubers, which can be purchased or saved from year to year.

The tubers should be laid in boxes of leaf-soil and sand, placing them in a warm moist house with a temperature of 60° Fahr. When they have started into growth they should be placed in suitable sized pots, using at this stage a fairly light potting compost. Where such a high temperature cannot be afforded, an ordinary greenhouse will answer the purpose, in which case it is wise to defer the starting of the tubers until the end of February or March, giving them exactly the same treatment.

Fibrous-rooted begonias, the many fine varieties of which are commonly used for summer bedding schemes, should be much more generally used for greenhouse and general decorative work. They are easily raised from seed in the same way as the tuberous-rooted varieties; they are also easily

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increased by means of cuttings, but basal shoots must be secured for this purpose. This class of begonia grows freely in any good potting compost, and succeeds in any ordinary greenhouse. A few of the best varieties are Bonfire, Pink Profusion, Prima Donna, Glory of Erfurt, Purity, Loveliness and Fairy Queen.

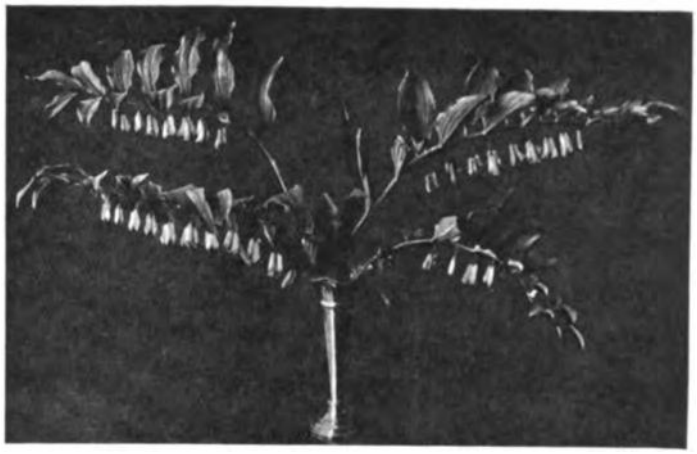
Present Treatment of Annuals.

ANNUALS raised from seed sown last September and intended for greenhouse decoration, should, as they require it, be placed in their flowering pots, which will vary in size according to the various subjects grown. While 5in. pots will suit small-growing plants, others, such as schizanthus, godetias, clarkia, mignonette, etc., will require pots 6ins. in size to do them justice. The potting soil should consist of a good medium loam with enough sand to keep it open and porous. Unless the loam is very heavy, I do not advise the use of leaf-soil in potting composts for growing annuals—without it, growth is much more sturdy and compact. When they have filled their flowering pots with roots, they can, if necessary, be assisted by feeding, using some approved fertiliser for this purpose, applying it strictly according to instructions. They should also be kept carefully staked and tied.

Where the sowing of seeds of annuals was neglected last autumn, it should be done now if it is desired to grow this class of plant for conservatory decoration. All the subjects generally used for this purpose can easily be raised in an ordinary greenhouse. To ensure success the chief points to be observed are, in the first instance, thin sowing, pricking off the seedlings before they are crowded, careful watering at all times, and cool treatment in a bright airy greenhouse. Annuals commonly used for this purpose are schizanthus, mignonette, godetias, clarkias, rhodanthes, nemesias, viscarias, Lobelia tenuior and Phlox Drummondii. There are, of course, many others that will suggest themselves to anyone interested in this class of plant.

Solomon's Seal in the Greenhouse

WHILE most people are familiar with the fact that lilies of the valley and bulbous roots arec apable of being brought into flower very early in the year by introduction to heat, it may not be generally realised that Solomon's Seal lifted from the garden ground will force very readily and will bloom very early in the year. This plant also responds readily to the much lower temperature of an "unheated" glasshouse. Roots taken up and potted now will soon produce shoots, and in a short time the beautiful arching stems with much larger and whiter flowers than those on the outdoor plant, will unfold.



SPRAYS OF SOLOMON'S SEAL MAKE FINE INTERIOR DECORATION.
The plant can easily be forced into early flowering in the greenhouse.

MAKING A GOOD LAWN

WHERE it is desired to make a new lawn, or remake an old one, no time must be lost in preparing the ground. It is most important that two or three months should be allowed for the settlement of the soil before anything like the laying of turves or the sowing of seed is attempted. If the surface is not really firm when the concluding stages in the making of the lawn are carried out numerous little hills and hollows are sure to appear. In the case of an old lawn, which it is wished to reconstruct, the grass should be stripped off to the depth of 2ins. Place this on one side and then proceed to dig the ground in sections to the depth of 9ins. Open out the ground to the depth of about 6ins. and replace the turves, bottom upwards, in the hole. Now fill in the soil, and if it is possible to add a layer of farmyard manure this is all to the good. New ground with rank grass should be treated in a very similar manner. Where the soil is water-logged or clayey, drainage should be provided by placing a layer of sand, ashes or rubble as a foundation. The surface of the ground where the lawn is to be should be left loose, and it must not be trodden on or the beneficial action of frost will not have full play.

There are, as has been stated, two ways of laying down a lawn, one from turves and the other from seeds. By following the former method it is possible to secure a lawn in the shortest possible time, but nowadays turf of good quality is not always easy to obtain and it is usually somewhat costly. A lawn that is secured by means of seed gives a sward that has a freedom from weeds, and this method is much the cheaper way of setting to work. Turf for a lawn is usually supplied in pieces 3ft. by 1ft., and its cost depends upon the local supply and the expense of cartage. The great thing is to see that it is free from rank weeds and without too great a proportion of clover. Before ordering the turf the area to be covered should be carefully levelled and otherwise prepared. Some kind of a beater will be needed, and this is usually formed of a square piece of wood, 2ins. in thickness and about 18ins. square, attached to an old broomstick which slopes from the wood at an angle of 45° and forms a convenient handle. This beater is made to beat the turves down so that they may lie well in place and take root freely.

Of course, the business of digging over the ground before turfing is one that calls for some care, as a level surface is important. A good plan is to dig in small sections and level by treading as one goes. Clear away any stones, and also free the ground from weed roots. It is an excellent idea to pass a small roller over the ground before actually beginning to lay the turf. Start in the middle of the plot when laying the turves and work towards the edges. Be most careful that the turves actually fit well at the joints and any faulty piece of turf should be kept at hand to cut up into small pieces for little repairs. When you have the turf down evenly go over it with the beater and then give the whole thing regularly. Do not trim the edges of the turf until the grass plants have really started growing, and then use a half-moon cutter in conjunction with the garden line.

Of course, the laying of turf can be carried out at any time during the winter providing the weather is mild. A lawn from grass seed is most successful of all if the sowing is carried out in April. When the ground has been prepared as described above, it should be left until the end of February. Then the levelling of the site must proceed as if for turf, and it is a good plan to set pegs in the ground at intervals of 6ft. and to make tests with a level straight edge across the tops of the pegs and a spirit level. When sowing a lawn it is best to make up the actual edging of the lawn first, and this may be composed of lengths of batten, creosoted, and nailed to pegs driven into the ground. The pegs should come on the side of the batten away from the lawn. Another plan is to make up a narrow edging of turf strips around the site. When the surface soil has been levelled rake into it the following fertilising mixture at the rate of an ounce to the square yard: 2lb. of superphosphate of lime, 1lb. of bone meal and 1lb. of sulphate of ammonia.

In April work up the soil to the tops of the batten, which should be about 2ins. above the ground adjoining the lawn. Again remove any stones or weeds and rake and roll the surface until it is quite level. It is most important to buy only the very best grass seed, and the surest safeguard is to purchase from a reliable firm. Choose a a dry day for sowing, and divide the plot into sections 6ft. by 9ft., and do one division at a time, allowing ½lb. of seed to each section. Sow the seed carefully and evenly; then rake it into the surface and cover very lightly with a mixture of dry soil and sand to which, if possible, has been added some bonfire ashes. To keep away cats the newly sown lawn may be covered with brushwood or netting. Another way is to have lengths of black cotton stretched between little stakes. Cats and birds, too, are very much afraid of cotton, and will never venture near when there is anything like this about.

A new lawn should be cut with great care, and the grass must not be touched until it is 2ins. or 3ins. long. Then use shears or a scythe, employing a board to stand on while doing the work. It is impossible to establish a good lawn where worms are present in large numbers. Where the wormcasts are very much in evidence, use one of the recognised worm killers, which, if handled according to directions, will not harm the grass but will certainly destroy all the worms.

When turves have been used in the making of a lawn it is of the utmost importance to keep a sharp look-out for weeds. These will start growing with great vigour very soon after the turf is laid, and they should be completely eradicated at once. If, during the first year of a turf lawn, weeding is thorough and systematic, there will be very little trouble later on.

L. B.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

How to Prune Bay Trees in Tubs.

I have two standard shape bay trees growing in tubs. Would you be good enough to advise me as to whether they should be pruned. If so, correct date to do this, and also whether they require any special treatment. I find the branches droop, probably owing to the fact that they ought to be pruned.—W. J. B., Surbiton.

The second half of April is a good time to prune bay trees. If they make much new growth during the summer, prune again at the end of July. Shorten the growths sufficiently to keep the trees to the formal standard shape. It is not natural for the growths to droop. This suggests that at times the roots are allowed to become very dry before water is given.

Cherries for a Small Orchard.

Will you kindly tell me the best cherry trees to plant for a small cherry orchard, on a field sloping and facing south-west, exposed to wind, but well drained. Soil, I think, the same as the rest of the field, clayey loam; a good many stones work up in the part I have made into a kitchen garden. There is no shelter except by the hill which protects from the east. I want to plant about three dozen standard cherry trees for fruit. Would a clump of wild cherries planted near spoil them? These I only want for their beauty. Please give me any directions or advice as to the idea of this small cherry orchard. There is none about here.—M., Taunton.

The cherry trees should do quite well in the soil and position you describe. The best varieties to grow are as follows:

Early Rivers, black, ripe end of July.
Governor Wood, red and yellow, early July.
Bigarreau Schrecken, black, early July.
May Duke, dark red, July.
Napoleon, red and yellow, August.
Black Heart, July.

If you have space for two dozen trees, you might plant four of each of these, or six of each of the first four named. They are all reliable croppers when treated rightly, and planted together would cross-pollinate one another successfully. As standard trees they should be planted not closer than 20ft. apart each way. Probably a good dressing of lime to the land before planting, and light dressings every third or fourth year afterwards, would be advisable if your soil is of a clayey nature. A clump of wild cherries planted near would be an advantage if anything. However, instead of planting the wild cherries, the fruit of which is of little value, why not plant trees of Kentish Red and Flemish Red? The scarlet fruits of these varieties are excellent for cooking, and are extremely decorative, as are the white blossoms in the spring.

A Climber for a Tennis Court Surround.

I have a tennis court which is surrounded by wire netting 12ft. high. It is shielded by buildings on its west side, and I want to grow some form of climber along the two ends which run east and west. The soil is light, with chalk about 18ins. down. Would you advise as to a suitable type and as to the distance apart it would be necessary to plant? I would prefer a type with bright-coloured flowers, or else flowers which are dead white.—R. A. C., Andover.

The position described appears to be well suited for the climbing rose Albéric Barbier. This has lustrous green foliage which is evergreen, and white flowers. As it is free in growth, 12ft. will be a suitable distance for planting. As the soil is light, work in old decayed manure previous to planting.

Preparing Soil for Rose Beds.

I shall appreciate advice on the following: I have in my garden a rose-bed, size about 40ft. by 15ft. The situation is good, open, sloping to the south. The soil is also good, but a very light sandy loam. I have difficulty in obtaining cow or pig manure, but I can get plenty of clay. How do you advise me to apply the clay in order to make the soil more retentive of moisture? Should it be placed under the roses as a foundation, or spread on the top to keep the moisture in, or broken up and dug into the soil? In dry summer weather my roses go off very quickly owing to the dry nature of the soil.—H. E. C., Weston Favell, Northants.

The proper way to apply clay to a light soil is to spread it out in a lumpy condition on the surface in October. If left so through the winter the lumps will crumble like powder in spring, when it should be lightly forked into the surface soil. Many years ago grassland was "marled" regularly—a blue-coloured clay spread on the surface. If dug into the soil while in a fresh, adhesive state, it will remain so as long as it is buried. You should, this coming spring, lightly bury some of Wakeley's Hop Manure in your rose-beds.

Types of Fruit Trees to Grow.

In a recent issue I notice your advice against standard fruit trees. Is this because space was a consideration or because standard and half-standard fruit trees are not beneficial from the point of view of excellence of crops? In my garden half-standards are preferred at the beginning of forming an orchard where space is fairly plentiful.—E. H. York.

Regarding apple trees, pyramid and bush trees are recommended in preference to standard and half-standard trees in consideration of space, but more particularly because they bear fruits much earlier and more freely when the trees are young. Over a long period of years when space is not important, standard and half-standard trees are preferable. Half-standards are easier to prune when young and the fruits more easily picked. Standards are recommended when the ground beneath and between is cropped, where cattle sometimes graze, or the grass is cut for hay.

Late-Keeping Grapes.

I have a house of Muscats and want to put in two of the best grapes for keeping late in the season. What kind do you recommend? My Muscats did not finish well this year and went off very early. I am relaying the vine pits. What do you recommend to rectify this?—F. R., Ascot.

The two best varieties of grapes for growing in the same house as the Muscats are Alicante and Lady Downes. Both are free-fruiting, and Lady Downes is good flavoured for a late black, and will keep very late in a sound condition. Of course, all late grapes should be started not later than the first week in March, and be coloured and matured by the first week in October to keep well. Late-ripened grapes do not keep satisfactorily. Use fibrous loam and finely ground bones in the renovation of the border, and feed with Thomson's Vine Manure from May to September judiciously.

Fragrant Shrubs for a Lawn.

My front garden consists of two lawns, one square, the other triangular—about 6ft. by 15ft. by 20ft. As an experiment I want to plant the triangular portion with fragrant flowering shrubs and to naturalise bulbs in the remaining grass. If I like the effect I shall repeat the programme in the square lawn. Would you kindly let me have the names of suitable shrubs—preferably some that can be grown fairly quickly and readily from seed—or shrub-like perennials, about six to ten, and as many fragrant as possible? Soil fairly heavy clay with a fair amount of builders' rubbish mixed in it. House faces due north.—R. J. R., Wembley.

We should suggest the following shrubs as being suitable for your purpose: Philadelphus microphyllus (fragrant), P. Lemoinei erectus (fragrant), P. Virginal (fragrant), Hypericum Henryi, Berberis stenophylla Lonicera fragrantissima (fragrant), Chimonanthus fragrans (fragrant), Cytisus albus, Kerria japonica flore pleno, Spiræa prunifolia flore pleno, Buddleia variabilis and Daphne Mezereum (fragrant).

Pruning Apple Trees.

Will you kindly advise me as to the best method of pruning apple trees? I have three in my garden about eight years old. They have not borne much fruit for the last two years, and I think, perhaps, I have not pruned them properly.—J. T., Coventry.

When pruning apple trees the ideal at which to aim is an open-centred tree, with evenly spaced branches radiating from the top of the stem, no one branch crowding or crossing any other. At eight years old the main branches of the trees should now be well formed and subsequent pruning ought to be on these broad lines. Cut back all young long side shoots to two bottom buds and shorten the leading or extension shoot of each branch by about one-third. Side shoots that are 4ins. or less in length may be left uncut; they will make fruiting spurs naturally. If the trees are trained as standards, then there is no need to shorten any but those side shoots that tend to crowd the centre of the tree or interfere with the smaller branches. Of course, at eight years the trees are just settling down to fruit, and we should not, in the circumstances, have expected them to bear heavy crops before this.

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THE GARDEN

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Vol. XCI.—No. 2878 Saturday, January 29th, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2878. JANUARY 29, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

The Preparation of Seed Pans and Pots.

EVERYONE at the present time is thinking about seeds and sowing; in other words, of supplying about 80 per cent. of the crops of an average garden by means of plants grown from seed. Of these, a large proportion are sown outside, and this, at the moment, does not concern us. What may be of assistance to many amateurs are a few notes regarding the sowing of seeds inside. Failure is usually due to three main causes—lack of cleanliness in the pan or pot, absence of sufficient drainage, and the too thick sowing of the seed. Pots that have been stored after the past season, whether washed or not before storage, should be thoroughly scrubbed, rinsed in clean water and dried before use. This will ensure that all mould is removed. Drainage is also a matter of the greatest importance, particularly when the seed does not germinate immediately. Many beginners imagine that it is sufficient if they bottom the pot or pan with a good layer of broken crocks; but that is not enough, for if the potting compost is too heavy and sticky the water will not percolate through and stagnation occurs. When the local soil is gritty or sandy, and so is open, there may be no necessity to add extra sand to the compost, but the heavier the soil the more sharp sand must be added. A good test is to squeeze a lump of your compost in your hand; if it breaks into particles at a touch it is of a good consistency. On the other hand, if it remains a sticky, adhesive mass, it will cause stagnation. Potting mixtures vary according to the local soil, but where this is average loam a good all-round mixture can be made from two-fifths loam, two-fifths leaf-mould and one-fifth sharp sand.

The third cause, that of over-thick sowing, is one which is only too often practised. Seedlings require light and air as much as full-grown plants, and if they are sown too thickly the seedlings on germination will grow thin and weedy in their effort to get light and air. In addition a crowded seed pan is always more liable to an attack of damping off. It will be seen, therefore, that many plants, even at the tiniest stage, should be treated as individuals and not as a mere mass of seedlings.

Two points which often puzzle beginners are the requisite amounts of air and light that should be given tiny seedlings. The first can be dismissed with the advice that the air should never be stagnant, nor should the circulation be so great that the seed pans are in an actual draught. The second requires more individual attention; so long as the seedlings are inside it should be the object of the grower to see that the growth is firm and healthy and that the seedlings are not long and weedy, which tends to soft, sappy growth and renders them more liable to injury and disease. Obviously the two extremes are scorching from too much sun and sappy growth from absence of light. The gardener should aim at a happy mean. With our peculiar climate it is better to use temporary means for shading, such as old newspapers, than more permanent means that are often employed, such as painting the outside of the glass of the greenhouse. It takes little or no time to cover the seed pots and pans with newspapers, and they are as easily removed. It is amazing how quickly plants respond to the presence of light, but it will be found that even on the brightest days in the next two or three months a covering need only be used for two hours in the middle of the day.

International Rose Conference July, 1928.

IT has been decided to hold a great International Rose Conference in London in the beginning of July, 1928, to focus the world-wide interest in the rose. On the first day a rose show will be held to give raisers of all countries the opportunity to exhibit their best productions and, if possible, demonstrate the steps which have led up to them. Awards of cups, medals and certificates will be made.

The second and third days will be devoted to the Conference proper, and distinguished raisers and growers will be invited to submit papers on "The Genetics of the Rose," "Fungus and Other Pests," "The Future of the Rose as a Decorative Flower," "The Future of the Rose as a Market Flower," "Roses under Glass," and "Rose Species." British (including Australian, New Zealand and Canadian), Continental and American experts will be invited to contribute to this programme.

Visits will be planned to Kew, where a fine collection of roses is well grown, and also to several of the leading nurseries.

The time table proposed is as under:

June 29th and 30th	National Rose Society's Summer Show.
July 1st	Sunday.
July 2nd	Visit to Kew.
July 3rd . ..	Visit to Colchester Nurseries.
July 4th	Conference, Rose Show and Dinner.
July 5th and 6th..	Conference.
July 6th	Evening—Soirée.
July 7th	Visit to Lea Valley Nurseries.

If raisers in Australia, New Zealand, Canada, or the United States would like plants of special varieties grown in Britain so that they could exhibit some flowers of such at the Conference, they are requested to get into touch with nurserymen whom they know, asking them to grow the plants. A number have already promised to do so, and to treat the plants as if they were absolutely the property of the senders. Raisers who may not know nurserymen personally in this country, are invited to write to the Secretary of the National Rose Society, who will make arrangements to have the plants grown. Every care of plants sent under this scheme would be taken, and precautionary measures as far as possible be assured. In the case of Continental growers this may not be necessary, as flowers can now be sent by air in a few hours.

The Secretary of the National Rose Society, 28, Victoria Street, Westminster, S.W.1, will be pleased to furnish any further information to all interested rose growers.

HAVE YOU

- ¶ *Pruned your autumn fruiting raspberries?*
- ¶ *Planted out some Jerusalem artichokes in well prepared soil?*
- ¶ *Sown annuals of all kinds in your warm greenhouse? Some of the half-hardy kinds can be used for decorating the greenhouse, the others can be planted outside.*
- ¶ *Made small sowings of tomatoes, onions, leeks and cauliflowers if you have a warm house?*
- ¶ *Sown some radishes, lettuces and shorthorn carrots in frames on a mild hot-bed?*
- ¶ *Sprayed your gooseberry bushes with lime-sulphur to prevent birds from eating the buds?*
- ¶ *Dressed your lawn with lawn sand?*

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 9, which appeared in our issue of January 15th, have been awarded to

Mrs. R. J. Young,
Red Hatch, Ascot.
and
A. E. Bateman,
4, Elmwood Avenue, Feltham.

To each of whom a cheque for that amount has been sent.

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SCARLET AND GREY IN THE GARDEN

Novelty in arrangement and colour scheme is always to be aimed at in the garden in order to avoid monotony. Here is an idea which many amateurs may like to try. A useful selection of subjects is given for the purposes of experiment.

FINE colour though it is, scarlet is often found difficult to manage in a mixed border. It disagrees horribly with pink, crimson and nearly all shades of purple; it makes far too garish and crude a combination with blue or yellow (except orange verging on scarlet), while, although it does not, of course, clash with white, the contrast is apt to be a little too sharp to be quite pleasing. It is most satisfactory when softened by grey, grey-white or blue-grey, and such a combination is seen at its best in a short but fairly wide border of irregular shape, or filling an angle where two mixed borders meet, the colours of the latter being so arranged that they lead up through cream, yellow and orange to the scarlet.

There are not many tall plants with scarlet flowers, but some of the torch lilies reach a height of 6ft. and are nearly true scarlet. Of these, Kniphofia aloides glaucescens is one of the best. The new late-flowering variety, K. Nelsoni Colesborne is, perhaps, a purer colour, but it is only about 4ft. high and is more suitable for the middle of the border. There are, however, two scarlet climbers, which, under favourable conditions, may be grown on poles or a treillage at the back of the border; these are Lonicera sempervirens, the beautiful trumpet honeysuckle and Clianthus punicens, the glory pea, but, unfortunately neither is quite hardy save in warm districts, the glory pea being the tenderer of the two. This is by no means a rampant climber, rarely reaching a greater height then 5ft.

Among the most desirable scarlet blossomed plants of moderate height, that is to say, from 3ft. to 4ft., are the Oriental poppies, of which Papaver Taplow Scarlet and Goliath are specially brilliant in colour. Lychnis chalcedonica, Montbretia Fire King, Gladiolus brenchleyensis, Lilium chalcedonicum, Phygelius capensis, the Cape figwort, and the two scarlet Delphiniums cardinale and nudicaule. The figwort and Delphinium cardinale grow from 3ft. to 3ft. 6ins. high and both are dubiously hardy in the colder parts of this country. The first named needs as much sun as possible, does not mind drought in the least, and is happiest in a sheltered place near the sea, where it will produce its racemes of gorgeous flowers freely. Delphinium cardinale is less tender, but calls for some root protection in winter, especially if the soil is cold and damp. The dwarfer and more compact D. nudicaule, which is useful for a dry border, will stand some degrees of frost, but it is wise to give it a mulch of ashes before cold weather sets in. The beautiful Lobelia cardinalis from North America is tolerably hardy in warm, moist soil, but it is safer under any conditions to lift and winter it in a cold frame. Queen Victoria is a good old variety of this fine plant, but there are several newer ones. I believe the result of crosses with the Mexican L. fulgens—some of which have green and some dark purple bronze stems and foliage, while the flowers vary in brilliance. The best are Lord Ardilaun, Gloire de St. Anne, Firefly and Huntsman.

THE ARTEMISIAS PROVIDE SOFT GREY TONES IN THE BORDER.

Dwarf-Growing Sorts.

Scarlet plants of lower growth, suitable for the front of the border are Geum Mrs. Bradshaw, Potentilla Gibson's Scarlet and Mimulus cardinalis, the last named, however, is not to be recommended for a very dry situation. There are some good scarlet annuals, including Alonzoa Warscewiczii—a big name for such a little plant!—of which Sutton's Compact Scarlet is a satisfactory dwarf (9ins.) variety, A. gracilis being taller and more branching in habit; Cacalia coccinea (18ins.), the pretty tassel flower; Gilia coronopsis (really a biennial but best treated as a half-hardy annual), Dianthus Heddewigii Scarlet Queen (single and double strains), and, of course, the ever useful nasturtiums, of which the dwarf King of Tom Thumbs, with its glowing red flowers and dark leaves, is admirable as an edging.

THERE ARE FEW SCARLET FLOWERS TO EQUAL THE POPPIES.

Plants with Grey Foliage.

To provide the grey tones desirable to blend with and soften the rather hard brilliancy of the scarlet flowers, foliage must be chiefly relied on, but there are at least two grey clematis, Lady Londesborough (patens section) and Otto Froebel (lanuginosa), which may be grown on poles in the back row and both flowers and leaves of Eryngium giganteum and Echinops niveus are grey. Those of the echinops—which grows 5ft. wide—are, indeed nearly white. In my garden I have some old clumps of a tall flag iris of a delicate grey shade which blooms at the same time, June, as the scarlet Oriental poppies, with happy effect. I do not know its name, but of the newer varieties, perhaps Willie Barr is the nearest to it. The effect of Gypsophila paniculata, when in flower, is that of a silvery cloud and it should be freely introduced among the scarlet flowers. If clumps of it (single or double) are planted immediately behind the big poppies, a very little coaxing will induce its feathery branches to conceal the former in their ugly, after-flowering stage. The shrubby Santolina chamæcyparissus makes neat little grey bushes if carefully pruned and there are two silver-grey salvias, S. argentea and S. Sclarea, the latter, rather oddly,

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harmonising quite well with scarlet in spite of the fact that its bracts are tinged with pink when they first open. For the front of the border there are Cerastium tomentosum and C. Biebersteinii; Artemisia Stelleriana and A. frigida. Stachys lanata, the well known Lamb's Ear, all of which are from 9ins. to 12ins. high, and to the list may be added an annual, Omphalodes linifolia, which has greyish glaucous leaves.

It may be added that if the border is a wide one, young trees of Eucalyptus globulus, E. Gunnii (hardy enough in their youth, although short lived in our climate), and Hippophae rhamnoides (sea buckthorn), all of which have silvery-grey foliage, may be planted in the background with excellent effect.

R. E. HEAD.

NEWER AND BETTER SWEET PEAS

QUITE a number of really good varieties of sweet peas have been introduced during the past two or three years, some of them outstanding improvements. For the benefit of those readers who are not in close touch with sweet pea matters, I will discuss the best of recent introductions in brief detail under the most popular colour sections.

White.

Since the time of the old favourite, Dorothy Eckford, many whites have come and gone, few of them attaining real popularity. No matter how small the collection of varieties, every grower must have a white. At the present time, Constance Hinton holds premier position; but there are two new ones, either of which may take the place of Constance in the near future. Avalanche is undoubtedly the best white-seeded white in commerce, a great improvement on Edna May, Florence Wright, etc. It is pure and opaque, with plenty of substance, a large-flowered, long-stemmed and vigorous-growing variety which has greatly pleased me. The other newcomer is Model, a dark-seeded novelty closely resembling Constance Hinton. White Lady is another good variety, perfectly fixed, and ahead of many in its class.

Pink.

The first variety of the waved or frilly petalled type was a pink, Countess Spencer, and there are many, many shades of pink and numerous excellent varieties in this colour section to-day. Mrs. Horace Wright, a medium pink flushed on white ground, is one of the largest, if not *the* largest flowered variety we have, a first-class pea for any purpose, very vigorous, long-stemmed and an ideal form. Carmelita is really a brighter coloured Mrs. Horace Wright, but not quite so large or robust. Nevertheless, it is a fine novelty. A rather startling and uncommon shade of pink is found in Tom Sykes, which is richer and much brighter than Hawlmark Pink, with almost the same habit of growth as that variety. A rich salmon pink well worth a place in any collection is Mrs. Chas. W. J. Unwin, very large and vigorous. It must be said, however, that its colour tone is slightly variable. Gladness was illustrated in colour on the back cover of THE GARDEN, August 28th, 1926. It is a new shade, a light coral pink. Another dainty and attractive pea is Supreme, of a china pink. Delight is another good variety of a delicate shade of salmon pink. It is a fairly vigorous grower and does well under glass.

ONE OF THE MOST STRIKING SWEET PEA NOVELTIES: PIMPERNEL, VIVID SCARLET.

Cerise.

There was a time when every variety in this colour section was weakly growing and small flowered. Now, we have two of the most vigorous of all in the bright cerises, Charming and Coralline. Both are large-flowered, exceedingly vigorous, and alike useful for garden and home decoration as for exhibition purposes. These two are very similar except that Coralline is slightly the richer and deeper coloured. With the rise of the cerise colour class, one has noticed a corresponding decrease in public favour of the carmines and roses, which are now rarely required in small collections. Centaur and Peggy are another pair, very much alike in colour and habit. While they are not quite so tall-growing as Charming and Coralline both are robust, large-flowered and even more richly and warmly coloured than Coralline. One of the most distinct novelties of recent years is Del Monte, a rich salmon cerise pink. It is a good pea in every way and, I think, should be classified as a cerise rather than a pink. In artificial light it is superb, seeming to glow.

IVORY PICTURE, A VIGOROUS AND LONG-STEMMED VARIETY.

A CHARMING BLOOM OF HAWLMARK PINK.

Scarlet-cerise.

Grenadier, the improved Royal Scot, is already well known and popular. It is a bright geranium red and, like all varieties mentioned in this section, is perfectly sunproof and, indeed, seen at its best in bright sunshine. Pimpernel is practically identical. Possibly 2LO should be called a true scarlet, it is so vividly coloured. In sunny weather, it is most intense and glowing, a fine pea for garden decoration or for any purpose, and a great improvement on the older variety Wonderful. Delightful is another brightly coloured variety which was well illustrated in colour on both back and front covers of THE GARDEN, August 28th. A 1926–27 novelty, Daventry, seems midway in colouring between the cerises and the scarlet-cerises. It is a beautiful shade of orange-red or red-cerise. Just as the cerises have somewhat replaced the roses and carmines, so the scarlet-cerises—being bright and sunproof — are reducing the degree of popularity formerly enjoyed by the orange-scarlets.

Cream.

What Joy is probably the deepest coloured new cream, a large and vigorous improvement on Daffodil. Leslie Rundle is lighter, but a large, robust and long-stemmed pea of some merit. Cream Perfection is an improved Matchless, which can be recommended to exhibitors. A variety which has impressed me very favourably this season is Ivory Picture, the colour of old ivory. It is long-stemmed, very robust and large, but with a tendency to show a pinkish flushing if green fly are allowed to get a hold on the plants.

Blue.

While the ideal blue has yet to be raised there are one or two attractive varieties among recent kinds. Heavenly Blue is a bright and

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clean medium blue which, for colour alone, I like better than Mrs. Tom Jones or Bluebird. It is a fine garden pea. Blue Butterfly is about the best of the pale blues, a silvery lavender-blue, dainty and sweetly scented. Both Royal Blue and Fortune are deep navy with a violet sheen, rich and bright, after the style of Commander Godsal or Jack Cornwall, V.C. As a rule, the dark blues object strongly to adverse weather conditions. Royal Blue was illustrated in the August 28th number of THE GARDEN. It is a nice point whether Black Bess should be included among the dark blues or the black-maroons, for it falls about midway between the two. Perhaps it is best described as a bronzy, deep blue with a glossy metallic sheen.

Crimson.

There are only two new crimsons of note, both very much alike in colour—Sybil Henshaw and Red Gauntlet. Sybil is a bold, massive blood crimson, very vigorous and sunproof and an excellent pea in every way, which, I feel sure, will displace Charity. Red Gauntlet may best be described as an improved Crimson King.

Lavender.

While there are many shades of lavenders in commerce, the three I shall mention are all more or less alike in tone, and quite distinct from the most popular lavender at present, Powerscourt. Wistaria is reminiscent of that old favourite grandiflora variety Lady Grisel Hamilton, a bright, clean lavender with a blue shading. Mermaid is very similar, slightly lighter and a trifle larger than Wistaria, while Gleneagles is a clean bright tone which cannot fail to please. All three are robust and long-stemmed.

Purple.

I have seen two really good new purples this season, both rich solid self colours. One was Olympia and the other a seedling sent to the N.S.P.S. trials by Messrs. Sutton. The latter may be introduced this season, but at the time of writing I have not heard its name. Both are, I feel confident, substantial improvements on Royal Purple.

Mauve.

Just now we are having something of a deluge in the way of new mauves; but it is a colour section in which improvement was needed. Last season, Mauve Beauty was placed on the market, and this year (1926–27) we have Chieftain, Royal Mauve and Guardsman, to name the four best. All are first-class varieties and improvements on older kinds, such as King Mauve or Lady Evelyn. There is very little to choose between them; but I, personally, like Chieftain best.

Cream-pink.

In no colour class has there been greater advance made during recent years than in this. In the salmony cream-pinks we have three very rich and delightfully warm-toned varieties in W. J. Unwin, Miss California and Magnet. It is purely a matter of personal taste as to which is considered the best. Miss California is the deepest coloured, W. J. Unwin the largest flowered, and Magnet the richest. All are good garden and decorative peas. In lighter and, perhaps, daintier tones we have Venus, Mary Pickford and Delight. The first-named is really an improved Mrs. Arnold Hitchcock, large and extremely vigorous and long-stemmed. Mary Pickford is frilly, a soft, dainty and very pleasing pea indeed. Delight is best described as a salmony-apricot pink on cream, soft yet very rich. It should be shaded in sunny weather to preserve its delicate colouring, and needs good culture.

A Good Dozen.

My personal choice of a first-class dozen from among the various kinds I have mentioned above, one from each colour section, would be as follows: Avalanche, Mrs. Horace Wright, Coralline, Grenadier, Ivory Picture, Heavenly Blue, Sybil Henshaw, Mermaid, Olympia, Chieftain, Miss California and Lilac Queen. All these are excellent general-purpose varieties, with no "fads and fancies," and likely to conform to average tastes. C. H. A. S.

THE FLOWER GARDEN

A Good Wall Shrub.

THE genus cotoneaster has been considerably enriched of recent years, and so much space devoted to the new species and varieties that it is possible for the older members to be partially forgotten. In this category is the distinct C. horizontalis, or herring-bone cotoneaster, a name which visitors often bestow on this plant during the winter months when it has lost its leaves and berries.

It hails from China, and is a deciduous, low shrub from 2ft. to 3ft. high, therefore it is admirably suited for low walls. Facing large rocks on the rock garden it is quite at home, especially if stones are chosen for their width rather than the height. Here the true character of the plant will be revealed, as the branches extend in a horizontal manner. These are clothed with roundish green leaves, and the small white pinkish flowers appear in May. It is, however, the bright red fruits which are noteworthy. They are produced in quantity, and are at their best during the autumn months. About this period the foliage begins to change to reddish tints, and by the end of December the branches are bare. In addition to covering low walls, it can be used in the front rank of the shrubbery, where it will form a flat-growing shrub. I have this cotoneaster growing in several positions, but the best fruiting examples are found where there is a fair amount of sunshine. It is quite hardy, and should be planted before the growing season begins. Propagation is effected by cuttings, which readily form roots in a cold frame, but as a rule plenty of seedlings will appear in close proximity to the old plant, if the conditions are favourable to germination.

I have fruited several dozens of seedlings, and so far have not seen any departure from the type. It is an easily-grown plant, and is one well adapted for small gardens.—T. W. B.

COTONEASTER HORIZONTALIS, WITH ITS SPREADING SAIL-LIKE BRANCHES, MAKES A GOOD SUBJECT FOR WALL DECORATION.

A Free-flowering Broom.

PLANTS are often required for the rock garden that will effectually drape a large stone or rock, and at the same time furnish a good display of bloom in due season. In Cytisus kewensis we have an ideal subject for this purpose, for it is indeed a lovely plant raised at Kew in 1891 from C. Ardoini and C. albus. Being of hybrid origin, it is necessary to increase it by means of cuttings. It is a low procumbent shrub, 6ins. or 8ins. high, but once the roots become established it will grow freely, and form a dense mass several feet in diameter. During April and May the plant will be in bloom, and the long trailing shoots form a perfect cataract covered with cream-coloured or pale sulphur-yellow flowers. These are about half an inch across, and somewhat similar to C. præcox, but rather larger than that species. Altogether it is one of the finest plants for the rock garden, while it would also be a decided acquisition for planting on the top of low walls, where its trailing growths when in bloom could be seen to the best advantage. C. kewensis, like other members of the genus, is easily grown, and is not particular in regard to soil, providing it gets the brightest spot in the garden. This choice member of the broom family can be planted at any time, because it is grown in pots by the trade. Owing to the fact that it transplants badly it is wise to select its final station carefully and then to get it planted while still on the small side. —CHEPSTOW.

Japanese Anemones for the Shady Border.

FEW plants make a finer display from August to October than the various forms of A. japonica, or the Japanese anemones, a name by which they are popularly known. They are first-rate herbaceous subjects for border or permanent beds, and one often sees a delightful clump in cottage gardens, especially the old Japanese white anemone, which is still one of the best. This attains a height of 2ft. or 3ft., the elegant foliage and the large open saucer-shaped pure white flowers are always effective. They are ideal for cutting purposes, and when planted in a bold clump no plant in the border will be more conspicuous during the early months of autumn. The type A. japonica is similar to the above, but the flowers are clarety red and hardly worth a place in these days when so many other fine varieties are available at so small a cost.

Among the white forms will be found Honorine Joubert, which

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is a great favourite, while a semi-double snow white is Whirlwind, a really fine plant well worth growing. An exquisite and beautiful variety is elegans, sometimes known as rosea, which produces large silvery or soft rose flowers, while rosea splendens is a pretty soft clear rose.

Another with rose-tinted flowers is crispifolia, the foliage being beautifully waved, reminiscent of some of our greenhouse ferns. This is worthy of a place for foliage alone, which comes in useful for mixing with other varieties when employed as cut flowers. I always grow a few plants for this purpose. Lady Gilmour with light rose flowers is somewhat similar to the preceding regarding the finely cut and crisped foliage. Lovely is extra good, the semi-double large flowers being a delicate rose pink, and another of the same tint is Mont Rose. Several others could be mentioned, but for those who only need the best, sufficient has been quoted; while for about sixpence a plant a good mixture of varieties can be obtained from most advertisers in THE GARDEN.

All the Japanese anemones will thrive in ordinary garden soil, and while a fairly sunny position should be chosen they do not mind partial shade; in fact, I have seen them naturalised in open spaces in woods.

Now is a very good time to plant, and when once planted they should be left alone for several years, as they somewhat resent root disturbance; a fact to be borne in mind when digging over the herbaceous borders.—T. W.

A Neat Plant for the Rock Garden.

THE incarvilleas are few in number, but Incarvillea grandiflora is a great improvement on the old I. Delavayi, and it should be chosen for this reason. Moreover, it is a smaller-growing plant, therefore suitable for nooks in the rock garden, while it is also an acquisition for the borders. It attains a height of about a foot and its bright rose alla-manda-like or gloxinia-shaped flowers are produced in June and July. This charming plant has been awarded a F.C.C. by the Royal Horticultural Society and such a high award has been fully justified by the admirable results obtained by ordinary cultivation. I grandiflora is of Chinese origin, and now we have a handsome variety in brevipes, with large purplish-crimson flowers marked with white. In both these plants the greater intensity of colour is in marked contrast to I. Delavayi, they are more compact in habit, and are suitable for the small garden. During the winter the fleshy roots are dormant, therefore this is a good time to plant fresh clumps. They delight in a deep, well drained soil, which is not on the heavy side, and, for preference, a sunny spot should be chosen. In the rock garden will be found several ideal nooks for this plant, and say, if six roots are placed in one patch, the effect will be most bright and attractive when they are in flower. On the top of each thick root will be found the crown or growing point, and if slugs are prevalent these crowns often get damaged during the inactive period. A good layer of sharp sand will generally keep these marauders at bay.—GLOUCESTER.

Sea Pinks for Edgings and Borders.

THE sea pinks or thrifts, the names by which the armerias are known, are a charming family with thick tufts of grass-like foliage and heads of showy flowers. The finest of all the armerias, however, is Bee's Ruby. It is a robust and strong-growing plant, and is undoubtedly the richest coloured of the group. When in bloom it is about 18ins. high, and the numerous heads of large, handsome, warm rose pink flowers are sure to be admired. This is probably a form of the giant thrift, A. latifolia, but a great improvement on the type. The armerias, and Bee's Ruby is no exception to the rule, will succeed in any ordinary garden soil and almost any position except dense shade. They are admirably suited for edgings to a flower border, for crevices in old walls and rocks, and for producing a display on the rock garden from May till July.

THRIFT MAKES AN EXCELLENT EDGING PLANT. IT GROWS WELL IN ANY ORDINARY GARDEN SOIL AND IS FREE FLOWERING.

When there is a good stock the most ready means of propagation is by division, which can be done at any time from now till early spring, but with a limited stock of plants or rare varieties every opportunity should be taken to increase them. During August a number of the side shoots could be removed, and these will soon form roots if placed in sandy soil either in a cold frame or partially shaded border.

A most suitable companion to Bee's Ruby is Vindictive, a variety of great promise, and one that I have found excellent in every way. On the rock garden it has grown freely and is often in bloom. The flowers on 6in. stems are a deep crimson, and a fairly large patch would be most effective.—T. W. BRISCOE.

Trees with Coloured Foliage.

IN addition to the purple and copper beeches, and the variegated elms, there are numerous deciduous trees which are to be recommended on account of their coloured foliage. The variegated kinds of Acer Negundo are specially striking. Of these the following, which are small-growing and will stand a good amount of pruning, are worthy of note: foliis marginatus aureis has golden variegated leaves; variegatum has silver variegated foliage; and californicum aureum leaves of a bright gold colour. Another interesting golden tree is Catalpa bignonioides aurea. This keeps its colour well through the summer. A beech with golden leaves is Fagus sylvatica Zlatia, but here the colour declines towards the end of the season. There are also some silver-leaved varieties of beech, but none of these is very striking. Fraxinus excelsior aurea is a fine golden-leaved ash, and another form is known as F. americana aucubæfolia. Idesia polycrapa is worth growing for the sake of its large heart-shaped leaves, which have bright red stalks. The cherry plum (Prunus cerasifera atropurpuræa) is a very handsome purple-leaved tree which keeps its colour well. As is well known, this prunus is one of the first of the spring-flowering trees to bloom. P. Persica foliis rubris is another good purple-leaved tree. Pyrus vestita is a handsome silver-leaved tree from the Himalayas. Another golden tree worth growing is Robinia Pseudacacia aurea, which is really very handsome.—S. L. B.

A Hardy Rock Rose.

THE laurel-leaved cistus, C. laurifolius, has gained the reputation of being the hardiest of the cistuses or rock roses, a genus numbering many lovely shrubs, the majority of which are unsuitable for the average garden on account of their tenderness. Some will stand an average winter in a moderately cold climate, only succumbing to exceptionally severe winters, while a very few may be accounted truly hardy in the greater part of the United Kingdom. Among the last is Cistus laurifolius, which general agreement accounts a hardy shrub in all but the very coldest parts of the British Isles. It is well worth growing for the sake of its fine laurel-like leaves and its large white flowers, which show up so well against the dark green of the leaves. Its height is generally given as about 3ft., but the writer, on removing from a former garden, had to leave behind him a fine plant growing in poor, sandy, stony soil, and which was 6ft. high. It was with a pang of regret that it had to be left behind, but it was too large to transplant at the season in which removal had to take place. But C. laurifolius is easily raised from seeds, and soon attains a flowering size. Seeds may be sown under glass in spring. It may also be propagated by cuttings. C. laurifolius is a shrub, too, little met with, and is a really handsome flowering subject.—S. ARNOTT.

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THE BUSY MAN'S PAGE

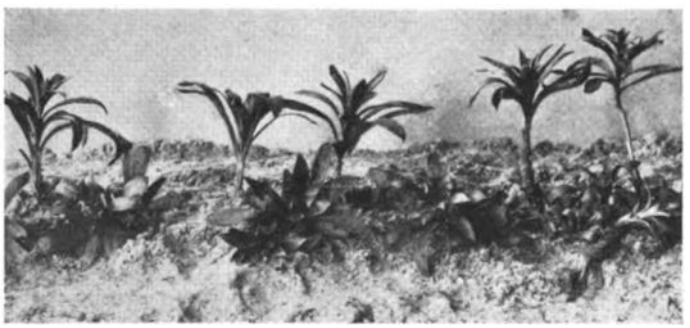
About Digging.

AS a rule, it is better when digging to use the left foot, but a great many people can do better work with their right foot, and to dig in comfort is the main thing. The spade should be thrust into the ground in a perpendicular position, the left hand being slid down the handle and the dislodged soil turned right over. The mistake made by so many beginners, and one which makes digging so back-breaking, is that they go on too long without a rest and a straightening of the back. As well, too, some people take too large a slice of soil at a time, and in this way add enormously to the heaviness of the work. When digging, it is an excellent plan to take a short rest every five minutes or so, during which care is taken to straighten the back and limbs.

Thinning Out Seedlings.

INSTEAD of leaving our seedlings—of any kind—to settle their own destiny under the principle of "survival of the fittest," it is far better to take in hand the shaping and making of the fruitful plant ourselves. Let us *select* the fittest and thereafter see that it survives to prove its fitness.

AN UNTHINNED ROW OF SEEDLINGS.
Note the crowded condition.



A ROW OF SEEDLINGS THINNED OUT.
The uprooted plants are lying on the ground.

When seeds of vegetables and annual flowers are sown, they do not all germinate alike, neither do the seedlings grow alike. Some show a very backward tendency in growth, others take on size rapidly; some are obviously weak and others strong. The aim of the cultivator should be to get rid of this weak and backward plant and retain the strong ones; and this can be done by a system of careful selection during the thinning-out process.

It is folly for the gardener to follow the practices of the farmer and thin out the plants by means of the hoe or the pulling out of handfuls of plants.

First, the seedlings should be allowed sufficient time to show their character, although this must not be prolonged until the plants begin to "draw." Go over the plants carefully and remove sufficient of them to allow each plant at least a square inch of space to itself, taking care that all those that remain are neither too weak in constitution nor too vigorous in growth. The cultivator should make a point of selecting only those seedlings for future growth which represent the average plants. Better flowering specimens are generally obtained by this method. Later on give a second thinning on the same principle of retaining these average plants.

Frost and Plants.

FEW people, when setting out plants, give sufficient attention to the positions selected. Subjects which are known to start very early, or to be of a delicate habit, must be placed in the right situations. It is difficult to get many people to believe that, generally speaking, the more open positions are the best for the tender subjects. On such a spot they do not try to start so early as they would in some corner, but there is an even more important consideration. As a rule, the sharpest frosts occur on a windless night and it does not freeze very hard unless there is something approaching a calm. Now, a calm state of the atmosphere may be brought about in an artificial way, and this is what often happens when a situation is much sheltered by buildings, walls, etc. A delicate plant which is put into what is felt to be a very snug corner may, when frost comes, be enveloped in stagnant air which rapidly falls to freezing point. Out in the open where there is more air stirring, the temperature may not fall so low by many degrees. For the same reason hollows are usually dangerous for plants that are not very hardy. A due south aspect is not by any means the best for plants which are somewhat delicate. A keen night is often followed by a sunny morning, and the warm rays pitching directly on the plants will do an enormous amount of harm to young shoots. A little observation in almost any garden will soon prove the truth of these statements. It is worth while making a few notes at this time of the year and seeing in which situations certain kinds of plants seem to do best. Frequently it is worth while moving a valued plant in order to get it into a more favourable position.

How to Treat Tall Room Plants.

ROOM plants, such as india-rubbers, cordylines, aralias, etc., will often grow very spindly and, at such times, most of the lower leaves fall away, leaving only a tuft of foliage at the top. An excellent way of treating such specimens is on the following lines: First of all, cut a small pot in half with an old saw. Then at about the middle of the stem of the plant make a long slanting cut upwards about half-way through. Hold the upper part of the plant if there seems a danger that it may topple over by its own weight. Now fill the two halves of the small pot with damp moss and place one on either side of the cut portion of the stem. Keep the moss moist, and in a month or so the upper portion of the plant will have sent out a quantity of roots into the material. When this has taken place the stem may be cut just below the pot so that the upper part of the plant is severed from the rest, and this may then be potted up separately. Very often, after this treatment, the lower portion of the specimen sends out shoots so that in the end there will be two presentable specimens instead of one that is very ungainly.

Mending a Cracked Bell Glass.

MANY people are inclined to discard a cracked bell glass, and at such times it is useful to know how to repair the article so that the damaged area will not extend. For the purpose secure some sodium silicate in syrup form, which is commonly used for the preserving of eggs; this can be bought from any chemist. Now get a large dish or tray which is somewhat larger than the bottom of the bell glass. In the middle of this place a lighted candle and pour water to the depth of about an inch on the tray. Place the bell glass over the candle and, without any delay, smear some of the sodium silicate all down the outside of the crack. Of course, as soon as all the air inside has been exhausted the candle goes out. The water prevents the inrush of any more air into the bell glass, in which there is something like a vacuum. Yet the pressure of the atmosphere remains the same on the outside, and, as a result, the sodium silicate is forced into the crack. Leave for about half an hour and then carefully remove the bell glass, standing it on one side. The crack becomes nearly invisible, and every day that passes the sodium silicate gets harder, until it is practically like glass. After about a week the bell glass may be used, and it will be found to be as good as new. This method not only repairs the crack but prevents it from extending.

Preparing Plants for the Summer Flower Beds.

IN March work will increase rapidly and there will not be much time to devote to detail work, and it is the detail work that counts for so much in the garden as elsewhere. Everyone who likes to have a fine display of flowers in the summer must provide many of the necessary plants during the previous autumn and winter months. If there is a good batch of rooting cuttings of zonal pelargoniums, heliotrope, fuchsias and marguerites, they should be examined closely now to ascertain whether any decaying leaves are likely to cause the stems to rot. Remove every decaying leaf by holding the cutting firmly with one hand while removing the offending leaf with the other, then the cutting will not be loosened in the soil and thus be retarded in its growth. The tops of the longest rooting cuttings will be available as cuttings also about mid-March, so it would be unwise to pinch them off and discard them now. The necessary cutting compost should be prepared now and kept in the potting-shed or in a box in the greenhouse. Pots, also, should be got ready now, washed and dried in readiness for the potting season, which will begin in earnest about the middle of February, when the autumn-struck tree carnations will be ready.

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PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

A POPULAR FAVOURITE, GEUM MRS. BRADSHAW.

SWEET WILLIAMS ARE EVERYBODY'S FLOWERS.

Geums. THESE excellent hardy perennials, very showy either in beds to themselves or grown in a mixed border, have risen considerably in favour during the last ten years or so, and may be counted to succeed if plants are given moderately good soil mulched occasionally with rotted manure to conserve moisture. Geums are noted for the brilliant scarlet and orange flowers they yield practically from the middle of May until well on into autumn. Growing from 1ft. to 2ft. in height, they deserve a place in every garden. Young plants planted in April, from a sowing made last summer, will not be long in flowering. Division of roots in autumn or spring is another method of increasing the stock, but the better plan is to sow a pinch of seed every year, either in a bed in the open in May or June, or in a cold frame, as plants so produced give better results. Old plants, if left to themselves, are liable to damp off during winter. The town gardener is advised to bear in mind their worth.

Dielytra (The Lyre-Flower or Bleeding Heart). THIS, the dielytra, known under the generic name of dicentra, is a favourite in many gardens and, though ranking as a hardy herbaceous perennial, is best served if given a position on a warm and sheltered border. It commences to bloom in May, and remains in good condition for weeks onward. Dielytras like a rich soil, and once established are beautiful objects in a garden, both from a flowering and foliage point of view, in early summer. They appreciate mulchings in the way of old manure or leaf-soil from about the time the buds show. They are best increased by dividing the roots in spring. They make nice mid-row plants in a border, and should be planted 3ft. or 4ft. apart.

Tradescantia (Spiderwort). OF recent years amateurs have begun to turn their attention more to the tradescantias and to find in them plants, by the simple culture they entail, worthy of inclusion in their gardens. For long past they have been seen in country gardens, where, among old-fashioned plants they are given their rightful place. Their flag-like, narrow, green and purple veined leaves set off to the fullest advantage their flowers, which are lavishly borne. Tradescantias yield their blossoms from day to day almost, during their flowering season, which is from June onwards. They grow about 18ins. high, and will succeed well in either sun or shade in moderately good soil, Spring or autumn should see planting done, when also the clumps can be divided and replanted singly at 3ft. apart.

Sweet Williams. THIS old garden plant, sometimes treated as a hardy perennial, gives better results as a biennial. Of late years improvements have been effected in the strains, so that from a packet of seed sown out of doors in April or May, seedlings pricked off when large enough, one may have a stock of plants for blooming in the following year. Sweet williams will grow in any good soil enriched with a little decayed manure, and are best planted in groups or masses. They bloom from June onwards for several weeks. Another method of propagation is to take cuttings which appear at the base of plants in July and August, cutting them at a joint, and inserting in a bed of sandy soil in the open ground, shading as may be necessary for a few days. The variety illustrated is a fine strain known as Invincible, raised by Messrs. Webbs and notable for its size of bloom and diversity of colour.

Alstroemeria (Peruvian or Herb-Lily). THIS is a popular hardy plant which is used for massing in a border, and one which will be found to need but simple culture to ensure its success for years. Alstroemerias are tuberous-rooted subjects, thriving best in a rich, light and deep, well drained soil. A warm sunny position is essential, as, for example, a south border with a wall at the back. Clumps are best planted in March, when any division necessary ought to be made. Once established, however, they do not require to be moved very often. In selecting a site, the soil should be dug out to a depth of 3ft., and a good covering of brickbats placed at the base for drainage. They prefer a sandy soil, light in any case, to which should be added well rotted manure, cow dung for preference, along with which ought to be incorporated loam and leaf-mould. After making this firm, the tubers require to be planted 6ins. below the surface and 9ins. to 12ins. apart. During the winter it is advisable to spread over the surface a covering of leaves.

Unlike some other lilies they do not need staking, as they are strong enough to be independent of support. Amateurs who are prepared to give them treatment on these lines will have the satisfaction of having one of the most attractive plants, which will supply numerous blossoms from June to August.

THE BLEEDING HEART OR LYRE FLOWER, DICENTRA SPECTABILIS, A HARDY PERENNIAL FOR A SHELTERED AND WARM CORNER.

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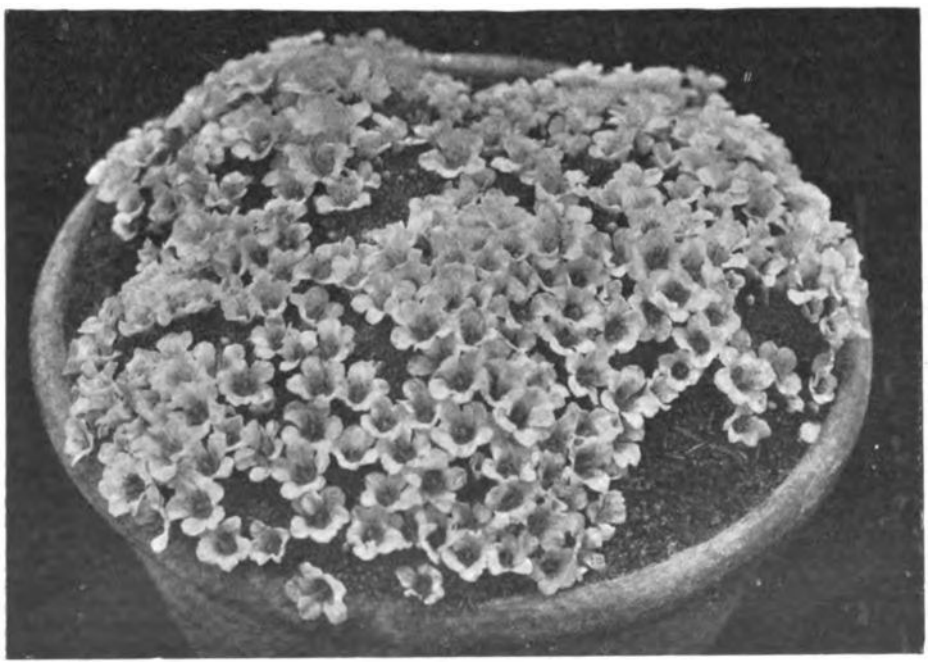
ROCK PLANTS FOR THE COLD HOUSE

Alpine house gardening is an enjoyable phase of rock gardening and many amateurs who possess a small cold greenhouse should make a start with a few of the more easily grown kinds described in this article. In further articles lists of subjects will be given suitable for the more advanced amateur, and also lists of bulbous plants which do well under this treatment.

THE choice of plants which may be used for this purpose is somewhat extensive, but in the following notes a selection of the most easily grown and most attractive kinds is given. The cultivation of alpine plants in pans is an attractive form of gardening and anyone with a small garden may grow many interesting plants in this manner. The amount of accommodation required is not extensive, while the majority of the most beautiful kinds are easy to grow. Once potted up in suitable soil, with perfect drainage, many of the saxifrages and androsaces, to mention only two families out of a great number, require little attention for two or three years. With the advantage of a small greenhouse without artificial heat in which to place the pans when the plants are coming into flower, their value is greatly enhanced, for then one can enjoy their full beauty unimpaired by unfavourable weather. During the rest of the year the plants may be grown with the pans plunged to the rim in ashes in a frame or on a sheltered border outside.

OXALIS ADENOPHYLLA IS A CHOICE ROCK PLANT FOR COLD-HOUSE TREATMENT.



SAXIFRAGA IRVINGII WITH ITS DELICATE PINK FLOWERS IS A GOOD ROCKFOIL FOR PAN CULTURE.

One of the most important families of spring-flowering plants is the genus saxifraga, or rockfoil. This contains many valuable kinds, one of the best and earliest being S. Burseriana in its various forms, with large white flowers borne on slender stalks above a cushion of glaucous spring foliage. Other white-flowered kinds are S. Petraschii, S. Sundermannii, S. Salomonii, S. marginata and S. Jenkinsiana, once known as S. Boydii alba. Yellow-flowered kinds are the lovely S. Boydii, S. apiculata, S. Haagei, S. Paulinæ and S. sancta. Among those having red flowers is the January flowering S. Grisebachii, S. Stribrnyi and S. Frederici-Augusti, while for making a charming show in pans there is nothing to excel the purple red oppositifolia. Of the latter there are several forms, including a good white one. All the above kinds open their flowers from January to March, and are followed by the crusted kinds, like S. cochlearis, S. lingulata and the handsome S. Cotyledon, with its pyramids of white or pink spotted flowers.

Cyclamen are charming plants very suitable for growing in pans and usually open their flowers in February, but remain attractive for weeks. There is C. ibericum, with its rosy purple flowers and faintly zoned leaves, and C. Coum, which differs from the other in having unspotted dark green leaves. After flowering they should be placed outside to complete their growth and the corms should then be well ripened off by exposure to the sun. One of the earliest plants to bloom is the beautiful Adonis amurensis, often in flower early in January. The large yellow flowers are succeeded by elegant foliage.

The early-flowering primulas include the Himalayan P. denticulata, with its dense heads of rosy or lilac purple flowers; P. rosea from the same region, with its pink flowers, and P. marginata, from the Maritime Alps, with its silvery margined leaves and pale lilac flowers in February. These early kinds are followed by numerous others later on in the season, one of the best known being P. auricula, with its mealy foliage and yellow flowers. With the exception of P. denticulata, these are all good perennials and may be grown on from year to year, but P. denticulata is best raised from seed every year.

The androsace family consists of mostly alpine plants growing at high elevations on the Alps of Europe, and on the Himalayas. While many are difficult to grow a few are amenable to pot culture and make charming little plants for the cold house. One of the prettiest is A. Laggeri, which comes from the Pyrenees, where in places it almost takes the place of turf in this country. In sandy peat it forms tufts of deep green foliage, covered in April with umbels of bright pink flowers. Also easily grown is A. sarmentosa from the Himalayas, with rosettes of silvery woolly leaves and bright rose coloured flowers. A. Chumbyi has smaller rosettes and brighter coloured blooms. These plants want loamy soil, with plenty of sand and broken limestone chips and are best propagated by means of offsets, which are produced in abundance. From the Falkland Islands we have a charming plant in Oxalis enneaphylla. This grows about 4ins. high, with glaucous leaves, having about nine leaflets each. From among these the

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large, pure white flowers are produced in spring. A pink flowered kind, O. adenophylla, comes from the Andes of Peru, and differs chiefly in having two flowers on each stem. These plants prefer half shade.

The stork's bill family (erodium) contains several useful plants for our puprose, including the silvery-leaved, yellow-flowered E. chrysanthum, the white-flowered E. amanum and the pink-flowered E. petræum. Closely allied, and of neat compact habit is Geranium argenteum, about 6ins. high, with silvery leaves and pale purple flowers with deeper coloured veins. G. subcaulescens, also of compact habit, has large rosy purple flowers. All these like a sandy or stony soil, well drained.

Gentiana verna, one of the most beautiful of alpine flowers may be grown in pans, potted in sandy soil containing limestone chips, while G. acaulis may be lifted from the open border and potted up in heavy loam to flower in the cold house. An easily grown and attractive plant is the Pyrenean ramondia, R. pyrenaica, with leaves in rosettes close to the ground, and deep lilac flowers with an orange

THE DAINTY CYCLAMEN COUM SHOULD BE INCLUDED IN ANY SMALL COLLECTION.

THE FEBRUARY-FLOWERING PRIMULA MARGINATA, WITH ITS SILVERY EDGED LEAVES.

yellow centre. It should be potted up in fibrous soil and broken limestone, with the rosettes well above the rim of the pot. It does best in half shade.

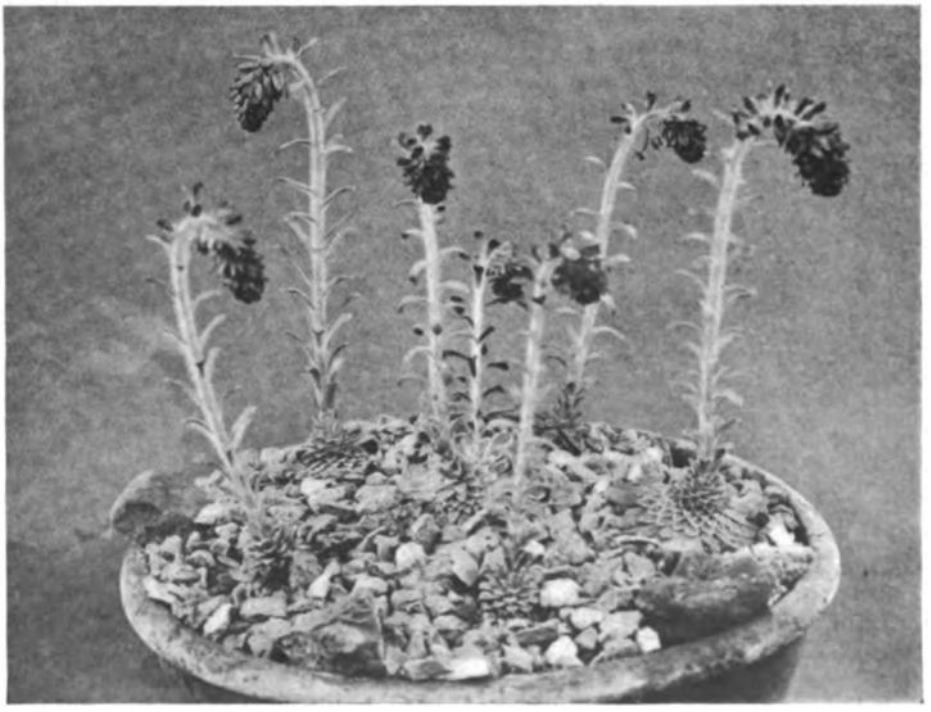
Other miscellaneous plants useful for this purpose are the achilleas, including A. ageratifolia, a dwarf plant with silvery leaves and pure white flowers; A. rupestris, with green foliage and white flowers; and A. Kellereri, a taller, handsome plant, with long silvery leaves and large white flowers. Shortia galacifolia from North Carolina, has white fringed, bell-like flowers. S. uniflora from Japan has large pale pink flowers early in spring. There are drabas of various kinds, also Morisia hypogæa with rich yellow flowers. Mountain avens (Dryas octopetala) is a useful plant with its evergreen foliage and large white flowers. Later on in the spring come the various kinds of dianthus, which are, with few exceptions, readily grown in gritty limestone soil. Soldanellas, too, may be grown in rich, moist, loamy soil containing plenty of leaf soil and sand. The above, and a selection of sempervivums and sedums would make a pleasing display during the spring months.

Although some of the alpine plants from higher elevations require special conditions and soil, a large number are easily accommodated and will flourish freely in gritty or well drained, porous soil. The size of the pans in which the plants are grown is immaterial, but the most convenient for general purposes are those 6ins. or 7ins. in diameter and about 4ins. or 5ins. deep. For saxifrages, sedums, androsaces and such like plants, the pans should be nearly half filled with broken crocks to secure good drainage. When in full growth and flowering, abundance of water is necessary for nearly all alpine plants; but at the same time anything in the way of stagnant moisture is injurious and should be avoided.

A Selection of Plants.

Achillea ageratifolia, A. Kellereri, A. rupestris, Adonis amurensis, Androsace Chumbyi, A. Laggeri, A. sarmentosa, Brodiæa uniflora, Cyclamen Coum, C. ibericum, Dianthus cæsius, D. neglectus, D. alpinus, Draba aizoides, D. imbricata, Dryas octopetala, Erodium amanum, E. chrysanthum, E. supracanum, Gentiana verna, G. acaulis, Geranium argenteum, G. cinereum, G. subcaulescens, Morisia hypogæa, Onosma tauricum, O. albo-roseum, Oxalis adenophylla, O. enneaphylla, Primula auricula, P. marginata, P. Juliæ, Ramondia pyrenaica, Saxifraga apiculata, S. Burseriana, S. Boydii, S. Petraschii, S. Haagei, S. marginata, S. lingulata, S. lantoscana, S. cochlearis, S. Cotyledon, S. longifolia, S. Grisebachii, S. Irvingii, S. oppositifolia, S. Faldonside, S. lilacina, S. Elizabethæ, Sedum spathulifolium, Sempervivum arachnoideum, Silene acaulis and Shortia galacifolia.

The following bulbous and tuberous-rooted plants are most effective when grown in pans. Narcissus cyclamineus, N. triandrus, N. Bulbocodium, Iris reticulata, I. Histrio, crocuses, snowdrops, Anemone apennina, scillas, and muscari. W. I.



A PAN OF SAXIFRAGA GRISEBACHII IS WORTH GROWING FOR ITS RED FLOWERS WHICH APPEAR IN JANUARY AND FEBRUARY.

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THE FRUIT AND KITCHEN GARDEN

Early Potatoes on a South Border.

FEW things are more welcome in the garden than the new potatoes and to secure these at an early date is the aim of every grower. Of course, potatoes may be forced in frames, but excellent results are secured by growing them on a south border which is backed by a wall or fence. A few years ago the writer watched the digging of new potatoes at the end of April in such a position, and these had come to perfection during a season which had brought quite a lot of cold weather. To secure such a result it is important to employ an early variety of potato and also to start the sets as soon as possible. The trays or baskets containing the seed should be placed under the stage in a cool greenhouse or conservatory, care being taken to protect them from frost. Allow only one eye to develop, all the others being rubbed off. Meanwhile the position for planting may be prepared in the following manner. Throw the soil of the border out to the depth of about 3ft. Into the trench place a layer 2ft. deep of strawy manure, treading this well down. On the top of this add about a foot of light soil and, in this, the sets are planted at the depth of 3ins., 15ins. being allowed between each. The surface of the bed should be protected with some litter-like straw, fern, etc., and this should be forked over now and again to prevent its getting into a sodden state. Do not leave the litter long after the appearance of the plants or the stems will become drawn and weakly. At night, and during cold days, protection must be continued and this should take the form of mats, which must be supported just above the plants. A good way is to slant bean poles from the wall to the edge of the rows and then fix the protecting material to these.—S. LEONARD BASTIN.

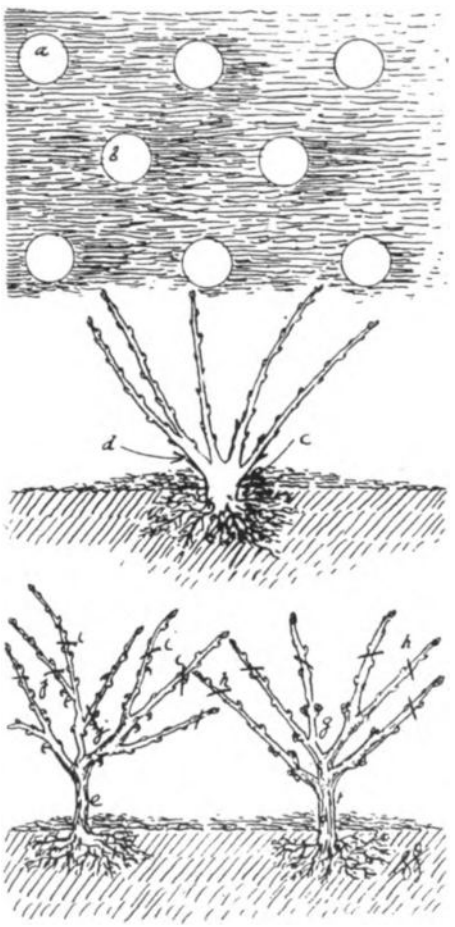
Winter Greens: Planning for Succession.

WE shall be in the throes of sowing seeds of vegetables very soon, and consideration will be given to winter greens, among other things. It is well to consider carefully our requirements in this direction and to make our plans accordingly. Winter green food is not the least useful to the householder, and it is wise to provide what will furnish a good supply for table use for the longest time. If we can make provision for a variety of winter greens commencing in October up to the end of April or early May, then we can face the autumn knowing what will be forthcoming. A small section of our ground, at least, should be reserved for autumn cabbage, and a pinch of seed of Hardy Green or Rosette Colewort should be sown in March; failing these, Christmas Drumhead cabbage, which is finding more favour every season, should be tried. Savoys like Drumhead or Green Curled Dwarf, and Brussels sprouts such as The Wroxton or Carter's Exhibition, will provide much useful food until well after Christmas. In the case of Brussels sprouts, however, it is well to bear in mind that as they need a long season of growth, seed should be sown as early in the year as convenient, in a frame or on a hot-bed, and the young plants transplanted with the least possible delay. Having regard to the usefulness of kale, and its long standing, no one should leave it out of his arrangements. There is a great variety to choose from; Asparagus, Thousand Headed, Jerusalem, Arctic Curled, Cottager's Kale, Russian Kale being among them. One which I have found to be most serviceable is Sutton's A 1, a type of Scotch kale, which provides an abundance of sprouts for March until practically summer, and are as nice at the finish as when the first basket was gathered.

Ground for Winter Greens.—It always pays to grow winter greens by themselves on well trenched or deeply dug and well manured ground, rather than plant them out between other crops. There is nothing gained in trying to achieve the best from two crops on ground where room is to only be found for one.—CLAREMONT.

Planting Bush Fruit Trees Now.

I ALWAYS advocate the planting of fruit trees in the autumn where everything is convenient for duly carrying out the work. But however much we may wish to do the work in the autumn circumstances will prevent us from doing so in some instances. In different parts of the country there is some



fruit tree planting still to be done. If the soil has not been trenched it should be before any trees are planted, even if the latter are not planted before the end of February. Where ground is trenched a lot of garden refuse can be buried provided it does not contain bits of sticks and roots of coarse weeds. Small or surface-rooting weeds may be so buried wholesale. Couch grass and convolvulus roots, particularly, should be cleared out of the soil. If the couch grass is buried deeply in mas. form it will rot, but not so if, practically, it is replanted just under the surface soil. The lily roots should not be buried, but burned or left on the surface where exposure will soon kill them. If plantations are formed the planting should be carried out as shown at *a* and *b*, to ensure every bush the maximum amount of space in which to grow. Red and white currants and gooseberries should be planted 5ft. apart, and black currants 6ft. The tree should be planted with 2ins. of stem buried as shown at *c*, and any pink coloured buds very low down, at *d*, should be preserved, as in due time they will grow and form fine branches. Gooseberries and red and white currants, respectively, should be planted as shown at *e* and *f*. The centre of each bush, *g*, should always be kept open, and the branch-pruning done as shown at *h*, *h* and *i*, *i*, *i*. If there are inside branches likely to grow and cause overcrowding, as shown at *j*, *j*, cut them out now. Well surface-mulch all fruit trees planted now, and if in very exposed positions stake them.—GEO. GARNER.

Completing the Pruning of Fruit Trees.

THE pruning of fruit trees means, to some people, simply the cutting away of practically all the young shoots that grew last summer. But pruning—judicious pruning—means a work that will help to balance future growths individually as well as improve the form of the tree. Instead of cutting back all young shoots, it may be of advantage to leave most of them—many their whole length, others being shortened by about one-third their entire length. Furthermore, in the case of some trees—those that have been neglected in past years—it may be advisable to cut out entirely several central branches to allow light and air to reach the buds and leaves of the ones retained, thus preventing the undue crowding of branches that one sees in nearly every garden where fruit trees are grown. In the case of trees trained to wires or on walls, there may be gaps to fill up with young wood; so, before you cut off a single shoot, closely examine the tree and ascertain whether any leading shoots must be retained their whole length, or nearly so, and, as a result, improve the specimen. Wall and espalier-wire space is too valuable to waste; every square foot should be covered with healthy branches in due course. When fairly large branches are sawn off, finish the work by paring the end of the limb smoothly with a sharp knife. If any grafting is to be done later on and grafts from certain trees are to be used, those cut off now and heeled in will furnish very suitable ones.—CHRISTCHURCH.

The Fruit Storeroom.

AT this season of the year there is a great scarcity of home-grown fruits. In many parts of the country hardy fruits were scarce at the harvesting time, and throughout the past few weeks great care has been taken of the rapidly diminishing stocks. At the present time we have to be extra careful, as ventilation is almost impossible when the weather is frosty or very wet and decay is rapid. All decaying specimens should be removed, but in doing this avoid touching the sound ones more than possibly can be helped. I have seen sound apples turned over and wiped dry on one day and black with decay a week afterwards. The stickiness is Nature's protection against decay, and when it is removed decay soon begins. The apples should not be subjected to a high temperature; one near to 45° Fahr., and even, will be suitable. Doors should not be left open more than is necessary for passing in and out again. Some amateurs' fruit stores are very primitive ones, but they are, nevertheless, very effective and serve their purpose. In the great majority of fruit store-rooms there is no artificial heat provided, nor planned ventilation. Where such is the case and frosty weather prevails, the apples should be stored under clean dry straw quite 1ft. deep. So treated, the fruits, if sound now, will remain so until April. Any medlars remaining in the storeroom should be gently moved to another layer of dry sand; they should not

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be covered. Grapes in bottles of water will need close attention twice a week. When the water is changed preserve the charcoal, and to each bottle of fresh water add finely powdered charcoal in addition to the old lumps. Neatly cut out decaying berries.—G. G.

Leeks for Cooking.

LEEKS which are grown for kitchen use do not need the elaborate care and attention required by the white-necked monsters which adorn the exhibition boards. Seed of a good variety (see below) may be sown in February for autumn needs, and in March or April for winter needs; it may be germinated in heat, but thin sowings in a sunny frame give excellent results and avoid any extra work. A great point, in the early stages, is to keep the growth hardy and strong: a little manure may be spread in the bottom of boxes used for transplants or mixed with the compost of the frame, but this, after all, is not necessary. In spring, the ground intended for leeks may be manured and dug; quite good crops come from ordinary supplies of manure, but I agree that the grower can derive advantage from being a little more lavish than usual. If he intends feeding in late summer, however, then lavish manuring is waste. Plant the leeks when they are 9ins. high, in holes 6-8ins. deep, in rows 1ft. apart, the hole being made with a broom-handle, and no soil, except just a little to cover the roots, being filled in. Wide rows like these enable the grower to hoe up in early winter, thus adding 2ins. or 3ins. of blanch. Fowl manure is the best feeding in autumn. After growing leeks for cooking for thirty years, I always advocate a Scotch strain of Musselburgh; other good varieties which stand bad weather without deterioration, which crop well and give first-class results are Tulliebelton, Scotch Lyon, Champion, Ayton Castle and Royal Favourite—there is little to choose between them. I advise all readers to grow what they need, as the leeks sold for transplanting in May, June and July are—well, not so good as home-raised leeks.—CLYDESDALE.

The Earliest Cauliflowers from a Spring Sowing.

IF the amateur possesses a small greenhouse, moderately heated, he can bring on quite a lot of early vegetable plants. One kind that is well worth troubling with now is the early cauliflower. The plants from autumn-sown seeds must withstand the winter, either fully exposed or protected a little in a cold frame. In severe weather these plants often suffer a severe check and, as a result, the heads are small, often scraggy instead of being white, full and firm. Where there is not a batch of autumn-raised plants to depend upon, some should be raised at once under glass; and even if there is the former it is advisable to sow seeds in boxes to supplement the autumn stock of plants.

The cauliflower thrives best in a naturally moist soil which is well drained. It is while the plants are in their seedling stage that the most care must be taken of them, as they are liable to damp off wholesale. To avoid loss in this way the following hints should be noted. Use clean boxes, new; mix old chrysanthemum soil with a small proportion of fresh leaf-soil; water the compost in the box, allow it one hour to become drained, sow the seeds very thinly—about 1in. apart—cover them ½in. deep with dry soil, do not afterwards water from the top but by partly immersing the box. Transplant the resultant seedlings when the first rough leaf begins to form. Instead of just burying the roots make a hole deep enough to take the seedling to its seed leaves and carefully fill up the holes with dry fine soil; do not press any soil to the roots or stems with a dibbling stick. If these points are observed and great care taken in applying water, very fine sturdy little plants will be ready for planting in a bed in a cold frame by the middle of March, and in the open by the end of April.—HANTS.

Box-Raised Onions.

THE home-grown onion keeps for a longer time if the seedlings are raised early in the year than is the case when they are raised in the open border late in spring. The reason for this is that the bulbs are riper. Only small bulbs from spring-raised seeds will keep as well as the box-raised ones. If bulbs are required for exhibition, the seeds must be sown very early. Avoid old boxes in which fungus may be found. I whitewash the insides of my boxes with freshly slaked lime. Good old potting compost made from fibrous turves last summer will be an ideal medium in which to sow the onion seeds. The boxes should be quite 7ins. deep, and in the bottom of each one place a layer of well rotted manure. If fresh loam is used do not add much leaf-soil to it but a heavy sprinkling of builders' old mortar rubble. Now, for exhibition purposes some cultivators barely cover the onion seeds with soil. This is a mistake. I have seen many batches of seedlings just beginning to grow, and three out of five had twisted or curled stems. Result, bulbs with badly shaped necks, often the stems are flat instead of being round. Cover the seeds quite ½in. deep and sow them 1in. apart. Then the seedlings can remain in the seed boxes until the final planting-out time—about mid-April. They receive one check; if transplanted first in other boxes they receive two checks to growth. —CHRISTCHURCH.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Bulbs in the Rock Garden.

Miniature daffodils and other bulbous plants growing in the rock garden are apt to get badly splashed by the heavy spring rains, with the result that their delicate beauty is entirely spoilt. The best means of protecting them is by carpeting the ground with some low-growing evergreen plant, which will prevent the mud splashing upwards. Naturally, the plants we choose must not be too vigorous in growth, or they will rob the bulbs of their proper nourishment. Members of the thyme family are very useful for carpeting purposes, including T.T. azoricus, citriodorus, ericæfolius, and Serpyllum and its varieties. Other good plants to use are arenaria, saxifrages in variety, especially the mossy sorts, and the dwarfer evergreen sedums. Most of the plants mentioned above are flowering sorts, so they will provide colour in the rock garden when the bulbs are over; while some of the thymes have beautifully variegated silver or golden foliage.—B. D. S.

To Get Rid of Moles.

Moles often make their runs in cultivated ground, where they do damage to the roots, besides throwing up unsightly "mole-hills." Procure a small quantity of carbide of calcium, such as is sold to be used in bicycle lamps, etc. With a trowel remove the loose soil from a mole-hill and dig carefully down until you open the run. See that this is clear in either direction, then put into each open end of the run a few lumps of the carbide, cover with soil and smooth down. The moisture in the soil acts on the carbide and produces a gas which will kill any mole with which it comes in contact and ensure freedom from moles over a wide area. Should another mole-hill appear—which is very unlikely, as moles are very sensitive to smell—the same method should be repeated.—E. A.

A Hedge of Beauty.

When planting a hedge consideration should be given to its beauty. Three years ago I planted a hedge of Cotoneaster Simonsii and Berberis Darwinii alternately, and I think this is the most beautiful hedge I ever saw, and is much admired all the year round by all who see it. B. Darwinii is evergreen, with dark shining foliage, and clustered with rich orange flowers in April, followed by luscious blue berries (which, if wanted, make excellent wine). Cotoneaster Simonsii is a hardy shrub for autumn and winter effect. Covered with its beautiful tinted leaves in autumn, and brilliant orange red fruits or berries in winter, it cannot help but attract the eye. Both these shrubs can be obtained from any nurseryman at very little cost, and anyone following my plan will have a hedge of beauty in all seasons. —W. T. S.

A Non-Smelling Fertiliser for Indoor Plants.

Saltpetre is a most convenient and handy fertiliser to use for the majority of plants which are grown in the dwelling-house—such plants as aspidistras, palms, campanulas, geraniums, etc. The best method is first to water the plants thoroughly and, when the surplus water has drained off, dust the surface with as much saltpetre as will lie on a threepenny piece, afterwards giving a slight watering to dissolve the fertiliser and wash it into the compost. The above quantity is sufficient for a plant growing in an 8in. pot. Feeding of indoor plants should commence after the compost is full of roots and continued weekly during the growing season.—S. G.

Damping in Frames.

I do not know a better method to prevent damping in frames than the following: When matting or covering up for the night always leave a little air on by placing a piece of wood ½in. thick under each light, and allow the matting or sacking to hang well down over the frame so that the air in passing through is warmed, and no matter what kind of weather prevails no draughts can enter the frame.—J. H.

To Improve Potting Loam.

Keep some of your next load of loam for potting purposes in the chicken run and let the birds scratch it over freely. You will find the result in the finer blooms in the conservatory.—K. D.

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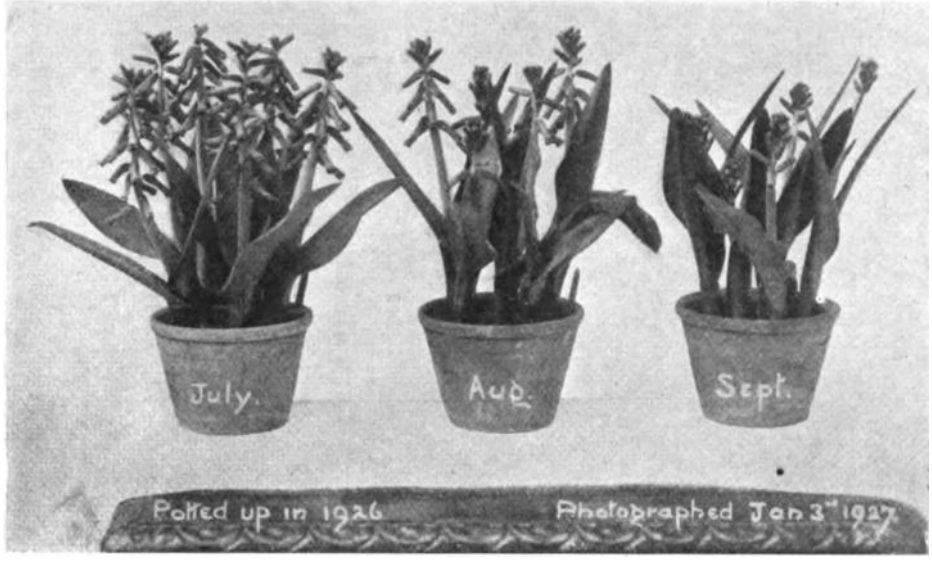
WHAT OUR READERS SAY

LACHENALIAS.

SIR,—Just about a year ago, in your issue of January 9th, 1926, there appeared a letter from the late Rev. Joseph Jacob referring to Lachenalia pendula and its early flowering characteristics; it was probably the last letter sent to the press by that distinguished horticulturist.

It seems to be opportune to make further reference to this plant just now, because at the moment and for some weeks past it has been giving a wealth of colour in "cold" greenhouses and protected frames at a time when colour is especially welcome; the sturdy spikes rising from robust, upstanding foliage, well furnished with long tubular bells of bright coral red, tipped at the lips with purple and green, are presenting a striking picture of outstanding beauty. I recently saw a very fine group which was in full bloom on December 14th, 1926, grown under absolutely cold house conditions, with no protection except against actual frost and illustrating to a marked degree the usefulness of the variety as an amateur's plant, though this may be equally claimed for the large range of beautiful lachenalia hybrids, most of which bloom somewhat later.



LACHENALIA PENDULA, A BEAUTIFUL EARLY FLOWERING PLANT FOR THE COLD GREENHOUSE.

By successional planting it can be had a long time in flower.

Another point in favour of L. pendula is that it may be used to bridge over quite a long period of colour famine as, by making, say, three plantings, each a month after the other, the flowering period may be extended from early December until the end of February; the three pots of which I send a photograph illustrate this feature rather well; they were planted in July, August and September and they reach their full flowering stage in December, January and February respectively; the flowering period of the general range of lachenalias is from the end of January to about the first week in April; it is therefore evident that by using the early-flowering L. pendula in the way suggested, the season during which these charming flowers can be enjoyed may be considerably lengthened and made to cover fully a third of the year—the months when brightly coloured flowers are of special value.—W. DAVENPORT.

FORCING RHUBARB.

SIR,—There are two points to bear in mind concerning the forcing of rhubarb out of doors. First, the flavour and quality are better than that forced indoors; and, secondly, outdoor forcing does not exhaust the plants like indoor forcing. The disadvantage is that one cannot obtain supplies so early. That is why it is necessary to do some indoor forcing. The method of forcing out of doors described by Mr. T. H. Everett in the issue for January 15th is an excellent one, producing good supplies finely flavoured and well coloured over a long period during spring. Most gardeners, however, like to obtain a little somewhat earlier than is possible outside. Where a greenhouse is not available there are other means. Personally, I always secure forced rhubarb by Christmas or soon after. Fortunately, I have a nice warm cellar under the house. About six or eight weeks before Christmas I put down some good forcing roots. The floor is covered with 2ins. or 3ins. of soil, the roots packed fairly closely on this and all spaces between them filled up well to the crowns. The roots then receive a moderate watering. A light framework is placed round them to carry a covering of clean straw over the top. The business is left there with no artificial heat or manure. As is well known, light must be excluded. Air is necessary. A particular point affecting the colouring and flavouring of this early rhubarb is watering. Moderate watering only should be practised. A little too much pales the sticks and weakens the flavour. Success in forcing rhubarb depends very much upon the variety and quality of the roots and upon the way these were treated previous to lifting. Rhubarb, like the black currant, is a very gross feeder. It will stand as much good farmyard manure as can be spared, and will yield all the better for liberal treatment in this direction while out in the open garden.—L. M. MARSHALL.

POTENTILLA NITIDA.

SIR,—In your issue of January 8th, Mr. W. Storrs Fox asks why I include this plant among those suitable for a beginner's rock garden, since it has flowered in his garden and those of his friends very seldom. It is true that this is one of many alpines which never yield in cultivation the lovely profusion of bloom in which they indulge in the mountains; but the flowers of nitida are so exceptionally beautiful that it is worth growing if we can obtain from it even a very moderate amount of bloom. And I do not think this is impossible. This plant affects dry, exposed, barren limestone places, making a woody tap-root which becomes eventually extraordinarily long and tough, and it sends out its prostrate branches over dry stony ground. If these conditions be imitated—full sun, very deep drainage, a poor limestony soil, and flat rocks between which it is wedged, it will, in most gardens, flower fairly satisfactorily, so far as my experience goes. I think it certainly objects to being fed, a rich soil causing it to go to leaf entirely. Is it possible that Mr. Fox has been treating it too well? I have found its ally, P. Clusianum, which sometimes passes for nitida, much more difficult to flower than the latter, and I had it for many years before I was able to see that its flowers are large and white. P. Clusianum is a larger plant than nitida, and the silvery leaves have a yellowish tint. How to make Clusianum flower with any regularity I am sure I don't know. Can any correspondent of THE GARDEN provide a hint?—R. LLOYD PRAEGER.

INSECTICIDES FOR EARLY SPRING USE.

SIR,—In early spring and during the summer months plants are generally attacked by sucking and biting insects, and to keep those pests in check spraying with efficient insecticides is necessary. There are now, fortunately, for the amateur grower a number of efficient insecticides on the market which can be safely used to combat the ravages of insect attack.

Sucking insects, such as green fly, cannot very well be controlled by using stomach poisons, all that the amateur requires is a good sticky substance which will corrode or clog up the breathing apertures of the insects. A good one I have found for this purpose is Cirengol, which can be obtained from any horticultural seedsman. There are any number of other proprietary brands, all, I am sure, equally good, and if a little soft soap be added it will make them even more effective in their work and much more economical. All these washes can be safely used against green fly attack on roses, fruit trees and many indoor plants if care is taken to use them in the proper proportions.

To check biting insect attack a good and useful remedy is to spray with Katakilla. It is very effective in destroying caterpillars of the magpie moth, gooseberry sawfly and many others which bite and gnaw the leaves of fruit trees and bushes. It is sold in powder form in handy little packets. A tablespoonful of the powder is sufficient to make two gallons of spraying material. The above-mentioned insecticides, although they are vegetable poisons, are safe to use, easy to handle and clean, no visible residue being left on the foliage, which is sometimes a deterrent when one wishes to spray against insect pests.—G. S.

THE CLIMBING GENTIAN.

SIR,—Among the little known Japanese plants—or at least unknown in British gardens—there is Crawfurdia trinervis, which Japanese call the Tsuru-rindo (climbing gentian). It is rather alpine in its habits, favouring the shade of trees in the mountains, where it climbs on dwarfer-growing plants or creeps on the ground. In the late summer the gentian-like flowers make their appearance. Its leaves are opposite, ovate-lanceolate, entire, pointed at the tip, and have three principal nerves, hence the specific name. The leaves on the main stem are 4ins. in length, while the leaves on the lateral shoots which form on a really vigorous

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plant, are one-third or more smaller. The flowers are carried on the lateral shoots as well as on the main stem. The corolla is bell-shaped, with five lobes, pale reddish purple in colour. Before the corolla withers the bright purplish scarlet fruit appears, as with other gentians. It is a beautiful plant and somewhat of a curiosity. It does not ask for any particular treatment, but will respond to the same treatment as meted out to other gentians. I saw several plants growing on sunny mountain slopes associated with Swertia japonica and Parnassia palustris, but these were poor compared with those growing in half shade. This is one of the loveliest plants in our tiny island, Shodoshima, which is situated about sixty miles south-west of Kobe.—K. YASHIRODA, *Kagawaken, Japan.*

[If any of our readers are growing this plant, we would be interested to hear their opinion of its behaviour in the gardens at home.—ED.]

HOW TO CATCH MOLES.

SIR,—"A. T. J.'s" notes in THE GARDEN of January 8th are good and practical, but the "secrets" of the mole catcher, which I would rather call the useful knowledge acquired after years of careful study of the habits of this interesting little animal, are not "humbug" by any means—one often finds that a trap has been filled with soil and that the mole has passed round or underneath it and that this is repeated time after time when the trap has been cleared and reset. When this happens, do not move the trap, but set a spring pincher trap on each side of it in the samerun. I have always found this effective.—W. A. WATTS.

COLOUR IN THE SMALL GREENHOUSE

SMALL COST. LITTLE TROUBLE. CERTAIN SUCCESS.

Now is the time to make a selection of annuals to provide a bright summer display in the greenhouse

THE average amateur's greenhouse is usually a comparatively small structure, and in it the amateur is obliged to grow a collection of various plants. A few tomato plants are often grown together with foliage and flowering plants. The fairly high temperature required the latter plants during the early stages of growth is apt to spoil the tomatoes to some extent. However, the difficulty may be overcome by growing some of the following beautiful half-hardy and hardy annuals as well as other plants. These require only moderate heat to germinate, and, once in pots, may be grown on in the same temperature as the tomatoes. The large pots or boxes containing the tomatoes may be kept at the back of the staging and the flowering plants in front. The fact that the foliage of the former shades the latter will not seriously affect their growth. On the contrary, in certain cases this will be an advantage. The fuel shortage during recent months may also have caused some spring and early summer plants to be lost. Therefore, I suggest a selection from the following plants, all of which I have grown beneath—or, at any rate, in the same house as—tomatoes, with success: Browallia, half-hardy annual, is a pretty plant with delicate bright blue flowers and dark green foliage. Balsams, too, are useful, and the camellia-flowered sorts are equal in beauty to many a rare greenhouse plant. Brachycome—the Swan River Daisy—is splendid in pots. Last summer certain professional gardeners came to "crab" some plants the writer had produced, but forgot their mission on viewing these plants grown in pots. B. iberidifolia is blue in colour, but the seed may be obtained of the white, red and other coloured varieties. In shape the flowers resemble cinerarias. Phlox Drummondii is also useful in pots, and the white variety is very choice and strongly scented. The smaller sorts—compacta—grow about 6ins. high and have their special uses. Alonsoas, particularly the variety Mutisii, which is chamois pink in colour, are worth growing. Dimorphotheca, in spite of its name, is a good subject for this work. The everyday name for the plant is Star of the Veldt—the flowers are like dainty marguerites—and the plant grows about 14–15ins. high; the orange variety is, perhaps, best known, although there are now many fine lemon yellow sorts with a deeper central eye. Nemesias, grown well, are also useful pot plants. The various asters, treated with care, will grow well in pots, but, of course, can scarcely be expected to grow beneath tomatoes. Nemophila insignis, the well known blue-flowered annual, will grow in pots, and is "content to fill a little space." Viscaria, another annual, best known in its brilliant crimson form, serves the same purpose. Mignonette may also be grown—in fact, often is—for its scent, although amateurs may find it a difficult subject to get established. This list is by no means complete, but all the above have been tried, and sceptical friends of the writer have been surprised with what success these half-hardy and hardy annuals may be grown in pots.

Some care is needed in their culture. A little feeding, careful watering and the removal of all faded leaves and blooms will cause the plants to bloom for quite a reasonable length of time. Boxes 3ins. to 4ins. deep may be used in which to sow the seed. The soil must be fairly light and rich. Add a good sprinkling of sand and some wood ash to make it porous and sweet, and make sure that there is good drainage. Sow very thinly and barely cover the small seed. A sheet of glass covered with brown paper assists germination. Admit air gradually by tilting the glass a little as the seedlings appear. When growing keep the boxes close to greenhouse glass to promote sturdy growth. When large enough to handle, pot the plants into thumb pots or several in one larger pot. For the plants already mentioned 5ins. or 6ins. make good sizes in which plants are to flower. Those who have just acquired a greenhouse will find these plants useful for decorating it in early summer.

Other very suitable plants to grow in a general collection include begonias. There are both tuberous and fibrous rooted varieties. The tuberous begonias may be had in a wonderful range of colour. These are started into growth by being placed upon leaf-mould (I use fibre as used for bulbs) and potted on later. For making a brave show beneath tomatoes they have no equal. The plants enjoy the shade provided by the leaves of the tomatoes, and tubers capable of yielding immense crops of bloom may be had quite cheaply. Last summer I had a wonderful show by just gently pressing the rooted tubers into good bulb fibre. The fibrous rooted begonias are best purchased as plants, two of which will provide plenty of cuttings to form plants for subsequent display. Another useful plant is Campanula isophylla and the white variety alba. These are useful in baskets or to drape the edge of staging. All the seeds and plants mentioned may be obtained from advertisers in these pages, and from their lists other varieties may be chosen.

The seeds should be purchased now. However, those already given will prove successful if reasonable care and thought be given to their culture. If these instructions, together with the golden rule of admitting air when conditions are favourable, be followed, success is certain.

T. H. HEAPS.

BROWALLIA WITH ITS BRIGHT BLUE FLOWERS IS A FINE HALF-HARDY ANNUAL FOR THE GREENHOUSE.

DROOPING CAMPANULAS MAKE FINE DECORATION IN THE AMATEUR'S GREENHOUSE.

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FOR SCOTTISH GARDENS

Notes Practical and Critical, Specially Written for Amateurs

JANUARY is probably the dullest month in the calendar for the amateur gardener in Scotland. The weather conditions are seldom conducive to outdoor operations, and the days are far too short to permit of indulgence in horticultural pursuits. The work has to be done in the evenings or on a Saturday afternoon when the state of the weather and the soil are suitable. In a normal season the difference in the climate between the north and south may be reasonably measured by time varying from two to three weeks, and, in view of the increasing tendency of sharp frost in late spring and early summer and the resultant injury to vegetation, caution should be observed.

Treatment of the Soil.

There are, however, certain operations that should be undertaken at the earliest opportunity, and the most important is the preparation of the soil. In these days of popularity and progress in the gardening world it is surprising to find that winter digging and deep cultivation are not practised by amateurs to the extent that one might expect. In my journeyings I come across many examples of gardens that are neglected in what may be termed the off season—that is, the interval extending from the end of autumn until the beginning of spring. There the withered remains of the previous season's crop are usually left in occupation until March, when the fair-weather, or half-yearly, gardener begins to waken up again and indulges in digging operations which, to all intents and purposes, consist of scratching the surface with a spade or fork.

To restrict operations in this way is poor gardening and offers little prospect of satisfaction or success. How different are the ways of the reflecting amateur who acknowledges the beneficial effects of early and deep digging, especially if the ground is heavy. Experience and common sense have taught him that the more thorough he is in his methods of treatment the sooner will he overcome the difficulties that are inherent to soil and situation. When the ground is dug to the depth of a couple of spades and left rough on the surface over the winter it reaches a state of friability that accelerates the germination of seeds and the rooting of plants. It also promotes a healthy rooting system, as the conditions enable the roots to forage in the lower strata there to find the coolness, moisture and nutriment that are essential to plant life. "Early, deep and thorough" should be the motto of the amateur in regard to soil preparation.

Sprouting Seed Potatoes.

As the question of the potato crop demands consideration at this season, it is most desirable that gardeners and allotment holders should recognise the importance of boxing and sprouting the seed tubers. The practice is generally followed by growers of early varieties, whose experience has proved that the yield is materially increased by that treatment, while growth is more uniform and vigorous and the period of maturity is accelerated. Hitherto the boxing system has not been adopted to any extent in the planting of main-crop, or late, potatoes, the reason being that the advantages were not so apparent in tubers requiring a longer period of growth. Recent experiments, however, have shown quite contrary results. At the trials conducted during the past four years by the North of Scotland College at Aberdeen the discovery has been made that a crop of Golden Wonder may be increased in weight to the extent of 25 per cent. simply by boxing the seed. This is welcome news, as the russet skin variety has a poor cropping reputation. Its popularity as a main-crop potato has undoubtedly suffered on that account, for Golden Wonder cannot be surpassed by any other potato in respect of its superior cooking and late keeping qualities. Shallow boxes or wooden trays are the most suitable receptacles for sprouting the tubers, and as seed is now available no time should be lost in procuring supplies. Whole seeds about the size of a hen's egg are the best, and after arranging them in rows, store the boxes in a frost-proof outhouse or shed.

Sowing Leeks and Onions.

Leeks and onions reached an exceptionally high standard of excellence in 1926. At most of the autumn shows they formed the prominent feature of the vegetable section and generally exceeded all previous records in respect of the number of entries, quality, and keenness of competition. One of the secrets of success is heat, either in the form of a warm greenhouse or hot-bed, and during the next few weeks the finest strains of seed should be sown thinly in boxes of rich, fine soil. A leading firm of seedsmen in Scotland specifies the last week in the month as the period for sowing leeks, but a few days' delay can hardly influence the ultimate results one way or another. Some of our most enthusiastic growers are to be found in the mining districts of Scotland, and in some parts the first week of February is recognised as the time for sowing both onions and leeks. When the plants are large enough to handle they should be thinned out or transferred to deeper boxes. An alternative method is to transplant each leek into a 3in. pot, while some growers prefer raising their leeks from the very beginning in pots by sowing three seeds in the centre and afterwards removing all the plants that come up except the strongest specimen, and thus avoid the check which follows root disturbance.
—ST. MUNGO.

THE CULTURE OF PANSIES AND VIOLAS

THESE useful flowers can be successfully grown in any district if the soil is well prepared some time previous to planting out and if a liberal quantity of farmyard manure is used. They probably succeed a little better in northern districts than in the south, but the satisfactory results achieved by southern growers during the last few years have proved that pansy and viola culture need not be confined to Scotland, the north of England and the Midlands.

An open site, not exposed too much to the scorching heat of summer, suits them best. A high wall that protects the plants from the mid-day sunshine, trees that afford shade but which do not overhang the plants, or the shelter of a shrubbery can be used to provide semi-shaded quarters, and if such conditions do not present themselves, temporary erections during the hottest months of the year can be devised. Low-lying situations, where the soil is apt to become waterlogged or sour, should be avoided, and under such conditions it is wise to raise the beds 3ins. or 4ins. from the ground. The plants are hardy and will withstand a fair amount of frost—in fact, many varieties will survive an average winter unprotected in the open garden, if the plants are vigorous and sturdy in the autumn. Old plants should be divided and this can be done during a mild spell in winter or the operation can be left until early spring. Plants grown on the two-year system give a profusion of early bloom during April and early May. When replanting or dividing old plants a careful watch should be kept for slugs, which are usually found under cover of the tufty growths. It is a good plan to introduce some new, clean soil and pack this round the collar of the plant.

Preparation of the Soil.

Soil preparation should be begun without delay. The earlier this can be completed the better, so that the soil has sufficient time to settle down before planting-out time comes round. Dig or fork over the soil to a depth of at least a foot and incorporate plenty of well rotted manure. Cow manure is preferable for light or medium soils. Use strawy horse litter for heavy soils. Leaf-mould and soft surface weeds can be buried in the lower spit. A liberal use of animal or green manure is essential because of the great need for a plentiful supply of moisture during the long growing period. Mulching is a necessary operation later, when the surface roots are in need of protection from the scorching sun heat. Bone-meal, superphosphate and wood ash may also be dug in or mixed in the top spit. The surface should be left rough for a few weeks during the winter months, and if the soil is deficient in lime a sprinkling should be given on the surface in February. As the soil settles down and as planting-out time draws near the sites should be marked out and the plot raked down to a fine tilth. Allow at least nine inches between the plants, more if space will allow.

Planting Out.

Cuttings which are being propagated in cold frames or which were inserted in early autumn in the open need a little supervision during the winter months. After frosts some of them may be thrust out of the ground. These should be pressed into the soil and a sprinkling of sand added to encourage further root action. Remove any leaves that have rotted or withered, or the cuttings are apt to damp off. Do not keep the frame lights too close when once root action has begun. On all favourable occasions plenty of ventilation should be given and the plants gradually hardened off until the frame lights can be entirely removed. By the middle of March the cuttings should be sufficiently rooted and hardened for planting out to commence.

Choose a favourable day for this. The soil should be on the moist side but not sticky. Remove the rooted cuttings from the frames by means of a hand fork or trowel and plant them firmly. Plants purchased from reliable nurserymen are already hardened off, and these may be planted in their permanent quarters when received. If they are not well rooted add a little sand when planting out.

During the blooming period all faded flowers and seed vessels should be removed regularly, and the plants need occasional trimmings after each crop of bloom when the growths become long and ungainly. In very dry periods watering is necessary. This should be done in the evening and a good soaking once or twice a week is generally sufficient. A surface mulch is beneficial in helping to conserve moisture. Keep the hoe at work among the plants, and this will prevent loss of moisture as well as checking the growth of surface weeds.—NORMAN LAMBERT.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Checking Carrot Fly.

Could you kindly answer the following: What is the best cure for carrot fly? I have not been able to grow good carrots for some years.—J. A., Porlock Weir, Somerset.

Carrot fly is an exceedingly difficult pest to eradicate once it gets a thorough hold. We should advise you to prepare a bed with very sandy soil in early spring, and sow seeds in this bed, the soil of which is made very firm. The seed should be sown fairly thinly, and when the seedlings are about 2ins. high they should then be thinned out, care being taken to press the thumb over the hole from which the seedling has been taken. The soil should be kept perfectly firm and even hard round the young plants. This prevents the entrance of the carrot fly. When young carrots are being lifted from the beds, take the same precaution of filling up the spaces which are left, and make the soil perfectly firm.

Manuring of Roses.

I have had my roses limed with a view to checking a certain amount of fungoid disease. Last season they had no farmyard manure, only one dressing of artificial. Can I give them farmyard manure at pruning time?—F. T., Barrowby, Grantham.

We should suggest that when pruning the roses at the beginning of March, you should apply a dressing of strawy manure, which will act as a protective surface mulch, and also will benefit the soil and stimulate new growth of the rose bushes. You will also find that the surface mulch will prevent the soil—in the event of a very dry summer—from drying out and thus to a certain extent injuring the surface roots of the bushes.

Alpines for a Cold House.

Would you kindly send me a short list (about eight) rock plants to grow inside a greenhouse, without heat. I have converted a summer-house into a greenhouse, but it still has a wooden top and back, but glass sides and front, facing east. Would you also send me the name of a creeper I could have growing up the back, inside, forming a background for my miniature rockery.—C. P., Eltham.

We should suggest the following list of rock plants to grow inside a cool house: Saxifraga Grisebachii, S. lilacina, Dryas octopetala, Androsace sarmentosa, A. villosa, a few dwarf irises, such as I. reticulata or I. Wedgwood Blue, Primula chionantha, Campanula Allionii and C. Zoysii.

A most attractive climber for growing up the walls of your greenhouse would be Streptosolen Jamesonii or Eccremocarpus scaber. The climber, however, should not be allowed to take away light from the rock plants, otherwise you will find there will be a dearth of flower.

Pruning Laurels and Box.

(1) We have a box hedge which has grown tall and straggly and has died in parts. Would it improve it to cut it down now—to within 1ft. to 2ft. of the ground? Or would shoots from it strike now—to fill up the gaps? If that would not do, would it answer to move some box shrubs which we have in the garden to make up the hedge?

(2) Is the present the time for cutting down laurels? We have some near the house which have grown too tall. We should like them about half the height and to shoot out from the bottom.—A. M., Boswells, Chelmsfrod.

Most of the box plants would die if cut down hard now. April is the best time to hard prune box bushes. The box shoots would not grow if put in to fill up the gaps. Cuttings of box can only be successfully rooted under glass. The best procedure would be to cut out the dead wood now and move the plants at once very carefully to fill up the worst gaps from another part of the garden, then, about the middle of April, cut down the old bushes.

With regard to the laurels, these should be cut down about the middle of April. New shoots grow freely from the base of laurel stumps.

Climbers for South and North Walls.

I would be much obliged for your advice on the following points: (1) South wall 72ft. long with border 30ins. wide. I want to plant this with climbers which will cover the wall without projecting too much and leave enough room for a few herbaceous plants in front of them. The essential point is that the wall may look well for as long as possible, need a minimum of attention and give breathing space to a few herbaceous plants. (2) North wall 72ft. long: I want to treat this wall in a similar fashion to the south wall as far as this is possible. Please state the number of climbers and plants I will require for each wall.—W. F., Swindon.

We suggest the following climbers for your walls:

For South Wall: Ceanothus rigidus; C. dentatus, Pyracantha angustifolia, Myrtus tarentina, Chimonanthus fragrans, Pyrus japonica, Escallonia langleyensis, E. exoniensis, Osmanthus Delavayi; Rose Richmond, R. Climbing Mme. Abel Chatenay, Jasminum officinale.

For North Wall.—Hydrangea petiolaris (scandens), Jasminum nudiflorum, Rose Gloire de Dijon, R. Reine Olga de Wurtemberg, Clematis Jackmannii, C. Flammula, Lonicera Halliana, L. serotina, Forsythia suspensa, Clematis Lady Northcliffe, C. Henryi.

Twelve climbers are required for each wall, and the average distance should be about 6ft. apart.

Calcium Carbide as a Soil Fumigant.

Could you tell me if spent carbide of calcium (the waste from an acetylene plant) is an effective substitute for lime; or, if not, if it is any use as a dressing for beds, fruit trees or lawns? The soil is red clay.—L. R., Monmouthshire.

Carbide of calcium will not take the place of lime. It can be used in a ground state at the rate of 4 oz. per square yard as a soil fumigant. It should be mixed with the soil at least 6ins. below the surface. Nearly all insect pests will leave the soil where the carbide is buried. Restrict it to the vegetable quarters.

Woodlice in a Vinery.

Could you please inform me as to the best method of killing woodlice in a vinery which is badly infested with them?—W. A. W., Morpeth.

Lightly fork into the top 2ins. of soil round the sides of the border—especially near the walls—3 ozs. of Vaporite per square yard. This will result in the wood lice leaving the part where the Vaporite is used. In a convenient part of the border or other portion of the floor put down several loose boards with some bran and quite dry soil between each pair of boards. In this way you should be able to clear out all the woodlice. Empty them as caught into boiling water.

Zenobia pulverulenta.

I am much charmed with that beautiful shrub (shown in THE GARDEN, *December 11th, 1926) Zenobia pulverulenta. Will you kindly let me know if it would be suitable where I live?—F. A., Highbury.*

We should think that zenobia would grow quite successfully with you. It likes a fairly peaty soil or a light, loamy one in which well decayed leaves have been incorporated. Give it a fairly sheltered position until it becomes established. Its ordinary flowering period is June and July, but it can easily be forced in the greenhouse during the winter months.

Kainit for Vegetables.

I found my chalk soil benefited from a dressing of kainit given last winter when the ground was dug. Much of the ground is at present occupied with green stuff—sprouts, savoys, kale and spring broccoli. May I ask if the kainit would harm the growing crops if sprinkled between the rows? Would it be better to wait until the crops are cleared? I understand that kainit should always be applied in the winter months.—E. S., Sutton.

We should certainly suggest that before applying kainit all the root crops should be cleared from the ground, so that you will have an entirely free hand at the time of application. On the whole it is a much better plan than sprinkling the material between the roots, as there is less likelihood of damage to the plants.

Propagation of Privet.

Will you kindly advise me as to the best method of rooting privet (golden and common)?—R. A. P., Gloucester.

To root green and golden privet make cuttings of growth 1ft. to 15ins. long and insert at once in a border of selected sandy soil outside. Select from healthy young wood and have just a thin heel of old wood at the base of the cutting.

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Culture of Tigridias and the Scarborough Lily.

Will you kindly inform me as to the proper cultivation of tigridia bulbs? I have been disappointed in them these last two years since I first tried them. I planted them outside at the end of March in fairly heavy soil, but only one or two have attained the flowering stage. Will they succeed in a window-box? Any information as to soil, position and watering will be appreciated. Also what soil does the Vallota (Scarborough lily) require, and will it succeed out of doors?—J. D. C., Cardiganshire.

Tigridias should grow and flower freely outdoors when planted during March, but they require a warm position at the foot of a warm wall, and fairly light, well drained soil. If your soil is heavy, it should be lightened by the addition of sand or other gritty material, raising the bed above the ground level. In the south they should do well in a bed in the open provided the soil is warm and well drained. They should succeed perfectly in a window-box in a sunny situation, and will grow freely in any good potting soil, a medium loam being best, using three parts of loam and one of leaf-soil and sand. When the growth dies down during the autumn, you should lift the bulbs and store them in dry sand for the winter.

Vallota (Scarborough lily) will not succeed outdoors, but requires a cool greenhouse or a window; in fact, this plant is generally seen at its best in cottage windows. It succeeds in a good medium loam, with sufficient sand or old mortar rubble to keep the whole open and porous. When starting with dry bulbs very careful watering is necessary until they have made fresh roots and have started to grow. Although they may be kept drier at the root during the winter, they should never be dried off altogether, and when doing well should not be disturbed at the root.

Propagating Begonias.

I shall be glad if you will inform me how to increase my stock of Begonia Gloire de Lorraine and B. semperflorens. The former I am told is best increased by leaf cuttings. If so, how are these taken; has a part of the main stem to be taken with the cutting, or just the leaf stem, and when is the best time to take them? Again, have the old plants to be dried off after flowering. Is B. semperflorens treated in the same way? Also, when looking at some of my begonia tubers, which are still in their pots dried off under the staging of the greenhouse, I found that about half of my tubers were either rotten or like bits of dry, rotten wood and easily snapped in two. Have these been in too great a heat, do you think? —A. A., Northumberland.

Both your begonias may be increased by cuttings in spring. These may be obtained by placing the old plants in a little heat to start them. Take off the cuttings when about 3ins. long close to the base of the plant, and use a mixture of sand and leaf-soil. Place in bottom heat, when they will soon root, and if potted up and grown on will flower the same year. You have probably let your plants get too dry, which accounts for their being dead. B. semperflorens should not be dried off entirely.

VEGETABLES in SEASON all the YEAR ROUND

A TIMETABLE FOR EVERY MONTH OF THE YEAR.

THE following article has been prompted by the Editorial note entitled "The Gardener's Log-Book," on page 691 of THE GARDEN dated December 4th, 1926. For years past it has been my custom to keep just such a record as there suggested. The outcome of these records has led to various articles on seed germination, etc., and the present one is another outcome, the original of which was compiled some years ago, based on experience gained in various counties, mostly in the Midlands.

Without entering into unnecessary details, it may be of assistance to readers to know just what easily cultivated outdoor vegetables may be had in season each month of the year. In the subjoined tables, or monthly calendar, the dates of sowing and periods of production are, where considered necessary, clearly indicated. With few exceptions outdoor sowings only are referred to, so as to legislate for gardens without either greenhouse or frames. Exceptions are marked with an asterisk, which simply means that seeds sown at the dates mentioned need gentle heat to start them. Where no such gentle heat is available the only alternative is for growers to purchase seedlings elsewhere. It is to be noted that in the case of cauliflowers and broccoli, the season at which these vegetables turn in, when sown out of doors, depends upon the nature of the seed sown; thus, all the broccoli named are sown at the same time, either the very end of March or early in April, while cauliflowers are sown either at the end of September (for May, June and July consumption) or early in April (for August and September use). Winter saladings and herbs, like parsley and mint, can be successfully produced only where heat is available, and a special note in regard to them is appended. Here, then, are the monthly lists or tables referred to above.

JANUARY.

Broccoli (April-sown Early White), Brussels sprouts (April and May sowings), cabbages (May-sown late varieties), celery (May-sown red varieties), coleworts, or collards (May-sown Rosette and Hardy Green), Couve tronchuda, or Portugal cabbage (May-sown), garden swedes (May and June sown), kales (Cottager's, Sutton's A 1 and Drumhead, all May-sown), leeks (May-sown), parsnips (March-sown, to be lifted next month), savoys (May-sown late varieties), seakale spinach (July-sown, stands frost well till end of this month), white sprouting broccoli (May-sown).

Other Vegetables in Store.—Beet (May-sown, lifted in October), carrots (May-sown late varieties, June-sown intermediates and July-sown early varieties), onions (March-sown), potatoes, Jerusalem artichokes (planted in March and lifted in October or early November), turnips (August-sown winter varieties, lifted in November), vegetable marrows (May-sown, gathered before skin becomes too hard to yield to light pressure of thumb-nail and well dried off before storing).

FEBRUARY.

Broccoli (April-sown Snow White), Brussels sprouts (May-sown, finish), cabbages and coleworts (same as for January), celery (same as for January, finish), Couve tronchuda (June-sown), garden swedes (lift and store), kales (same as for January), leeks (June-sown), Parsnips (lift and store), savoys (August-sown late varieties), turnip tops (from swedes, before lifting), white and purple sprouting broccoli (May-sown).

Vegetables in Store.—Same as for January.

MARCH.

Broccoli (April-sown Satisfaction), coleworts (Hardy Green, sown in June), Couve tronchuda (June-sown), kales (same as for January, with addition of Sutton's Hardy Sprouting—a most useful variety at this season), leeks (July-sown), purple sprouting broccoli (May-sown), savoys (August-sown late varieties, finish), seakale (established plants).

Vegetables in Store.—Same as for January.

APRIL.

Broccoli (Sutton's Bouquet, Whitsuntide or Late Queen, sown last April), cabbages (August-sown), kale (August-sown Asparagus and June-sown Hardy Sprouting), leeks (July-sown), lettuce (August-sown winter cabbage and hardy cos), perennial cabbage (two to three year old plants, propagated from cuttings, not from seed), seakale.

Vegetables in Store.—Same as for January.

MAY.

Asparagus (established beds), broccoli (Late Queen or Whitsuntide as for April), cabbages (August-sown), kale (asparagus only, as for April), lecks (August-sown), lettuce (winter varieties, as for April), Peas (December-sown early round-seeded, sown in sheltered south border), perennial cabbage (now nearly at its best), seakale (finish), turnips (March-sown earlies, in good ground).

Vegetables in Store.—Beet, carrots, onions, parsnips and possibly some turnips or swedes.

JUNE.

Asparagus (finishes middle of the month), broad beans (February-sown early varieties), cabbages (as for May), cauliflowers (September-sown Magnum Bonum or Purity), corn salad, or lamb's lettuce (August-sown), kale (asparagus only), leeks (August-sown), lettuce (March-sown spring varieties), peas (February and March sown early varieties, such as American Wonder, Green Gem and Pioneer), parsnips (February-sown, in good ground), perennial cabbage (now at its best), potatoes (Immune Ashleaf or May Queen, sown in February in a sheltered warm border), potato onions (sown early in February, now available if required), turnips (April and May sown early varieties).

Vegetables in Store.—Now finished, with the exception of old potatoes.

JULY.

Broad beans (March-sown), cabbages (August and September sowings), cauliflowers (September-sown All the Year Round or White Queen), carrots (March and April sown early varieties), corn salad (March-sown), dwarf beans (Earliest of All or Canadian Wonder), peas (March-sown earlies), parsnips (February-sown), perennial cabbage (finishes till after autumn frosts have set in, when younger leaves make good eating), spinach (April-sown), spinach beet or perpetual spinach and seakale spinach (April or May sown, thinned and transplanted when 4ins. to 5ins. high), globe artichokes (established plants), lettuce (April and May sown spring and summer varieties), potatoes (first earlies) potato onions (February-sown), onions (autumn-sown), shallots (February-sown), tomatoes (March-sown*), vegetable marrows (April-sown*), turnips (April and May-sown Early Snowball, Early Six Weeks and Early Red or White Early Milan).

AUGUST.

Broad beans (April-sown), cabbages (April-sown earlies), cauliflowers (April-sown Early Giant or Excelsior), carrots (April and May

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early varieties), corn salad (March-finish), dwarf or climbing French (May and June sowings), peas (April May sown first and second earlies), (February-sown), scarlet runners sown), summer spinach (July-sown, ady bed), spinach beet and seakale (same as July), kohl rabi (April-Early Green), leeks (March-sown), (May and June sowings of summer est), potatoes (second early), potato (February-sown, lift and store), -sown onions and March-sown onion be lifted and stored this month), lift and store in dry weather), (same as July), globe artichokes, (May and June sown Early Snowball, Weeks, Golden Ball and All the Round), vegetable marrows (May-

SEPTEMBER.

(May-sown), cabbages (April and own earlies), cauliflowers (April-sown Giant and Autumn Mammoth), carrots as August), globe artichokes, kale ke shoots and young leaves from ear's August-sown asparagus kale quescent since June), kohl rabi as August), leeks (March-sown), (February-sown), peas (May and sown, finish), climbing French beans scarlet runners (June-sown), lettuce and July sowings of Continuity, Tom and All the Year Round), endive own moss or green curled varieties), (April-sown Earliest of All), spinach and seakale spinach (March-sown), onions (March-sown), tomatoes turnips (same as August), vegetable (May-sown).

Vegetables in Store.—Potato onions, -sown onions and shallots.

OCTOBER.

(May-sown), broccoli (April-sown Protecting), Brussels sprouts (April-cabbages (April-sown late varieties red cabbage), carrots (May-sown earlies intermediates), cauliflowers (April-sown Mammoth, finish), climbing French and scarlet runners (June-sown, finish), artichokes, Jerusalem artichokes, kale -sown asparagus and finish of last August-sown ditto), kohl rabi (May-finish), leeks (April-sown), celery -sown white varieties*), corn salad endive (same as September), (same as September, finish), savoys as September), spinach beet and spinach (April-sown), potatoes (lift), March-sown, lift), turnips (July-earlies, White Stone, Purple Top the Year Round), vegetable marrows -sown, to be harvested at once on of frost).

Vegetables in Store.—Onions (various) and

NOVEMBER.

(May-sown, lift and store), broccoli -sown Autumn Protecting and Winter finish), Brussels sprouts (April-sown), (as for October), couve tronchoda -sown), perennial cabbage (tender leaves see July), savoys (April-sown Green and Early Ulm), carrots (May-sown intermediates and long varieties, lift and celery (as for October), globe artichokes (finish and cut down), Jerusalem lifted and store), kale (April-sown and Early Victoria), leeks (April-parsnips (February and March sown), beet and seakale spinach (July-turnips (as for October, lift and garden swedes (May-sown).

Vegetables in Store.—Beet, onions and early carrots (lifted last month), marrows and potatoes.

DECEMBER.

broccoli (April-sown Winter Mammoth), sprouts (April and May sown).

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A large stock of beautiful Hybrids raised at "Goldsworth," early and late flowering. Clean healthy plants, in various colours. The best have been grafted and can be supplied correctly under numbers. Also an assortment of other **rare** and scarce plants, and a large general nursery stock. Area over 300 acres.

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Goldsworth Old Nursery, WOKING, SURREY.

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CATALOGUE ON APPLICATION.

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cabbages (May-sown late varieties), coleworts (May-sown Rosette), Couve tronchuda (May-sown), celery (second crop, April-sown pink varieties), kales (asparagus, Dwarf Green Curled and Victoria, all April or May sown), perennial cabbage (finish till April, unless specially required), leeks (May-sown), parsnips (March-sown), savoys (May-sown late varieties), spinach beet and seakale spinach (July-sown), white sprouting broccoli (May-sown), garden swedes (May-sown).

Vegetables in Store.—Beet, carrots, onions and shallots, potatoes, turnips, Jerusalem artichokes and vegetable marrows.

Winter Salads.—Outdoor lettuces cannot be relied upon after September, but corn salad and endive are still available up to the end of October if a sufficiency has been grown. China Rose radishes sown early in August will keep us supplied till mid-October. From this date onwards one must necessarily look to indoor or forced radishes and lettuces only, while chicory if sown in April or May will produce fine plants for lifting in October and forcing and blanching like endive as required throughout the winter months. To describe the mode of blanching, however, would require more space than is here available. Chopped celery, beetroot, forced corn salad, onions and cold boiled potatoes are always available for winter salads, as well as mustard and cress grown in boxes in a warm frame.

For winter supplies of parsley and mint some selected roots of each should be lifted early in September and bedded up in a suitable corner of the greenhouse, peach-house or in a cold frame well protected against frost, but fresh mint can be grown in a frame only if kept nipped down regularly so as not to touch the glass.

E. A. SAUNDERS.

CATALOGUES RECEIVED.

Among amateur gardeners the name of Ryders has become almost a household word. Messrs. Ryder and Sons of St. Albans have for years sent out high quality seeds at a very low cost, and annually they produce a seed catalogue which is of particular interest to the amateur. This year their catalogue has been revised and made even more comprehensive. It contains in a concise form a wealth of information on flowers and vegetables. Numerous good half-tone illustrations, as well as a most attractive colour plate (reproduced on our front cover this week) of a painting of marigolds, aquilegias and forget-me-nots by Miss Winifred Walker, are included. We understand that a full-size reproduction of this picture will be sent gratis to every customer of Messrs. Ryders who orders goods to the value of £1 or over.

Messrs. Alex. Dickson and Sons, Limited, of Hawlmark, Belfast, send us their catalogue of "Hawlmark" seeds, which have become famous throughout the horticultural world. Sweet peas are one of their specialities, and many fine novelties, such as Chieftain and Ruddigore, two of their recent introductions, are listed. Sweet pea cultural notes and hints on vegetable growing will be found most useful for reference purposes.

All gardeners who are interested in potato growing should apply for Messrs. Dobbie's spring catalogue. This well known Edinburgh firm are noted for the clean and disease-free Scotch potato seed which they send out, and, as potato diseases have been rampant in many districts this year, it is of the utmost importance that, in gardens where the potatoes were affected, a fresh start should be made this season with clean seed planted on new ground. Vegetable and flower seeds of every description are also listed, and this comprehensive catalogue is well illustrated with half-tone reproductions which greatly add to its value.

Another catalogue from an Edinburgh firm is that of Messrs. Stewart and Co., whose

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CRAWLEY DOWN, SUSSE

DELPHINIUM. — "British Birds" This well known strain is reckoned by growers to be the finest in the world, $1 pe

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Complete guide to the successful cultivation of above from seed. Price fifteen cents, refunded from seed or

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AND GUIDE contains all

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...tatoes are grown and selected specially for seed ...m, and under normal conditions cannot fail to ...e first-class crops. All are Class 1, Scotch.

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... Marvel	4/-	8/-	12/3	22/6
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...For many other varieties, full particulars of which ...ve in our Catalogue, post free on request.

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PRIVET, Common and Oval-leaved. QUICK and HORNBEAM for Hedges.

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in great variety, consisting of

...ES, NORWAY MAPLES, ELMS, etc., etc. ...REEN & DECIDUOUS SHRUBS, viz.:

...B 2—Green and Variegated, 3 to 8 ft.

...Hollies—Common, 5 to 8 ft.; Variegated and Green, varieties, 2 to 6 ft.

...Thujopsis borealis, 10 to 12 ft. Cupressus Lawsoniana, 12 to 14 ft. Cedrus atlantica ...AUCA, very fine, 14 to 16 ft. Osmanthus, ...odryonas, Spiræas, Lilacs, Viburnums, and a good general nursery stock.

Catalogues ready.

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"Stronghold" seeds are reliable from every point of view. This catalogue is particularly strong in standard vegetable and flower varieties.

A fine manual has reached this office from Messrs. Sutton and Sons of Reading, a firm which has done much valuable work to help the gardening world. In their trial grounds new varieties have been raised, and by years of breeding and selection the various strains of flowers and vegetables have been maintained at a very high standard of excellence. Both amateur and professional gardeners cannot fail to find many items of interest in this excellent manual. Flowers are dealt with in the first half, vegetables, lawns and potato seeds are dealt with in the second.

Messrs. Toogood and Sons, Limited, of Southampton, guarantee all the garden seeds which they send out, which is certainly an excellent testimonial for their quality. In their new catalogue will be found all the most up-to-date varieties of flower and vegetable seed, and from it selections suitable for northern as well as southern gardens can be made.

SOCIETY NOTES

Glasgow and West of Scotland Horticultural Society.

AT the monthly meeting of the Society, Mr. Thomas Dagg, presiding, Mr. John Cairns read an interesting paper on the History and Production of Spring-flowering Bulbs, in which he made reference to the introduction of the tulip and hyacinth into western Europe, and showed how their cultivation had been taken up by growers in Holland, who had brought these flowers to their present-day perfection. He pointed out that the improvement in the daffodil or narcissus had originated in England, and drew attention to the work of Dean Herbert of Manchester, William Backhouse of Darlington and Edward Leeds of Manchester, who may be regarded as pioneers in the production of the modern daffodil and of the many lovely varieties to be found among narcissi nowadays. He made reference to many other bulbs and the methods employed in their propagation in the bulb fields. Mr. Cairns also exhibited a series of lantern slides illustrating various features in the propagation of bulbs and work in the bulb fields of Holland and the British Isles.

East Anglian Horticultural Club.

THE annual dinner was held on January 12th at Notts Assembly Rooms, Norwich, when a large assembly of professional and amateur gardeners attended under the presidency of Mr. R. Roll. The toast of the East Anglian Horticultural Club was proposed by Mr. W. J. Payne (Watton) and responded to by Mr. R. Roll (President) and Mr. G. R. Todd (secretary), the latter stating that the membership was steadily growing and it now ranked as one of the largest gardeners' improvement societies in the kingdom.

Mr. H. Perry, in giving the toast of "Success to the Horticultural Trade of Norfolk," said there were in Norfolk 246 fruit growers, 49 florists, 42 seedsmen, besides other branches of the horticultural trade, and many of these carried the name and fame of the county into all parts of the British Isles and, in some cases, overseas. "Daniels Brothers' Seeds," "Daniels' September Black Currant," "Allen's Norvic Roses," "Robert Holmes' Supreme and Kondine Red Tomatoes" were only examples.

Mr. John Clayton, a director of Messrs. Daniels Brothers, Limited, responded. In the course of his remarks Mr. Clayton said he felt sure Norfolk was determined to be one of the foremost horticultural producing counties in England.

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The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

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Boiler Inside, Lighting and Flue outside.

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saves time, seeds and seedlings in Spring.

Chase Alpine Clips hold glass over Alpine Plants.
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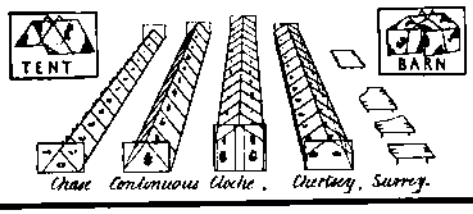

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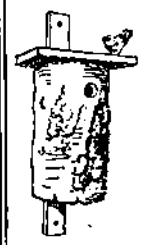

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are intended for WILD BIRDS that build in holes. Provide the birds with lodgings, and they will board themselves off your garden pests, and give you constant entertainment with their pretty ways.

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It need not be h. and c.

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The BEST and CHEAP

SPECIAL POTS
Roses, Vines,
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FANCY FERN P and BULB BO
from **4d.** each

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SCOTCH SEED POTATO

CLASS 1

Selected Stocks of the leading vari
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SEED POTATO GROWERS
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"THE GARDEN" CROSSWORD—XI

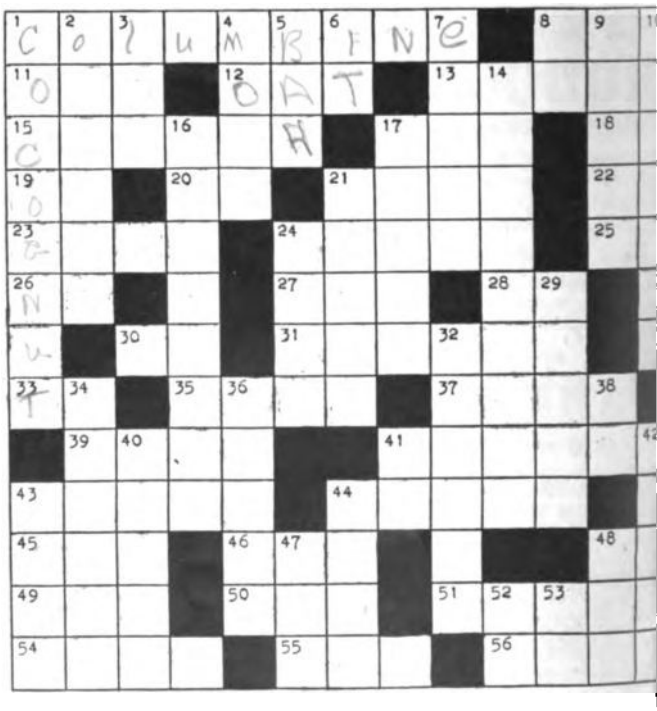
Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, February 3rd. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.

1 Popular name for aquilegia.
8 Line of beanstalks.
11 Fruit of the dog-rose.
12 Cereal plant.
13 Abounding in foliage.
15 Eatable growth of grass after mowing.
17 Annex.
18 Flower Cluster (abbr.).
19 Nearly six.
20 Nursery Stock (abbr.).
21 Largest plant.
22 Exclamation.
23 A prickly pear.
24 Number of leaves in circle around stem.
25 A meadow (curtailed).
26 New Members (abbr.).
27 Tree branch.
28 Short form of "woe."
30 Fourth musical note.
31 A harvester.
33 Thank you.
35 Poison.
37 A labourer's worthy of this.
39 Prepared barley used in brewing.
41 Ascending.
43 Gap in a hedge or fence for animals.
44 Common herbage.
45 Mountain.
46 French land measure.
48 For example.
49 Third letter of alphabet.
50 Almost real.
51 Gardening utensil.
54 A spirit-stove.
56 Not green.
56 Garden tools.

DOWN.

1 Tree bearing an edible nut.
2 Vine-mildew.
3 London Police Department (abbr.).
4 Lichen.
5 Exclamation of contempt.
6 Pronoun.
7 Berry-bearing shrub.
8 Half of "rake."
9 Garden rubbish.
10 Variant of "witch-elm."
14 Pretty white flower, growing in damp places in considerable altitudes.
16 Unfit for tillage.
17 The odorous principle of plants.
21 Number of leaves clover usually bears.
24 Caution.
29 Species of iris.
32 Small bottles.
34 A charm.
36 Expressed oil of roses.
38 Half an em.
40 The trembling poplar.
41 Right Reverend (abbr.).
42 Name given several varieties of plums.
43 A spice; the second coating of nutmeg.
44 Garden paraphernalia.
47 A vivid hue.
48 An early garden dweller.
52 Imperial Highness (abbr.).
53 Two-thirds of "con."



Name .....

Address .....

Solution to "The Garden" Crossword No. 9.

ACROSS.

1 Oleander, 9 Loam, 13 Xenogamy, 14 Yarr, 15 Lair, 16 Bole, 18 If, 19 Thirty, 22 Vis, 24 Daisy, 25 Chick, 26 Sow, 28 Tooth, 30 Shy, 31 Sap, 33, Unico, 34 Tilth, 35 C.S.I., 36 Uke, 38 Weed, 39 Gossamer, 41 Ers, 42 Coco, 43 Sl, 44 L.S., 45 Ferocity, 48 Or, 49 Soke, 50 Era, 52 Endog ns, 53 Awn.

DOWN.

1 Oxlips, 2 Leaf, 3 End, 4 Aorta, 5 N.G., 6 Da, 7 Embryo, 8 Ryot, 9 Lye, 10 O.A., 11 Artichokes, 12 Mr., 17 Lychnis, 20 Hit, 21 Isos, 22 Viscum, 23 Sky, 24 Dwales, 27 Osiers, 29 Tussocks, 32 P.T.D., 34 Twelve, 35 Cocoon, 37 Erica, 39 Gorse, 40 Art, 42 Ce, 45 Fro, 46 *i.e.*, 47 Yew, 48 Od, 51 R.N.

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HARDY ANNUALS TO SOW NOW (see page 82).

THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2879 Saturday, February 5th 1927 Price TWOPENCE

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IMPROVED
SHIRLEY
POPPIES

This lovely garden annual Poppy has received its various names from its delicate texture and almost shadowy forms. Shades are endless; a strain of unusual beauty. A number of very beautiful new picotee-edged forms, including shades of tangerine and orange, also give distinction to the strain. There is also a peculiar graining in most of the pink and red shades which evokes admiration from all who have seen these Poppies.

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Undertakes laying out New Gardens Construction of Rockeries and Alterations. Plans and Estimates Free.

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BARROW-ON-HUMBER
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Weed Destroyers Fertilizers Insecticides Nets and Sundries

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WIRE BOUND PATENT. Over 100 prizes. R.H.S. Medal, 1910. No warping or shrinking. In Oak, Beech, Teak, etc. Highly decorative. — Price List from A. PRADAL, 26, Goodge Street, London, W.1.

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Continued from page iii.

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by a nail; can't fade or break. Trial offer; 100 assorted wi
50 stakes, 50 tie wires, 1 pocket nail, 10/- free. Samples f
The R.H.S. use them. Lists.—WEBSTER'S, Witheridge, Devo

BUSHELS OF LABELS bought with nam
on are wasted. You write Webster's by nail on the spot
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NIALS, surplus plants, all exhibition varieties, choice flower
18 for 5/-; rockery plants, 18 for 5/-. Carriage paid.—F. OLIV
"Revillo," Long Lane, Ickenham, Uxbridge.

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FROST AND BIRDS. Netting, strong small mesh, specia
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GRAPE VINES, well rooted, short jointe
perfectly ripened. Extra Strong Planting Canes, 12s. 6d. ea
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THE GARDEN

VOL. XCI.—No. 2879. FEBRUARY 5, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Of Interest to Town Gardeners.

FOR many years, now, there has been an increasing interest shown all over the country in what has come to be known as Town Gardening. It may be regarded as a specialised form of gardening in that the town gardener has entirely different conditions to contend with from those of his *confrère* in the country. Questions of what plants to grow in limited space, in shady positions and in soil of medium quality become important and demand information of a specialised kind. Gardening journals seldom cater particularly for the town gardener. The information is of a more general nature and must be watered down to suit individual requirements. Since this involves, to a certain extent, the need of some gardening knowledge, which the amateur may not possess, we have decided to assist the beginner in town gardening and the vast army of amateurs who are taking to gardening in the suburban districts of all our large towns and cities, by devoting a whole page, once a week, to town gardening and its problems.

To this end, we have arranged with Mr. R. Sudell, the organising secretary of the London Gardens Guild, to contribute, commencing with this week's issue, a weekly series of notes which will deal with all aspects of this form of gardening. As we wish these to be as helpful to the amateur as possible, they will be on strictly practical lines, indicating the kinds of plants which do well under town conditions, with hints on their culture, methods of treating a limited space and how to get the best possible out of it, by selecting special plants for special situations and so on. Questions of a general gardening nature will also be dealt with in their proper season and all those finer points which make for success in the running of a garden, large or small, new or old. In order to make this page of still greater assistance, we shall publish photographs of various town gardens in various districts, showing what can be accomplished in restricted space and under conditions not exactly of the best. These, we hope, will suggest methods of treatment which others may follow with the same, if not better results.

There are many amateurs' gardens in all parts of every town and city in the country, which could all be made still more beautiful throughout the greater part of the year by the cultivation of all kinds of flowering plants provided the necessary stimulus is given. Much has been done already through the activities of the London Gardens Guild and its affiliated societies in different areas to beautify our towns and suburbs by creating a love of flowers and THE GARDEN wishes to co-operate as much as possible in this very necessary movement and to encourage and assist still further all amateurs who garden in or near a town, by providing reliable and up-to-date information on all questions relating to town and suburban gardens. We will welcome any suggestions from readers on how to make this new feature still more useful to meet all requirements.

Annual Poppies.

ANNUAL poppies have been somewhat neglected by many amateurs, although these flowers thrive in almost any sort of soil. No elaborate preparation of the ground is needed and certainly a few should be grown in every garden. For brilliant colouring and garden display or for providing table decorations few annuals can compete with these annual poppies, considering the ease with which blooms are produced. There is now a fine variety of shades, some most brilliant and striking, others in tones and half-tones of soft art shades and a few are beautifully striped and edged. Shirley poppies in the newest strains are favourites for table decoration, and are to be had in wonderful shades with both double and single flowers. A particularly fine strain is illustrated on our front cover, notable for its beauty of form and colour. A large bed of the newer varieties provides a fine sight in the garden. Also the newer strains last much longer in water. The great objection to poppies is that they do not last long as cut flowers. Much can be done to obviate this drawback. If the flowers are gathered early and just as the buds become erect and show colour they will last longer, and also if the ends of the stalks are plunged in almost boiling water their life as decorative blooms is prolonged.

Although poppies will grow without much preparation of the soil, it is advisable to dig the ground fairly well and work in a little decayed manure. It is not possible to transplant the seedlings, so that a thin sowing should be made where the plants are to flower later. Thin these out to about 9ins. or 10ins. apart. Those who have a new garden and not time to dig and trench for sweet peas or other flowers will find beds of poppies most useful. These annual poppies are quite hardy, and a glance through a seed catalogue will help one to make a selection of up-to-date varieties.

HAVE YOU

¶ *Sown some early peas on a warm south border?*

¶ *Hoed over the surface of your strawberry beds, removed all decaying leaves and given the plants a light dressing of well rotted manure?*

¶ *Pricked off into boxes or frames your seedling cabbages and cauliflowers?*

¶ *Started into growth by placing in boxes of leaf-mould your tuberous begonias? These boxes should be put into a warm greenhouse.*

¶ *Sown seed of antirrhinums, pentstemons, lobelia, begonias and any half-hardy annuals? These should be germinated in a warm atmosphere.*

Plants in Frames.

DAMP is, perhaps, the most formidable enemy to plants in frames, and at the present time great care is needed to keep the occupants healthy. Such things as violas, pentstemons, calceolarias and antirrhinums need only to be sheltered from the rigours of the weather, and at every favourable opportunity the lights should be tilted to admit a free circulation of air around the plants. Dead and decaying foliage should be looked for frequently and removed at once, otherwise fungi will appear and heavy losses follow in consequence. Stirring the surface soil with a hand fork will also be of great benefit. Watering should be done on a fine day and in the morning, so that the interior of the frame may become comparatively dry before closing time. While taking care not to spill any water in the frame, sufficient should be given to moisten the soil to the depth of the roots: mere sprinklings will only add to the trouble it is desired to avoid.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 10, which appeared in our issue of January 29th, have been awarded to—

Mr. A. T. Green,
36, Selwood Road, Croydon.

and

Mrs. W. Naylor,
16, Berkeley Drive, Wallasey.

To each of whom a cheque for that amount has been sent.

DO NOT MISS OUR SPRING PLANTING NUMBER NEXT WEEK.

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HARDY ANNUALS TO SOW NOW

SCABIOUS IN MIXED COLOURS.

A USEFUL guide to assist you towards a selection of and in growing some of the most beautiful flowering plants. Annuals by their elastic habit, and wide range of colours are suitable for all purposes and all situations—for filling spaces in the border, for bedding, for the greenhouse, as edgings to paths, and for the rockery. Some are excellent for shady corners, others for sunny situations.

THE FRAGRANT SWEET SULTAN.

FEW owners of small gardens seem to appreciate fully the value of hardy annuals. They cannot, of course, take the place of perennials; still, even if used alone, they can be depended upon to make a brave show throughout the summer, provided the soil is fairly light, the situation sunny, and they are grown with a reasonable amount of care. The seeds must be sown sparsely, the seedlings drastically thinned if in the least crowded, watering must be done judiciously, and a sharp look out kept for slugs, which must be warded off by applying a solution of alum to the soil. Furthermore, the taller kinds should be supported by branching twigs placed among them at an early stage of their growth.

A satisfactory way of dealing with a narrow border—not more than 3ft. to 4ft. wide—such as one generally finds in a small garden is to fill it entirely with annuals in shades of either one or two colours only. Supposing a blue and pink scheme — always very pretty—is chosen, the back row may be of groups of pink cosmos and Lavatera rosea splendens, alternating with others of cornflowers (Centaurea cyanus) and double blue larkspur. All these are about 3ft. high, and should be sown where they are to bloom (the cornflowers particularly resent transplanting) with the exception of the cosmos, which it is safest to start in a cold frame, although it is nearly hardy, as in my north Somerset garden self-sown seedlings often survive the winter. Unless the border is very narrow indeed, the row of these plants can be broken at intervals by clumps of pink sweet peas—say Hercules or Hawlmark Pink—and blue Convolvulus major. The last named can be sown in the open the first week in May, but it saves time to raise it in pots. There are plenty of charming pink and blue annuals from 1ft. to 2ft. in height from which to make a choice for the main part of the border. Among the best are Sutton's double pink clarkia, Sutton's annual blue anchusa, Godetia Double Rose, Viscaria Pink Beauty, Nigella Miss Jekyll, Lupinus Hartwegii cœlestinus, Clarkia Pink Pearl and Jacobæa Double Rose. All should be sown in as large patches as is commensurate with the width of the border. For a "one plant edging" nothing can be prettier than the blue Nemophila insignis grandiflora (this needs specially thin sowing), but, unfortunately, cats have a passion for rolling on it. Godetia Sutton's Dwarf Pink, Viscaria Tom Thumb Rose Gem and Silene pendula compacta are all suitable for the purpose, or they may be combined with Phacelia campanularia—this is a particularly beautiful blue—Nemesia Blue Gem, Convolvulus major and the dwarf cornflower Victoria and sown in patches—blue and pink alternating—along the extreme front of the border in lieu of a straight single flower edging.

A border filled with annuals of every shade of yellow between cream and orange is most effective. The taller sunflowers are scarcely suitable for a narrow border, but there are varieties the height of which does not exceed 3ft. to 4ft. which are quite admissible as back row plants. Here I may say, in parenthesis, that sunflowers, graduated in height from the giants of 6ft. or 8ft. down to the dwarf that reach but 12ins. and of every shade from primrose to deep yellow streaked with red, will fill an angle of the garden—where two boundary walls meet, for instance—gorgeously. To return to our yellow border, in the middle of it can be sown such showy annuals as Coreposis Drummondii, C. tinctoria, Scabious Barr's Yellow Prince, the summer chrysanthemums and Rudbeckia

SOME HARDY ANNUALS FOR SMALL GARDENS.

Name.	*Colour.*	*Height.*
Bartonia aurea	Yellow	1½ft.
Clarkia	Rose-pink, white	2ft.
,, dwarf	,, ,, ,,	9ins.
Chrysanthemum (annual)	Yellow and white	1½–2ft.
Collinsia bicolor	Lilac and white	9–12ins.
Convolvulus major	Deep blue	1ft.
Coreopsis Drummondii	Yellow	1½–2ft.
,, tinctoria	Yellow and red-brown	2ft.
Cornflower	Blue	3ft.
,, dwarf	,,	9ins.
Cosmos	Pink, white, crimson	3–4ft.
Dianthus Heddewigii	Various	1ft.
Dimorphotheca aurantiaca	Orange	1ft.
Eschscholtzia	Shades of yellow, flame and rose	1ft.
,, cæspitosa	Pale yellow	6ins.
Godetia	Pink, white, crimson	1½–2ft.
,, dwarf	Pink	9ins.
Helianthus, dwarf	Yellow	2½–4ft.
Jacobæa (Senecio elegans)	Rose-pink	1½–2ft.
Larkspur, tall double	Blue	3ft.
,, dwarf ,,	,,	1½ft.
Lavatera rosea splendens	Pink	3ft.
,, alba ,,	White	,,
Linum grandiflorum rubrum	Crimson	1ft.
Lupinus Hartwegii cœlestinus	Blue	2ft.
,, Menziesii	Yellow	1½ft.
Nemesia	Various	1–1½ft.
,, Blue Gem	Blue	9ins.
Nigella Miss Jekyll	,,	1–1½ft
Phacelia campanularia	,,	9ins.
Phlox Drummondii	Various	1ft.
Poppy, peony-flowered	,,	2½ft.
,, Shirley	,,	1½–2ft.
Rudbeckia Golden Sunset	Yellow	1½ft.
Scabious	Various	2ft.
Schizanthus	,,	1½ft.
Silene pendula compacta	Pink	9ins.
Sweet Sultan	Yellow, purple and white	1½–2ft.
Viscaria Pink Beauty	Rose-pink	1ft.
,, Tom Thumb Rosy Gem	,,	6ins.

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Golden Sunset, the only annual of its kind. Rather less in stature—but the height of annuals is apt to be variable—are the eschscholtzias in their splendid tones of orange and flame, the not very well known Bartonia aurea which has big golden flowers and pretty foliage, Dimorphotheca aurantiaca (orange daisy) and the yellow Lupinus Menziesii. The daisy is quite hardy in a dry, sunny spot, but the lupin, although not tender, is capricious and dislikes transplanting. It is, however, well worth trying. The colours of Calendula officinale Orange King and Lemon Queen are rich, but the plant is too coarse of growth for a narrow border. As to an edging plant, there is the miniature eschscholtzia, a dainty thing about 6ins. high covered with little primrose flowers, or the ever-useful dwarf nasturtium, shading from cream to deep yellow.

With the exception of the edging plants, all the annuals mentioned above may be grown in patches in the mixed herbaceous border, and many of them are to be had in various colours. To the list may be added the crimson flax (Linum grandiflorum rubrum), scabious, Collinsia bicolor, schizanthus and peony-flowered poppies. To fill small beds in a small garden perhaps the most appropriate annuals are nemesia (various colours), Shirley poppies (white, pink and crimson), sweet sultan (yellow, purple and white), godetia (white, pink and crimson), Dianthus Heddewigii (various colours), Phlox Drummondii (various colours) and ten-week stocks, although I admit that it is stretching a point to include the two last in the category of hardy annuals. A fairly large bed looks well planted with mixed stocks, but it is better to fill small ones with separate colours.

R. E. HEAD.

FOR AN ANNUAL EDGING NOTHING CAN BE MORE ATTRACTIVE THAN NEMOPHILA INSIGNIS WITH ITS CHINA BLUE FLOWERS.

ANTIRRHINUMS for the SUMMER BORDER

AS a plant for blooming in the garden during the summer and early autumn, that may be raised as an annual, or struck from cuttings and wintered in a cold frame, or, in some circumstances, left to chance in the borders and practically treated as a perennial, it is questionable whether any flower during the last twenty years has made more rapid strides in public favour. To-day there is a magnificent choice in colours, so much so that one may for quite a trifling sum bring about very beautiful effects by carefully making a selection. While it is a great advantage to raise seeds in heat in the early year and push them on in warmth before transferring them to a cold frame to harden them before planting out in May, it ought not to be lost sight of that seed sown on a warm border in light soil will produce plants that will follow with bloom, and will not be a long way behind those brought up under—what is so often regarded—better conditions.

In the question of bringing about the best effects, I think it will be found that beds or masses of one colour give more satisfaction than when planted any fashion without reference to colour. The one fact which should not be lost sight of is that, though there may be no greenhouse and no frame, it need not be a barrier to sowing seeds out of doors, and, therefore, no garden need be entirely without antirrhinums. The raising of this plant from a position of almost obscurity to the position of an important flowering plant for the garden has involved much care on the part of those who have made it their business to improve the strains. One such firm, which years ago saw in the antirrhinum great possibilities, has done much towards popularising them. I refer to Messrs. W. H. Simpson and Sons of Birmingham, to whom we are indebted for some charming introductions, such as Mrs. R. F. Felton, bright orange scarlet; Appleby Matthews, orange terra-cotta, lip flushed with yellow; Fire King, orange scarlet, white tube; Sybil Eckford, apricot pink, cream ground, lemon lip; Afterglow, deep orange scarlet self; Estelle, apricot salmon, suffused pink; Purple Robe, rosy purple self.

Other sorts of antirrhinums worth taking into account, especially by those wishing to have masses of one particular colour in the garden, are Bonfire, apricot, shaded gold; White Queen; Carmine Queen; Golden Gem, deep yellow; Charm, soft rose pink self; Black Prince, velvety maroon; roseum superbum, a rose pink self in the way of Charm, but finer; and Monarch, crimson.

One of the great advantages about growing antirrhinums is that one may choose three distinct types of plants: tall, ranging 2ft. to 3ft. in height; medium, 1½ft. to 2ft.; and others, dwarf, not exceeding 8ins. or 9ins. in height, so that there is scarcely any position in a garden in which they cannot be profitably employed. From a long experience with them, I have no hesitation in saying that there are few gardens, however poor the soil may be, where, with a little determination, one cannot have a glorious show of their handsome blossoms, so long as they are given the chance of sunlight. W. F.

ANTIRRHINUMS AND STOCKS MAKE A MOST EFFECTIVE SUMMER BORDER.

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EVERGREEN BARBERRIES for SMALL GARDENS

THERE is such a large and varied selection of barberries that the gardener whose space is limited to quite a small area never need feel that these fascinating shrubs are beyond his scope. He will, in point of fact, be able to choose from the members of this genus shrubs that are exactly suited to his requirements. In the evergreen kinds alone the berberis family is especially rich, and in noting a few of these I do not think any more thoroughly deserve first mention than the several dwarfs which have been raised from B. stenophylla. One of the best of these is the so-called B. Darwinii nana, and when I say that it is a replica of Darwin's barberry in miniature, no higher praise can be given it. B. Irwinii is a delightful variety, usually under 1ft., very compact in habit and a most prolific bloomer. The rich green foliage, which in itself is very ornamental in the rock garden, affords a most effective background for the orange-yellow blossoms. B. corallina, which is taller and notable for the vivid scarlet of its buds, is another choice little shrub, and corallina compacta is a dense, close-growing edition of its namesake. B. reflexa is also a stenophylla seedling with curiously recurved leaves and clawed spines, and gracilis nana is "out of the same pod," a dainty gem of a shrub no more than 9ins. to 10ins. high. All the above, save where otherwise stated, grow about 2ft., all have rich yellow flowers and a shapely habit.

B. buxifolia (dulcis) nana has long been a favourite dwarf barberry, its compact growth, ample foliage and golden "lanterns," never failing to appeal. Though it is said to flower indifferently in some gardens, this shrub always does well with me, and, I may add that it is in very poor, dry soil, with its roots wedged between rocks. B. b. nana grows to some 2ft., but in smallness of stature it has been entirely eclipsed by that wee rounded bushling, B. b. n. pygmæa, which you could almost cover with a 6in. flower pot. B. Wallichiana (Hookeri) is a very charming species for grouping on the margin of the shrubbery. It makes a bold sheaf of slender arching branches about 2ft. high the rich green leaves are glaucous beneath and the large yellow flowers, which are produced most lavishly in spring, are followed by sloe-black fruits, which are retained all winter. This old barberry deserves to be more widely known. So also does that much newer species, B. sanguinea, which makes a good companion for the above. It is a good deal taller, but I find it so slow in growth that I am inclined to include it here. It has the same graceful, orderly habit as the last-mentioned, but the foliage is a pale pea-green, an attractive colour at all seasons, and if the flowers are rather a poor yellow, they present a distinct and pleasing effect by reason of the fact that their stalks and calyces are a brilliant crimson. Of somewhat the same style of growth as the foregoing, very compact and orderly, is B. Gagnepainii. With me it does not exceed 3ft. The foliage is spiny and of a fresh pale green, and the flowers, yielded in large clusters, are yellow and of good size. They are succeeded by blue-black berries. B. empetrifolia is always worth a place in any collection of dwarf barberries if only for the fact that it was one of the parents of the splendid B. stenophylla—B. Darwinii being the other. It is, moreover, very distinct in appearance, the leaves being long and narrow, the branches light and trailing and the golden-yellow flowers are usually in pairs. The height seldom exceeds 18ins.

B. verruculosa is yet another species of compact habit and no more than some 3ft. in height. The foliage is a very lustrous green, contrasting well with the ruddy, "corky" bark, and the flowers are unusually large and of a glowing orange yellow. Those who have a partiality for the salmony pink berries of many popular deciduous species, and who may regret that the fruit of the evergreen kinds is comparatively dull, will find satisfaction in B. subcaulialata and B. Wilsonæ. These may not be strictly evergreen, but both are to a great extent. The former never loses its leaves with me. B. Wilsonæ is, perhaps, the most charming of all the dwarfer barberries noted for the brilliant tints of their autumn fruit and it makes a light, spreading bush, usually of no more than 2ft. in height. B. subcaulialata is closely allied to it and equally good in the colour of the berries. B. japonica is very easily grown. It bears clusters of fragrant yellow flowers, and has dark shiny green foliage.

None of the above needs any special treatment. All thrive in a light, gritty, well drained soil and they are quite hardy. An open situation is desirable. Most barberries can be raised very readily from seed, but the dwarf hybrids alluded to must be propagated from cuttings. A. T. J.

BERBERIS STENOPHYLLA IN ONE OF ITS GOOD DWARF FORMS MAKES AN EXCELLENT SHRUB FOR THE SMALL GARDEN.

THE SHINING GREEN FOLIAGE OF BERBERIS JAPONICA LOOKS WELL IN THE FRONT OF A SHRUBBERY BORDER.

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THE DAISY-LIKE FLOWERS OF ANTHEMIS ARE MOST DECORATIVE.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

CORBOPSIS GRANDIFLORA, A FINE PERENNIAL FOR ALL TOWN GARDENS.

Anthemis (The Chamomile). ANTHEMISES are old-fashioned perennials that have a large following to-day, and are useful in a garden in a variety of ways. Some are dwarf, with silvery foliage and white flowers, blooming in June and July; others reach about a foot or so in height and yield yellow flowers, useful for cutting. The first make good edging plants and all will grow in ordinary garden soil. They should have the benefit of a sunny position, and can be raised from seed sown in the open ground in April; some of them from cuttings inserted after a flowering in sandy soil, and they can be divided in spring also.

Pyrethrum. VERY popular showy garden plants are pyrethrums, hardy, growing well in moderately good soil, and invaluable for supplying cut flowers and for indoor decoration. Moreover, they are profuse with their blossoms, which are single and double. They are among the best plants an amateur gardener can take in hand, as they need but little attention once planted and established, except to divide the clumps every two or three years, an operation which should take place in March. They are wonderfully attractive in a border of hardy plants during the time of their blooming, which is May and June, but if care is taken to cut away the old flower stalks, there will be more flowers in early autumn. Propagation is by dividing the clumps in spring, and from seed, which can be sown in pans of light soil in a cold frame in April. Pyrethrums grow from 2ft. to 3ft. in height.

Agrostemma (Rose Campion). THESE old-fashioned plants, with their white woolly leaves which have a velvety touch, and flattish deep rosy crimson flowers. They are hardy and free blooming, thriving best on chalky or sandy soil. The most popular member of the family (A. coronaria) is of biennial growth, easily raised from seeds sown in the open ground in May, though, as a matter of fact, once plants have been allowed to go to seed, many self-sown seedlings result. They bloom from June to September and attain a height of about 3ft., and are useful in middle rows of hardy flower borders. The flowers, rich in colour, are very attractive, often to be seen in cottage gardens.

Coreopsis. THESE valuable perennial and annual plants which yield their blossoms lavishly are of the simplest culture and should be taken note of by the town amateur, especially, who delights in flowers for cutting. The perennial forms are hardy in light, well drained soils and bloom from June until September, according to variety. Cold, heavy soils should be avoided. Ranging about 2ft. or so in height, they are very attractive in a garden during their flowering period. The methods of propagation open to the grower are by division of roots in March; from cuttings taken from the base of the plants in summer (being inserted in pots of sandy soil and kept in a cold frame and shaded as required), also in the case of annuals, by seed sown in a cold frame, in autumn, in warmth in spring, or sown direct in the border in April.

Asperula (Sweet Woodruff). THIS plant is a favourite in many gardens, and in some gardens is employed in rock-work. Grows about 9ins. high, and is covered in May with masses of small white sweet-scented flowers, the foliage also being fragrant. It is so hardy that it will grow anywhere, and makes such rapid progress where planted that it soon outsteps its boundary, unless checked. Used for planting on grottoes, rough banks, and edges to borders. It needs to be overhauled every year and divided, or reduced if need be. November or April is the best time for the work. There is no difficulty in propagating it, as its roots ramify about a garden if not controlled. Grows in sun or shade. May also be raised from seed sown in spring out of doors where it is wanted to bloom. The sweet scented Asperula odorata is very useful for naturalising. It is also used as a medicinal herb when gathered and dried during the flowering season. A. Gussonii, which bears pink blooms, is an excellent plant for a dry position in the rock garden.

DOUBLE PYRETHRUMS AND ORIENTAL POPPIES GROW WELL TOGETHER IN THE BORDER.

Planting can be carried out during the next few weeks.

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THE BUSY MAN'S PAGE

February Reminders.

IN open weather finish the planting of all deciduous trees and shrubs, including roses. Herbaceous borders should be top-dressed with manure, and if the plants are too large they may be divided. Top-dress poor turf on the lawn with a mixture of soot and wood ashes. Plant any edgings to borders. Turn over gravel walks and stir the soil freely among beds and borders of spring flowers.

In the fruit garden there is yet time to plant young trees. Complete any winter pruning without delay. Trees that show signs of being exhausted should be top-dressed with manure or given any liquid stimulant. A little extra nourishment at this time of the year will often have an excellent effect on fruit trees. Another plan is to dig into the ground turfy loam so that it is well within reach of the roots of the trees. The work in the vegetable garden is now steadily increasing. Sowings of early peas may be made, and if there are any broad beans still out these should be put in without delay. Spinach may be sown between peas. If an early supply of Brussels sprouts is required in the fall, sow a pinch of seed now in a box to give plants for putting out in April. Cauliflowers in the seedling stage will need very careful attention. Hardly any water should be given, as the least excess of moisture will cause them to damp off. Carrots, radishes and lettuces may be sown in an early border.

Rambler Roses in Pots.

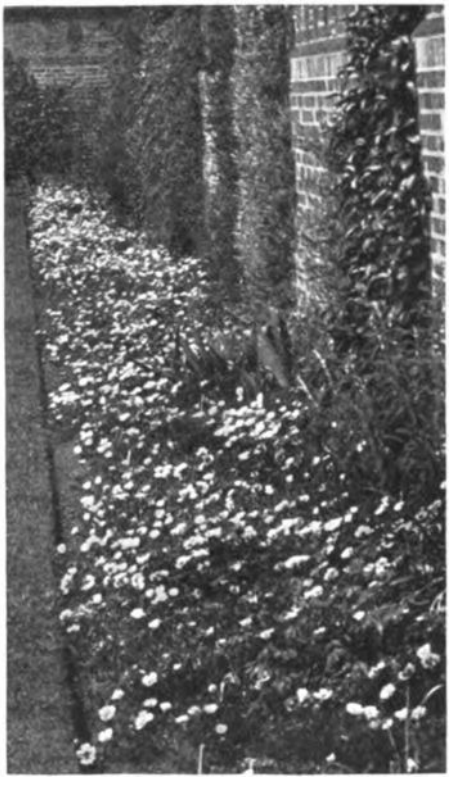
DURING recent years the value of rambler roses as subjects for pot culture has been realised. With simple treatment these may be brought into flower at an early date, when they are most useful for house decoration. Young and vigorous specimens may be potted up at once, a good compost being formed of a mixture of turfy loam, well rotted manure and leaf-mould in equal parts, to which, finally, a little sand is added. For a good-sized rose a "21" pot should be employed, and it is important to see that the drainage is good and also that the soil is firmly rammed down. For a week or two the roses might be left out of doors in some fairly sheltered situation. Finally, the roses may be brought under glass, where, if any heat is available, this should not be more than is necessary just to stimulate a healthy growth. Almost as good results can be secured in an unheated structure. Experience has shown that active growth is stimulated if the roses are given water that is a few degrees above the normal temperature. Twice a week a liquid manure may be given, but the solution should not be strong. Plenty of air and frequent syringings will do a great deal towards keeping the plants in a healthy state and free from green fly.

Seed Labels.

AFTER a sowing of seed, the position is often marked by slipping the packet into a split stick. As a rule the label is soon destroyed, or at any rate is made quite unreadable by the rain. A very good way of getting over the difficulty is on the following lines: Secure some narrow glass bottles, those in which homœopathic medicines are commonly sold do well, and, after folding the packet round a little stick, pop the bottle right over it. Of course, the packet should be folded so that the name of the variety is to the outside, and then it can be plainly read through the glass. Another way of protecting the packets is to dip them in melted candle wax. This enables the paper to resist dampness to any extent and it does not affect the legibility of the printing.

An Annual for a Light and Sunny Position.

FOR a sunny position where the soil is poor and somewhat stony there are no plants so useful as the portulacas. These plants seem to revel in rather barren ground where little else would grow, always providing the situation is not unduly shaded. Most of the forms of portulaca now grown are varieties of old Chilian P. grandiflora, and they exhibit a wonderful range of colour. In many cases there are double forms, and these are especially good on account of their lasting qualities. The plants grow to the height of from 6ins. to 9ins., and form a dense carpet of foliage against which the masses of brilliant flowers show up very



PORTULACA GRANDIFLORA IS A USEFUL ANNUAL FOR GROWING IN A SUNNY BORDER AND IN POOR SOIL.
Seeds can be sown now in a little heat.

finely. The seeds should be sown in a little heat in February or March. When the seedlings are large enough to handle it pays to put them singly into small pots so that by planting-out time sturdy specimens are secured. In early May the portulacas may be set in the open 10ins. or 12ins. being allowed between the plants. Flowering begins at the end of June and will continue for several weeks. The season of bloom may be very much lengthened if the setting of seed is rigorously checked. Sometimes portulacas will sow themselves in the autumn, but, except in a very favourable season, the plants are not always very satisfactory.

When Roots are Shrivelled.

NOW and again one has to deal with the planting of roots which have been kept out of the soil for some time and are badly shrivelled. In such cases it is a very good plan to soak them in water for a time in order to restore their natural plumpness. Fill a pail with rain water and then let the roots soak for five or six hours. They will then be in a much better condition and are ready for immediate planting. This method is particularly useful in the case of anemone tubers, which often shrivel badly; it is worth trying in the case of many other plants for, in no case, can any harm arise.

The Right Use of Fertilisers. The Kinds to Use and Their Results.

ON the proper use of manure much of the success of the garden will depend. Apart from the carbon which the plant secures from the air, all the other food materials are taken up by the roots in a state of solution. Plants have no selective powers in the matter, and if the solution is of the right strength it is bound to be absorbed. If a fertiliser is given without considering the needs of the crop it is possible to bring about results which are the opposite to those required. Here are some useful facts which show the parts played by the principal fertilising agents.

All nitrogenous manures have a marked effect on the leaves and stems of the plant. Thus, a soil greatly enriched with farmyard manure will bring about a rank growth of foliage, and this will be carried out at the expense of flower and fruit. It is easy to realise that nitrogen is useful in the case of those vegetables where the foliage represents the crop, such as cabbages, brussels sprouts, spinach, etc. High-grade guano is a very intense nitrogenous manure which is most useful where a quick leaf growth is desired. Purely chemical fertilisers which help greatly in leaf development are nitrate of soda and sulphate of ammonia. Both these are powerful stimulants which must be used with care according to the directions supplied by the makers.

Potash is an important plant food which is closely connected with the green colouring matter in the leaves and the assimilation of carbon from the air. It is especially useful when vegetables and fruits of large size and good flavour are required. In a soil which has been well prepared and regularly dressed with lime there may be a sufficiency of potash. In most cases it will be found that sulphate of potash may be usefully employed during the growing season. For instance, a pound of sulphate of potash allowed to every square rod of ground where potatoes are growing will be found to be very helpful.

For the production of fruit, using the word in its broad sense to include many common vegetables (*e.g.*, beans, peas, marrows, etc.), some phosphatic manure is extremely important. The most useful forms for the amateur are bone flour and superphosphate. The greatest objection to the first named is that it is somewhat slow in action, and to get the best results only that which has been very finely ground should be employed. Superphosphate may be applied at any time, but it is especially useful in the spring. This has an effect on tomatoes that is almost magical, especially if applied just after the setting of the fruit.

Treating the Lawn.

A GREAT deal may be done towards improving the condition of any lawn by the application of chemical manure. A dressing which may be applied with good effects at the present time is superphosphate of lime 3 parts and sulphate of ammonia 1 part. This should be scattered thinly over the grass, and its effect will be apparent in a dense bright green spring growth.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

We print the following extract from a Garden Talk broadcast from London to all stations on January 5th, by Mr. R. Sudell, in response to many requests.

MANY VARIETIES OF ROSES SUCCEED WELL UNDER TOWN CONDITIONS. THEY ARE AMONG THE BEST AND MOST EASILY GROWN PLANTS FOR THE SMALL GARDEN WHERE EFFECTIVE DECORATION IS DESIRED.

Treatment of New Gardens.

THOSE who live on the new housing estates will have much to do to prepare the garden in time for seed sowing. The general appearance of a *new garden* is one of bareness, and so the first consideration should be to put in climbing plants, shrubs and possibly a few small trees. A few of the quick growing plants for covering fences, sheds, etc., are clematis, especially the red and white varieties of montana, and climbing knotweed (which, by the way, will cover as much as 20ft. square of trellis work in a single season). Vigorous growing roses like Excelsa, American Pillar and Albéric Barbier flourish better than other climbing roses in or near towns. The last named has a wealth of evergreen foliage which makes it useful as a screen plant in the winter garden. There are, of course, many other climbers that could be used, for instance, in the summer, runner beans can be used as a temporary screen between one garden and another, and in new gardens this plant is used extensively for this purpose. Among the shrubs that can be planted for a rapid effect are forsythia (the Japanese bell tree), flowering currant, especially the dark red variety, sumach and bladder senna. A couple of the best trees for making a break in the view from the house would be purple-leaved plum, and laburnum. A tree that does remarkably well in towns and that does not make a lot of growth is the maidenhair tree. If a few plants such as I have suggested are put in straight away on entering a new house, the advantage of this action will be felt in two or three years.

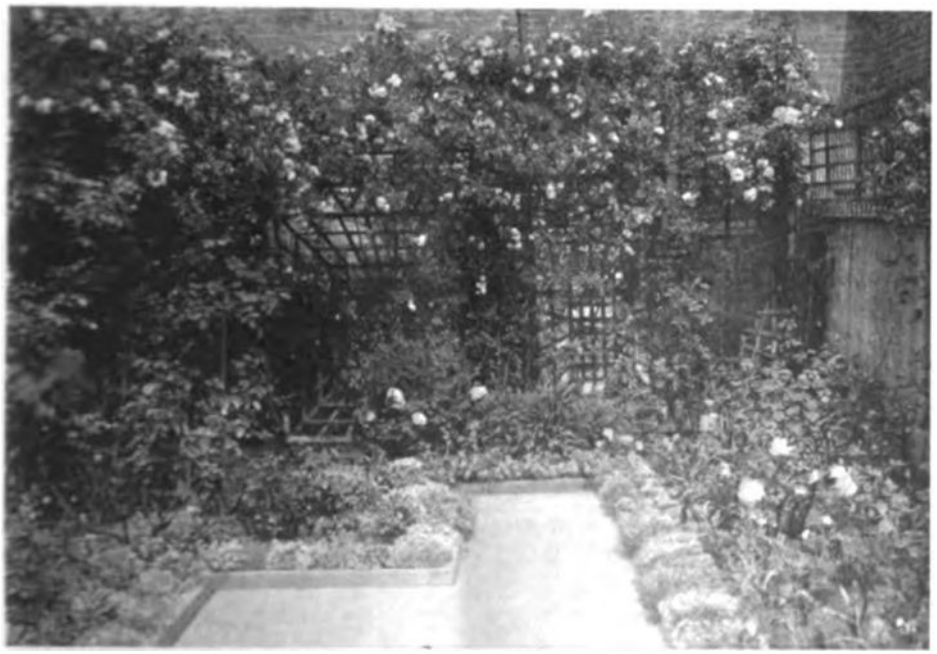
There is a popular belief that plants will not grow well in towns. While this is true for some plants, such as rare alpines and pine trees, it is by no means true for all. The smoky atmosphere, the shade of tall buildings and the sour soil are the three chief difficulties. Suppose we take each of these factors and see if plants in a wild state have to contend with similar obstacles.

The salt laden sea breezes have caused many plants to adopt a protective covering. Carnations are an example. They live by the seaside and have their leaves coated with a film of wax, giving them that beautiful soft grey colour. These plants can grow in the towns, with this coat of wax as a protection from smoke and fogs. All smooth grey-leaved plants will grow well in towns. As for example—carnations, flag irises and auriculas.

The sour soil difficulty is easily dealt with by use of lime and deep cultivation. These difficulties, then, can be overcome, and it only remains to be said that if you love flowers, and give to them intelligent care, you will find that success will come.

Tillage is Manure.

DEEP digging lessens the need for manure, but manure cannot make up for lack of digging. Soil to be "in good heart" should be broken up so that air and moisture can penetrate to the plant roots. The subsoil should be broken to prevent it from becoming water-logged. The surface should, by March or April, be fine enough for seed sowing, or for small seedlings to be made firm when planted. To dig a vacant patch of ground, begin by taking out a trench, putting the soil removed on one side, ready to fill in the last trench you will come to. Break up, or turn over the soil at the bottom of the trench, and throw into it any small weeds and rubbish before you turn the next width of soil over into the trench. Leave the surface rough for the present, specially if your soil is stiff clay. Frost, winds, rain and sunshine will all help to break up the soil particles, and by seed sowing time you will be able to get a fine tilth by knocking down the lumps and raking the surface.



A WELL ARRANGED TOWN GARDEN WHERE TRELLIS HAS BEEN USED TO SCREEN UNSIGHTLY WALLS AND TO GIVE AN EFFECT OF DISTANCE IN LIMITED SPACE.

Roses in Towns.

HUNDREDS of new gardens and old neglected gardens, are just now being dug over in preparation for planting. Most of these gardens are either in or near smoky towns and many of their owners are puzzled as to the kind of plants to purchase first. I regard the first essential as a collection of climbing plants, which will cover the bare fences, old walls and unsightly sheds of outhouses. Roses are ideal for this purpose and if you are at all doubtful whether they will thrive, I should advise the planting of such sturdy types as Albéric Barbier and Excelsa. The illustration on this page, of roses blooming in a London garden fourteen years after planting, should prove to those who doubt, that roses will succeed in town.

In a congested district where even the hardy roses will not thrive, I would advise planting clematis (the purple Jackmanni), climbing knotweed and jasmine, both summer and winter flowering.

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NOTES ON THE FLOWER GARDEN

Make Your Preparations Now for a Bright Display During the Summer.

Sedum spectabile as an Edging Plant.

AS an edging for a late summer and autumn border Sedum spectabile is a most useful subject to employ. For one thing, it is permanent, and will give a display every yea rwithout disturbance or re-arrangement. Then, the plant can be relied upon not to exceed a certain height and can be kept well within a limited area. Best of all, it is most decorative all the year round, for when not in bloom its foliage is most striking and gives a perfect finish to the edge of the border.

This sedum never presents a ragged appearance, as many permanent edging plants do. The only time it is inclined to become unsightly is when the flowers are fading, and it is within the grower's powerto remedy this by prompt removal of the flower-stems as soon as the beauty of the blossoms is seen to be on the wane.

SEDUM SPECTABILE MAKES ONE OF THE MOST ATTRACTIVE EDGING PLANTS FOR ANY KIND OF PATH.

There are certain kinds of pathway that call for careful treatment in the way of an edging border, and when there is difficulty in the choice of a subject for the purpose let Sedum spectabile be brougnt to mind, for the plant suits all types of paths—the gravel path, crazy pavement, flagged paths and asphalt. With crazy or flagged pavements this sedum is in appropriate company—it gives just that touch of quaintness and old-time interest to such a pathway that is so often needed. Many a simulation of old-world pavement is spoilt by growing flowers at its edge that are out of keeping with the sentiment intended to be portrayed.

So far as cultivation is concerned, nothing can be easier. The plant is not at all fastidious as to location or soil, although, like every other plant, it appreciates suitable conditions. Once planted, even as a small seedling, it begins to occupy the space allotted to it to the very best advantage, and its activities can be curbed by thinning out the rosettes—each one of which will grow into a plant if inserted in a bed of sandy soil. The root may be lifted, if thought desirable, and divided into smaller plants; but as an edging to a wide border it will be better to give the plant its full scope, within reason, and allow it to form a wide belt of beautiful foliage and blossom all along the pathway edge. The plant is easily raised from seeds, and for preference it likes a moist situation, and the edge of a raised border provides this to a sufficient extent.—H. A. DAY.

A Rose Species Worth Growing, Rosa hugonis.

THIS is a single-flowered Chinese species with bright yellow flowers, and which has the merit of being among the earliest roses to bloom, the plant being at its best about the middle of May. It is not so vigorous as R. Moyesii, therefore it is well adapted for smaller gardens. The blooms, about 2ins. across, are borne singly on short twigs on the main branches, and as these slightly bend over, the effect is a charming one at the time of flowering. The foliage is elegant and small, a fact which makes this rose a desirable one throughout the summer months. It was raised at Kew in 1909, and received the award of garden merit from the Royal Horticultural Society in 1925. It is an exquisite rose that could be employed in a variety of positions, and I once saw it covering a massive boulder, where the blooms were seen to the best advantage.—B.

A North Border and its Uses.

Plants which Do Well in Such a Situation.

SOME gardeners are apt to think lightly of the north side of a garden, and if they do not appreciate its advantages altogether, they view it as the least useful part of the garden. We ought not, however, to forget the use of the north border in the summer, especially in a period of drought, when some of our favourites in sunnier positions languish, and it is a difficult matter to keep them supplied with moisture; neither should we overlook how convenient it is to place a frame in a north aspect, where, for part of each day, coolness is found which suits plants therein—like primulas, cinerarias, solanums and other subjects being brougnt on for beautifying the greenhouse in winter, that with slower development are more sturdy than plants exposed all day to full sunlight. Plants like those mentioned are never better served than when they can be given cool treatment. Most people, in planting bulbs, like to have them in flower at the earliest possible time, and so never dream of planting them under a north wall or fence, but it is a mistake, I think, to look upon the earliest blooms as the best. An experience I gained some years ago in planting a number of Darwin and cottage tulips, and bulbs of that charming Narcissus Mme. de Graaf, which bloomed simultaneously with the tulips, though later than others on the sunny side of the garden, led me to alter my views about the north position being least suitable. It is the same with many hardy flowering plants, including lilies. We are too much concerned in finding some of them a place where they will get every gleam of sunlight, forgetting that shade, as well as sun, has its advantages. I find that in the case of spiræas like S. Aruncus, the goat's beard, and S. japonica and some of its varieties, they are never better suited than when planted in cool quarters as on a north border. Peonies, irises, pyrethrums, lythrums, phloxes, delphiniums, tritomas and hemerocallises (day lilies), come to maturity more slowly, but bloom for a longer time than do similar plants in the full glare of the sun. Exposed to sun all the day, flowers of lilies, like martagon and chalcedonicum, are soon scorched, but give them a place where after midday the sun no longer tries them and notice how they continue! These are only a few examples of the benefit to be derived by planting on a north border.—CLAREMONT.

Diseases in Daffodils.

What to be on the Look Out for at this Time of Year.

NOW that the earliest daffodil spikes are bursting their way through to the open, a very careful watch should be kept to see that each bulb planted emerges with a vigorous green leaf. If a gap is noticed in any group or line, a fine day in early February should be chosen, preferably when the ground is friable, and the soil carefully examined for a depth of 2ins. or 3ins. over the bulb which has failed to appear. At this time of the year the merodon grub, a fat, tough-skinned maggot about ½in. long, worms its way from the bulb and takes up a position just under the soil surface, where, if it is allowed to remain undisturbed, it will pupate and finally emerge as a perfect insect in May, when its destructive work of reproduction will begin. The merodon fly is furry and banded like a small bumble bee, but is easily distinguished by the fact that it does no work, but may be found on a sunny day resting in the neighbourhood of daffodils. It may further be distinguished by the high-pitched sound of its wings, in this respect resembling almost exactly the sound of a hovering fly.

If, on removal of the surface soil in February, no maggot or bulb shoot is to be found, careful investigation should proceed until the bulb is reached, all soil in the meantime being placed in a bucket and subsequently burnt with great care, as it may be infested with "eelworm," which will spread with alarming rapidity. If when the bulb is reached it appears to be perfectly healthy, no further action need be taken, but at this season of the year this is seldom, if ever, the case. The bulb is usually in healthy growth or dead. If it has been attacked by merodon fly the centre will have been eaten out, hence there will be no leaves. In this case the roots are healthy

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and the bulb may be replanted at once, as it will produce offsets for future years. A bulb attacked by eelworm will throw up yellow, striped, gnarled and twisted foliage. If the bulb is found to be completely rotten, with no root action, it may be assumed to be a case of bulb rot. In either of the latter two cases all surrounding soil should be removed and burnt.

There is nothing so annoying as the discovery of diseased bulbs which have been bought in good faith. Fortunately, there is a method of cure which, in the case of valued bulbs, is both simple and effective. Both eelworm and merodon may be destroyed by sterilising the bulbs during the month of August, when they are dormant. The method is simple in theory, but without special apparatus very difficult in practice. All that is necessary is that they should be immersed in water for three hours at a constant temperature of 110° Fahr. Three degrees below this temperature will fail to kill eelworm and as many degrees greater heat is liable to spoil the bulb. The season following sterilisation will produce healthy foliage, but usually malformed flowers, for it must be remembered that even in August the flower which is to be produced in the following season is already formed and complete in every detail within the bulb. Amateurs who find diseased bulbs should send them to a large grower for the purpose of sterilisation and the keeping down of this ravaging disease.—H. G. LONGFORD.

A Decorative Annual.

DURING the last ten years or so considerable progress has been made in the elegans group of Clarkia, and one of the decided acquisitions is shown in the illustration. This depicts part of a spray of a fine purple variety, probably Purple Prince, and those on the look-out for a plant to place in an isolated bed or corner would do well to take this clarkia into consideration. The reason for partial isolation is the colour; to be seen in all its beauty it must not have any shades of red as near neighbours, otherwise the colours may clash. It will be noticed that the flowers are fully double, and set thinly on long sprays—a fact which makes them light and graceful for cutting purposes. The clarkias attain a height of about 2ft., and if allowed the requisite space—say a foot or more apart—they will develop into fine bushy plants. These brilliant annuals can be sown both in spring, during the next few weeks, and in autumn, while from an August sowing some excellent plants can be had for growing in pots in the cool greenhouse. — W. B., *Chepstow.*

A GROUP OF STATELY CLARKIAS.
Seeds can be sown now.

An Early-Flowering Shrub

AS an early-flowering shrub Forsythia suspensa is well known, but the varieties of F. intermedia are undoubtedly the best in the genus. F. intermedia is a hybrid between F. suspensa and F. viridissima. Three varieties are in commerce, *viz.*, densiflora, vitellina and spectabilis, and it is the last-named form to which I desire to draw attention. This is the finest forsythia with which I am acquainted, and a batch is grown on each year for the greenhouse, where it can be had in bloom early in the month of January. It is a more or less erect shrub some 3ft. to 6ft. in height, and the large deep yellow flowers are produced in much greater profusion than is the case with F. suspensa. The flowering period outside is March and April, according to the mildness or otherwise of the season. This plant is well adapted for beds, bold groups in the shrubbery, and in small gardens a corner could be found for at least one example. If the branches are cut when the flowers are in bud, they will open beautifully in a warm room, and keep fresh for a week or two. Where a few branches or twigs are removed with an eye on the future welfare of the shrub, very little, if any, pruning will be required. When such work becomes a necessity, thereby to prevent overcrowding, it ought to be carried out immediately after flowering. Pruning consists of the removal of any shoots that are likely to cause overcrowding, and to get the best results it must not be subjected to hard pruning so often practised on the popular F. suspensa.

FORSYTHIA INTERMEDIA IS A FIRST RATE SPRING-FLOWERING SHRUB FOR A SMALL GARDEN.

Forsythias will thrive in any good garden soil, but it should be remembered that they are gross feeders, so in a poor root-run an annual mulching of manure will be beneficial. This forsythia is increased by cuttings if shoots with a heel are selected in July or August and placed in a cold frame.—T. W. B.

The Winter Aconites.

MANY gardens will early be aglow with the brilliant golden colouring of these harbingers of spring, and it will be well for garden lovers to take note of the beautiful effects obtainable from generous plantings of these small bulbous subjects; they are never more charming than when freely colonised under the branches of deciduous trees or in thin woodland among hazel; or, again, they may be planted in the rock garden or in the hardy flower border. The ordinary E. hyemalis is the most suitable species for free planting, and the more generous the massing the more effective will be the subsequent results; Eranthus cilicica has a finely cut ruff, this and the stem shaded bronze, while the flower is, if anything, of slightly paler colouring than the common species. If the corms are planted in July and August, or as soon as dormant roots become available, excellent first-season results may be confidently expected.—R. E.

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THE FRUIT AND KITCHEN GARDEN

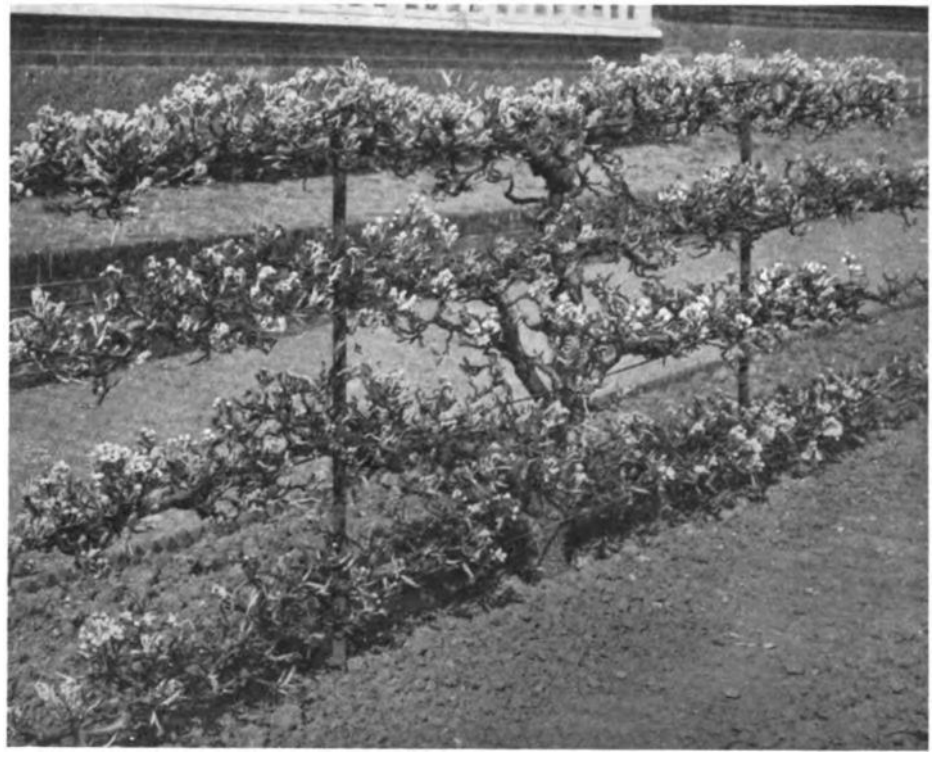
The Apple Tree for the Small Garden.

How to Grow and Train Espaliers.

APPLE trees trained as espaliers are specially suited for growing in gardens of limited size, as they may be placed to form the edgings of paths or as divisional lines in the kitchen garden. To grow apples as espaliers, care and attention to details of training and pruning are needed, but this trouble is well worth while, as some of the finest dessert fruit may be obtained from trees trained as espaliers. Properly grown they make admirable screens for the kitchen garden and in themselves are very attractive.

There are two types of espalier, *viz.*, the horizontal espalier and the vertical or gridiron espalier—the former being the more commonly grown.

The espalier tree should be trained on wires and should usually be a four-tiered tree for edging purposes. Two stout posts



A FOUR-TIER ESPALIER APPLE TREE TAKES UP LITTLE ROOM IN THE GARDEN.

are required, one at either end of the space to be covered and five strands of wire should be strained between them. The first strand should be placed 18ins. from the ground level and the others at 1ft. intervals. It is desirable that some method should be adopted for tightening these wires if they so require it.

At intervals of 10ft. or 15ft., other posts of a lighter structure should be placed alternately on either side of the wires and the wires attached to them by means of strong staples. This will give a solid structure to which the trees may be trained. The total height of the espalier above the ground will thus be 5ft. 6ins.

Buy from the nursery young two-tiered espalier trees. These may be developed into five-tiered espaliers as follows.

Cut back the central leader to 15ins. each spring (February or early March), when several growths will arise from the buds nearest the cut end. Select the strongest and carry it on as the leader. Two of the side shoots in the best position should be trained along the wire to the right and left, tying to the wire. Continue this each year until the desired number of tiers is obtained, when the leader should be removed entirely.

For the first few years it will be very necessary to pay careful attention to the training of the tree. The espaliers should be planted 20ft. apart so that the side branches have to be developed in order to cover the 10ft. horizontal space allotted to them and at the same time be clothed with potential fruiting spurs. The side branches should be pruned each year to make wood growth (extension), always pruning to an under bud until the space which they are to cover is filled.

Pruning requires special care, so that growth may be even and the flow of sap carefully regulated. It is desirable to pinch and stop laterals in summer on the side branches. Those laterals arising from upper buds should be stopped at five leaves and sub-laterals at two to three leaves. Laterals arising from under buds will not be so vigorous and may be allowed to grow more. Start pinching operations at the top and centre of the espalier, so that the sap may be forced towards the bottom branches and to the extremities.

Winter pruning consists in cutting back these laterals to one or two good buds so that they will form fruiting spurs. Varieties specially suited for espalier trees are Cox's Orange Pippin, Allington Pippin, Rival, etc., but any good dessert variety is suitable.—H. B.

Late Planting of Fruit Trees.

WHEN planting fruit trees late in the season, several precautions have to be taken which are not so necessary if the trees are planted in the late autumn or early winter. The trouble occurs because the buds on the fruit trees are beginning to be active and require food material before the root system has had an opportunity to take hold. This means that the buds are drawing upon the food reserves in the tree, which might otherwise be helping to develop new roots. Therefore, in general, it is desirable to avoid planting fruit trees at this time of the year. If, however, for some reason or other, it has not been found possible to plant them earlier, if certain precautions are taken they may be planted late with every prospect of getting away well.

Planting should be done on a fine, warm day, when there is not too much wind. Trees which are to be transplanted should be carefully lifted and the roots trimmed with a sharp knife, cutting large roots so that the surface of the cut does not face towards the surface of the soil. The holes in which the trees are to be set should be dug sufficiently deep so that the bottom may be covered with some dry soil from the potting shed, a good mixture being two parts of loam to one part of leaf-soil. This should not be too dry. Having covered the bottom of the hole with about 6ins. of this mixture, place the tree roots on top, spreading them out carefully and cover with some more soil of a similar compost, working the soil in between the roots, firming with the hands. Completely fill the hole with soil and lightly ram. New trees from a nursery should be treated in the same way.

Every precaution should be taken while handling the trees to see that the roots are as little exposed to drying winds as possible. If the weather remains fine and dry for some time after planting, a small amount of water given to the roots would be advisable.

Strawberry Plants in Beds.

PLANTS in open borders do not need disturbing, especially at the roots, during the winter months. That is, they are not benefited if their roots are unduly disturbed, but are all the better for proper attention now. The top crust, not more than an inch deep or so, should be broken now if proper surface dressings were not put on late in the autumn. Where the necessary attention had been given then, only a litter mulch will be required now, which will serve, in part, to keep the ripening berries from being soiled in due course. About 3 oz. of basic slag per yard run of row should be applied now, scattering the finely ground slag evenly on the surface of the soil and, as stated above, just prick up the surface and let in the slag so that it will mix with the soil. Then lightly dust the surface around each plant with soot, and, finally, apply the littery mulch. If basic slag cannot be used, apply 3 oz. of bone-meal per yard run of row. By the time that new roots begin to grow freely in spring, the stimulants applied will be in a more suitable condition to benefit the plants. Beyond the removal of coarse weeds by hand, nothing more will be needed except the netting of the beds and the gathering of the crop, until mid-July. Where rooted runners were planted last autumn, weekly attention will be necessary now if the weather is frosty. Frost causes the plants to be lifted in the soil and left raised above normal level. After each thaw the soil should be pressed down, by hand, around each young plant.—G. G.

Red Cabbage.

MOST gardeners grow at least a few red or pickling cabbages, and, if seed was not sown in autumn, it is time to get the seed in now. Sow in heat; prick out the plants into boxes of loamy soil, keep them a fortnight longer in the greenhouse, and, finally, transfer to the frame. Harden off gradually and then plant out in April. Autumn-sown plants still in the seed-bed may be planted out at any time, as soon as a short

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spell of growing weather brightens things up, the plants in this case being lifted with a good ball of soil. When red cabbage seedlings settle in their final quarters, stimulate them with a little artificial manure or by liquid feeding, for it materially aids in final success to get these "rather slow" plants well going in the early stages. In order to get really large heads, autumn sowing of seed seems practically essential; spring-sown plants never seem to get as large as the others, although good medium-sized stuff may readily be grown. For very large heads there is nothing to beat a selected Giant or Large Blood Red, although practically all other kinds, sown in autumn, will yield enhanced crops; for spring sowings and fairly big cabbages, the Red Dutch type is excellent; smaller sorts are the Dwarf Blood Red and Niggerhead. I specially recommend the last-mentioned for sowings at this time; it yields comparatively small heads, but these are as solid as can be, a deep blush red right to the very heart; moreover, they do not burst, like some cabbages, and they can be left in growth until required.—LANARKSHIRE.

Brussels Sprouts.

Varieties which have been Tested and Found Suitable for Scottish Gardens.

TO many, Brussels sprouts are just "sprouts," but growers should not overlook the fact that there are essential differences in varieties well worth considering. First of all, I may add that a few of the newer varieties can only be described as enormous. I grow two kinds—Taurus and Fillbasket—plants of which, when given room to grow, will reach to an average height of 4ft. and carry good crops of sprouts, as large as and occasionally larger than tennis balls. Such sprouts are not coarse; they are firm, sweet and of excellent flavour. Among what may be called ordinary kinds, the aim has been to get varieties which give hard sprouts in a compact mass from near the ground to the crown; not all kinds give a uniform result, but from lengthy tests I speak in favour of Improved Dalkeith, Darlington, McArthur's Triumph and Castle Huntly. In addition to these, I give Solidity and Favourite, which are not of great merit in regard to the size of the sprouts, but their small and hard sprouts remain hard, firm and of delightful flavour, longer than any others; indeed, I rely on them for the very last supplies. Much of the success in growing sprouts is due to correct cultivation: the ground for them must be well dug and well manured, but, above all, it requires to be firm, and the plants also must be firmly planted. Again, sprouts must have lots of room—in this most growers err. I advocate planting sprouts and early cauliflowers alternately, so that when the cauliflowers are over, the sprouts can have enough space. Growers in Scotland prefer early planting and, naturally, early sowing or autumn sowing: April sees practically all the sprouts *in situ*.—CLYDESDALE.

How to Grow Dwarf Beans in Pots, Boxes and Frames.

FROM twenty pots of dwarf beans which are grown in pots or boxes placed in a warm greenhouse or in a frame on a mild hotbed, several dishes of beans may be gathered many weeks before it is possible to obtain the pods on outdoor grown plants. The plants are very susceptible to the attacks of red spider, and from an early stage of growth of plant a keen watch is necessary. Not a single syringing time must be passed without this essential work being done. The best times for syringing are early in the morning and near midday. It is only safe to omit the midday syringing when the weather is dull and very cold. Five plants may be grown in a 6in. pot, seven in an 8in. pot and nine in a 10in. one. Larger pots are not desirable, boxes being a good substitute for them. The compost should be made up of fibrous loam, chiefly with a small quantity of well rotted manure and leaf-soil where the loam is of a clayey nature sow the seeds in one half the compost, the other half being utilised for filling up the pots when the young plants are showing their first flowers. Dwarf beans in pots or in beds in heated frames may be beneficially watered with liquid manure and nitrate of soda when the first pods are forming. One ounce of nitrate of soda will be sufficient for 6 gallons of water and for two waterings, a fortnight being allowed between each watering. Syringe once a week with clear soot water and place mats on the frames at night, even when the frames are heated, as the air near the glass becomes cold. Dwarf beans treated in this way are easily managed, and give a good crop provided the plants are kept free from insect pests and are well fed.—HANTS.

FEBRUARY FLOWERS IN THE ROCK GARDEN

EVEN the smallest rock garden can be persuaded to provide at a reasonable cost quite a beautiful display of flower as early as February. It is quite unnecessary to wait for the coming of spring before one is drawn towards the rock garden, and, though bulbs must necessarily form part of February's feast of colour, there are many plants upon which we can safely rely. Here is a list of a few of our February visitors, some of which may even be flowering in January.

Crocus Sieberi.—This is a very lovely crocus, whose only fault is the weakness of its stem, which is apt to be beaten down by heavy rain. The temporary protection of a pane of glass when in full flower will be appreciated.

Cyclamen Atkinsonii.—This exists in several colours, ranging from pure white through deep pink to a rich magenta. All forms are most beautiful and but rarely seen in rock gardens, though eminently suitable, as they are so very diminutive.

Cyclamen Coum.—This is noted for its gloomy leaves wholly unrelieved by markings. The colour of the flowers is, however, exceptionally deep and rich.

Daphne Blagayana.—One of the peers of rock shrubs. The flower buds resemble knobs at the end of stiff spikes, and when they open display flowers of a creamy white tint and most entrancing scent.

Erica carnea.—Here we have a truly indispensable plant as it revels in lime, keeps quite dwarf, and persists in flowering throughout the first five months of the year. It is quite the brightest of our winter-flowering subjects for the small rock garden, and ridiculously cheap.

Helleborus niger and H. orientalis.—These may not flower until they have become established, but that is well worth waiting for. The huge pure white flowers of H. niger and the indescribably curious pinky green flowers of H. orientalis are most fascinating. By degrees the flowers of both varieties fade to a brilliant green.

Muscari azureum.—The grape hyacinths are always anxious to be early in the field and are, perhaps, the earliest blue flowers we have.

Narcissus minimus.—Almost unquestionably the ideal bulb for the small rock garden. These tiny daffodils are less than 6ins. high and are perfect miniatures of their big brothers. If planted under some carpeting plant or prostrate shrub the effect in flower is exquisite.

Primula Winteri.—This is not, perhaps, inexpensive, but the outlay is well repaid by the peerless colour of the flowers, difficult to describe but most distinctive—soft luminous lilac blue is a wholly inadequate rendering. This plant requires protection from winter wet.

Saxifraga (Kabschia, oppositifolia, and Engleria varieties).—Here the question of selection becomes positively embarrassing. Of the Kabschia saxifrages flowering in February, SS. apiculata, Burseriana crenata, Elizabethæ, Faldonside, Irvingii, Jenkinsæ and sancta will provide abundant interest and exceptionally beautiful colourings. All the various colour forms of S. oppositifolia are delightful, and of the Englerias SS. Grisebachii and Stribnryi are to be recommended as their rich crimson velvet bracts arrest the eye at once. For Kabschia saxifrages a small piece of glass when heavy rain sets in will prevent the washing away of the lovely colour.

Scilla.—Here we fall back once more on bulbs and find trustworthy friends which do not seem to mind what the weather is like.

There are many other early-flowering plants, but all those mentioned were in full flower in February, 1925, in the writer's tiny garden.

A DRIFT OF SAXIFRAGA APICULATA ALBA, A FINE EARLY-FLOWERING ROCK FOIL.

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WHAT OUR READERS SAY

NON-FRUITING OF PERNETTYAS.

SIR,—I notice that "H. S. B." of Pangbourne asks in THE GARDEN for January 15th for the reason why his pernettyas are not fruiting. The "Service Bureau's" answer to this suggests that "the male and female flowers of this shrub are borne, at least in some cases, on different bushes." I have never personally examined a pernettya to verify this, but I have always understood that such is the case, and that one must have an occasional male or pollen-bearing bush to fertilise the flowers of the berry-bearing bushes. The temptation—unless one happens to know this—in choosing bushes at a nursery or to take from one garden to another, as in "H. S. B.'s" case, would be to take all the finest fruiting bushes. The pollen-bearing bushes, of course, do not bear berries. I think "H. S. B.'s" best plan would be to write to a reliable shrub nursery asking for a male bush of pernettya, and I think if he plants it among his others, he should get a crop of fruit next year. The same thing applies, of course, to sea buckthorn (hippophæa) and also to Euonymus japonicus. Choosing only fruit-bearing specimens of such shrubs is rather analogous to setting up a pen of poultry and choosing only the sort of birds that lay eggs and none of the sort that do not lay eggs. In this case one would at least get eggs, though one could not expect chickens; with the pernettyas you do not even get berries—after the first year.—CLARENCE ELLIOTT, *Stevenage*.

ROSES IN THE SOUTH.

SIR,—The weather in my district during the last month of the old year was almost perfect from the gardener's view-point. Planting conditions were ideal, for the November rainfall of over 8ins. had thoroughly soaked the parched ground, and right throughout December rain only fell on four occasions. This gave me a good time for thinning out the shrubberies, replanting subjects that had become overcrowded, making new plantations of fruit trees and roses, for which a fine dry spell is very necessary to do the work properly. In making new rose-beds I find it essential to use heavy loam to mix with my light sandy soil. People are ill-advised in adding real clay to the soil, thinking this as good as heavy loam. It is a costly mistake, for clay remains in chunks of tough, putty-like substance, never properly mixing with this type of soil, for we rarely have sufficient frosty weather to break it to pieces to enable proper amalgamation. Though the winters are never severe, yet I find some varieties of roses rarely flourish, but gradually die out, such as Golden Emblem, Christine, Mme. J. Groslez, Lady Inchiquin, Mrs. Haworth and F. W. Dreer.

The following are general favourites and can be well recommended for this district: Mrs. Wemys Quin, Mrs. Beckwith, Rev. Page Roberts, Mabel Morse and Souvenir de Claudius Pernet for yellows.

Pinkish Shades.—Mrs. H. Bowles, Mme. A. Chatenay, Mme. Butterfly, Charles E. Shea, Mrs. Henry Morse (very susceptible to mildew in certain districts), Lady Pirrie, Prince de Bulgarie, Caroline Testout, Lady Ashtown and Pharisaer.

Red Shades.—Covent Garden, General McArthur, Templar (does not do well out of doors in the majority of districts) Hugh Dickson, Lord Charlemont, Etoile de Holland, K. of K., Red Letter Day and Hoosier Beauty.

Orange Shades.—Mme. E. Herriott, Los Angeles, Gorgeous, Lady Hillingdon, Margaret Dickson Hamill, Frances Gaunt and Wilhelm Kordes.

Whites.—Frau Karl Druschki, Mme. Jules Bouche, Mrs. H. Stevens, Molly Sharman Crawford, Clarice Goodacre and Mrs. Foley Hobbs.

The above may be tried with confidence in very light soils.

Such varieties as Betty Uprichard, The Queen Alexandra and Sunstar are asked for as novelties, and there is an increasing demand for them every year.

Among the newer climbing roses, or rather rambler roses, the following will become popular when better known: Albertine, a deep coppery pink, most brilliant in the bud stage, large flowers and needs little pruning. François Juranville, deep salmon pink, large flowers and good foliage. Auguste Gervais, coppery yellow and salmon rose, of vigorous growth. The Beacon, bright red with white eye, strong grower. Augusta Nonin, an older rose yet but little known, is a fine bright pink with large, stiff trusses of flowers. Yvonne, a pretty shade of pink, sweetly scented. Romeo, a deep red, a fast grower, flowers double. Sander's White, the best of the whites, with bright shining foliage and many prickles. Jacotte is another thorny subject with flowers of saffron yellow as large as those of Mme. Herriot and as attractive. Alex Girault and Diabolo are reds with large flowers if other reds are wanted. Emily Gray, yellow, and Mermaid, single cream, are now so well known as to be in good demand. Both are first-class varieties. The latter is especially fine as a tall standard.

The most important point in rose culture is to trench the ground previous to planting in early autumn, adding plenty of well rotted manure. Then, in March, after pruning, to give annually a heavy dressing of farmyard manure and cover over with soil or dig in between the plants. Treated in this way I saw some plants of General McArthur which were planted about twelve years ago with plenty of shoots 4ft. and 5ft. long. If the summer be hot and dry, a good mulching of half-rotten manure is very beneficial.

Noting a reference to Gerbe Rose in a recent issue of THE GARDEN, I would add my testimony to its wonderful beauty and vigorous growth. I would like to say how greatly the new features of THE GARDEN are appreciated. Every page is packed full of interest.—F. L., *Bournemouth*.

A NOVEL MUSHROOM BED.

SIR,—With reference to the note and Editorial query on page 13 of your issue dated January 1st, in regard to the use of "Adco" manure as a substitute for stable manure for making up a mushroom bed, I should like to offer the following remarks. I have never myself so grown mushrooms as yet, but I have found this synthetic manure invaluable for growing really good crops of vegetable marrows and ridge cucumbers in the open in Cornwall. The climate there is roughly, on the average, some 20 degrees Fahr. higher than in the Midlands during the summer months, and this extra sun heat acting on the synthetic manure doubtless contributed very materially to the success obtained. In the "Adco" manure itself, so far as I could observe, there was little or no latent heat, and I therefore doubt very much if this manure would do for growing mushrooms unless the bed were made up on top of or round hot-water pipes in a darkened and properly prepared mushroom house, such as we had at Carclew (Cornwall). In such a case, however, if the manure were well moistened when making up the bed, and afterwards kept sufficiently damp and evenly warmed throughout, there is no reason why a good crop of mushrooms should not be so grown. In any case it would be an experiment well worth trying.—E. A. SAUNDERS.

SWEET PEAS AND STREAK.

SIR,—In your issue of THE GARDEN dated January 15th, 1927, page 34, I noticed an article on "Sweet Peas," by "C. H. A. S." The article I like very much and it is very helpful, but before you can obtain those beautiful blooms, one has to find a cure for the *streak* which is present in nine out of every ten gardens. I have grown sweet peas to perfection until the flowering stage, then they are entirely wiped out with the streak. I am an old hand at growing sweet peas and only a very few times can I remember being free from this streak, so should be most grateful if "C. H. A. S." can say a word or two on the matter. Messrs. Carters, Raynes Park, say there is little known of the disease. Perhaps your correspondent "C. H. A. S." or any of your readers may be able to give some useful information on the question.—C. H. W.

LOBELIA CARDINALIS.

SIR,—In your issue of THE GARDEN of January 1st, "W. L. L." writes on "Lobelia cardinalis and its allies." This plant is plentiful in Canadian ditches; but its foliage is green, not coppery or red and it seems to like full sun, so that I wonder if "W. L. L." knows the real Canadian wilding? Lobelias syphilitica, pulonela, spicata, Kalmii, inflata and Dortmanna are all Canadian wildings also. As L. cardinalis survives Canadian winters it should not need protection in England and we give it none here, where, so far, it seems to be quite happy. However, one feels it is rather tempting Providence to claim complete hardiness for any plant. I should much like to see L. Tupa, which sounds a very attractive plant, but Chile lies far out of my reach—alas.—EVELYN BYNG OF VIMY, *Thorpe Hall, Essex*.

A REQUEST.

SIR,—I write this letter hoping that your readers can help me. A few weeks ago Messrs. Sutton sent me out an order of five pounds worth of vegetable seeds, and these arrived in excellent condition. I hope that any gardeners who are now ordering seeds from Sutton will be so considerate as to put in an order for a packet of onion, leek, cabbage or egg plant seeds for the immigrants in Albania. The seeds sent from England last year were wonderful, the local seeds were very inferior.

There are this year 600 poor families all asking for English seeds. If several orders are received Messrs. Suttons will be able to pack them all together cost free, and I am allowed to receive them free of import duty as they are for the poor immigrants. A 1 oz. packet is enough for two families, and there will be many messages of grateful thanks sent to the kind English gardeners.—R. V. PENNINGTON, *Ospedale, Durazzo*.

CYANOGAS FOR RAT DESTRUCTION, AND SCILLA MARITIMA.

SIR,—Two queries caught my eye under the heading "What Our Readers Say" in THE GARDEN, page 44. With regard to cyanogas, I saw a demonstration on the use of this on a poultry farm a few months ago, and was greatly impressed with its efficacy for destroying rats in the open. A distributor was used, rather like a large motor tyre pump, with cylinder, plunger and flexible tube. The tube was put just inside the rat-hole and the poison pumped in in the form of powder which instantly turned to gas. A number of rats were killed in the

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hole, but in most cases several rats bolted and, after running 3yds. or 4yds., dropped dead. Gas could be seen issuing from a number of holes; these holes were then blocked up, when a move was made to a fresh hole or series of holes. The method is very simply carried out, though, of course, in using such a deadly gas great care must be taken.

With regard to Scilla maritima as a rat poison, this undoubtedly has its advantages, and I understand that the New Zealand Government has recently imported bulbs with a view to cultivating it for home use. I found the plant growing wild in great quantity last April in Majorca and brought a number of bulbs home with me. When full size they are about as large as coconuts, and they grow quite on the surface of the ground, sometimes singly and sometimes in groups of three or four. There were thousands of them scattered up and down on the rocky hillsides in certain districts, always in full sun. The plant when I found it was in full leaf, large, coarse foliage like that of one of the stronger colchicums, though even bigger. This foliage dies down in summer, and later in the year a 3ft. to 4ft. flower-spike is thrown up. I believe the plant can be grown in the open in this country, at any rate in the warmer southern districts, but I should say it would always be advisable to give it the hottest, sunniest position possible, and well drained soil. I feel pretty sure that it would be essential to plant the bulbs as they grow in nature, quite on the surface of the soil, the whole bulbs fully exposed. I doubt, however, whether it would be profitable to cultivate it in this country as a rat poison, though it is undoubtedly an interesting plant and might be grown for home use on a small scale. An interesting use to which the plant is put in Majorca is as a cure for certain fruit trees. I saw fig trees with Scilla maritima planted close around the base of the trunk, and I was told that this is done to cure sick fruit trees—with how much success I cannot say.—C. E.

THIS MONTH IN THE GREENHOUSE

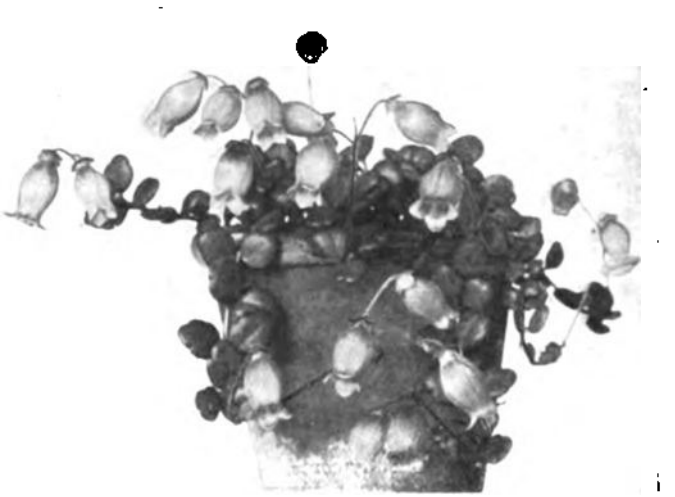
Mignonette as a Pot Plant.

THIS fragrant-flowered annual is deservedly a favourite with everyone, and as a pot plant it is an exceedingly useful subject for the decoration of the cool greenhouse. Seed may be sown at the present time, using 60-sized pots, well drained, and filled almost to the top with a mixture of fibrous loam and mortar or lime rubble. This latter is a very important item, and without it success cannot be expected. Pass the mixture through a ½in. sieve, and press firmly into the pots. Sow thinly, cover the seeds with fine soil, and place in a cool frame, with a piece of glass over the top of each pot. Keep close until the seedlings appear, when the glass may be removed and ventilation given on all favourable occasions. Thin the seedlings out to two or three in each pot, and keep as near the glass and in as light a position as possible. Always water with the greatest care, and when the roots reach the sides of the pots and before the plants show signs of starvation, shift into larger pots.—H. E.

A Novel Plant for Baskets.

AN ideal subject for those enthusiasts who are always looking for something new to grow in hanging pans or small baskets is to be found in the charming Kitchingia uniflora, which is now coming into flower. It is a member of the crassula family, and was introduced to this country about twenty years ago; but although occasionally exhibited at flower shows, it has never become generally grown. This is rather surprising, as it is not a difficult subject to manage; for, despite the warmth of its native home, said to be Madagascar, it flourishes quite well under ordinary cool greenhouse treatment.

In general habit, it is a slow-growing, prostrate, sedum-like plant, having slender creeping stems with thick rounded fleshy leaves; and if allowed to come into contact with the soil, or grown under moist conditions, roots will readily grow from the nodes. It prefers a soil consisting mainly of loam, with peat, and should be kept fairly moist, especially in the summer; otherwise, very little attention is needed.



KITCHINGIA UNIFLORA WITH ITS GRACEFUL PINK BELLS, AN IDEAL PLANT FOR POT OR BASKET CULTURE.

From February onwards it sends up its dainty bell-shaped flowers of a beautiful shade of pink, which continue to appear over a long period.

The specific name "uniflora" is rather a misnomer, as the flowers are not solitary, but often appear two or three together on the same stem.

The ease with which it roots at the joints suggests an easy means of increase, and cuttings will root readily almost at any time of the year.—DUNHEVED.

AN ATTRACTIVE AND NATURAL WAY OF GROWING MAIDENHAIR FERNS IN THE GREENHOUSE.

Maidenhair Ferns at their Best.

A MAIDENHAIR fern in a pot is not always in the happiest of conditions. However well cared for, there is a tendency to deterioration. For one thing, the continual cutting away of dead fronds as the plant gets older gives the fern a very dilapidated appearance, unless the fronds have grown luxuriantly enough to hide the fact. Maidenhairs in pots are also difficult to manage, and even under the best of treatment they will fade and die through various causes. Of course, maidenhair ferns can be grown wonderfully well in pots, and will attain a good age and splendid dimensions; but this happens, as a rule, in a temperature and atmosphere that few of us can afford to give and maintain.

The maidenhair fern, as a pot plant for either greenhouse or home decoration, is best while young, and a renewal as the plant advances is advisable. A well potted plant will continue in good condition for years in suitable surroundings, but a plant that has to be subjected to varying temperatures, perhaps extremes, vitiated or very dry atmospheres,

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and possibly a certain amount of neglect, is sure to droop and die eventually.

A practical method of overcoming these disabilities, where the glasshouse is concerned, is to give these ferns plenty of scope for development. This can be done in any glass structure by means of establishing a fern rockery, into the interior of which the fern roots can find a congenial run and the fronds can be suspended with a current of warm air around them.

It is an easy matter to construct such a rockery in a corner of the smallest greenhouse. It can be a huge block of cement, with the necessary large pockets for the plants; and the block can be hollow and filled with soil. Maidenhair and other ferns and foliage plants can be planted on this "rockery," and in a short space of time the rockwork will be clothed with an exquisite mass of greenery, the white "rock" peeping out here and there. The effect is charming, and even on the smallest scale is sure to give unbounded delight to all who see it.

The advantages are that the plants, growing naturally unrestricted, cast their old fronds naturally also, and so make room for the young fronds to take their place. There is always plenty of foliage to be cut without destroying the artistic appearance of the ferns. Little attention is required beyond the provision of sufficient warmth, ample syringing of foliage and a constant supply of moisture to the roots.—H. A.

A Good Greenhouse Plant in Flower Now.

LIBONIA FLORIBUNDA is now at its best. One seldom sees it to-day, but it is well worth growing, for I know of no other plant just at this season of short dull days giving the cheery, bi-coloured, tubular flowers of scarlet and yellow. True the blooms are not big individually, but they are freely produced and a few well flowered specimens in 5in. pots make a pleasing change from the gay chrysanthemum and the customary forced bulbs of this period.

The libonia is not a difficult subject to grow, and, requiring but little warmth, it should prove a useful plant for those whose facilities to do with heating are not great. Cuttings are put in in April to May and if but few plants are required a sufficient strike can be obtained by inserting three cuttings around the rim of a 4in. pot filled with sandy soil. To aid quick root action, stand the latter pots in an 8in. pot, cover with glass, shade from sun and give a sprinkling of water as required. When well rooted, pot the plants singly into similar pots as rooted in or, if large specimens are preferred, do not disturb, but transfer wholly to pots 5½ins. in diameter. During summer grow coolly in frame or greenhouse and keep the foliage clean by occasional syringing. In winter the libonia will be safe so long as the frost is quite excluded with a minimum of pipe heat.

Something of a mystery surrounds the name of this plant, which, perchance, the Editor or some other authority can make clear. It is no longer called libonia, but jacobinia. An early edition of Johnson gives the name L. floribunda, but a later edition calls the plant Jacobinia pauciflora. This latter varietal name is a misnomer, for our subject is very free in flowering. And again, in Thompson's "Assistant," 1901 edition, libonias are called justicias, yet out of a list of over forty varieties of this latter plant, no mention is made of L. floribunda.—C. TURNER.

Sowing Seeds Under Glass.

SEED-SOWING is an operation that calls for the greatest care and attention to details, especially when seeds are sown under glass. In the latter case the greatest error that can be committed is that of sowing too thickly. Under glass the moment the young shoot shows above the soil it is subjected to a "drawing" influence, and when the seeds are sown thickly the plants are ruined before they are large enough to be thinned out or transplanted.

The sole remedy for such a state of things—or rather a preventive—is to sow seeds thinly over a wide surface, such as is afforded by a pan or box, and to place the pan or box very close up to glass immediately the shoots show through the soil. Even should this be impossible, the young plants will suffer but little if the seeds are sown wide apart

CONCRETE, AND ITS USES IN THE GARDEN

This article describes an economical method of path-making which can be carried out by anyone if the practical details given here are followed.

CONCRETE has evidently come to stay, and its uses in industry are increasing every year; on account of its great strength and durability it is frequently used to replace other more expensive materials. In the making of concete slabs, similar to those on the garden path in the accompanying illustration, no great skill is required, providing the material used is clean, is mixed in proper proportions, and allowed adequate time to dry. A good formula for these slabs is: 1 part Portland cement, 2 parts sharp sand, 1 part cinder ash, and 1 part broken brick or stone (not larger than ½in.), which should be thoroughly mixed dry, being turned three times, and again when the water is added. For suitable moulds, if medium-sized slabs are required, the shallow margarine boxes, about 2½ins. deep, obtainable from the grocer's are quite good and inexpensive. It is best to have about six such moulds and to measure out just enough dry concrete to fill them all at one gauge: that is, assuming that they are being made in one's spare time.

As a guide to the time they take to make, I might add that I did not to have to exert myself unduly to complete six slabs in an hour.

After the concrete slab has stood for twenty-four hours, if made properly it should be set enough to stand being knocked out of the mould to dry; it is advisable, however, to grease or oil the interior of the mould, more especially the sides, before filling with concrete, to prevent the mixture from adhering to the wood; if any old iron rod is available or even wire netting, this can be inserted about the centre as reinforcement, but it is not absolutely necessary for garden paths, as they stand quite well if it is omitted altogether, providing the concrete is of good quality. One should be careful to keep anything in the nature of clay or loamy material away from the mixing operations, otherwise failure will result. It is not advisable to start laying the slabs until they are thoroughly hard and dry. Ordinary sifted garden soil is all that is required to bed them on; keep rather a wide joint between the blocks by inserting a slip of wood, say ½in. thick, and simply grout them in with soil. The actual method of laying is, of course, a matter of taste, but if every alternate slab is reversed quite a good effect is produced.

CONCRETE SLABS MAKE A USEFUL GARDEN PATH.
They are inexpensive to make and require no upkeep.

The initial cost of such a path is small, and the upkeep nil; and for a new garden it is especially good, no clinker or hard-core being necessary for drainage, as would be needed for an ordinary gravel path, the slabs being laid down direct on the ground, simply levelled and made firm by treading. Another advantage is that they are easily moved if alterations are being made at any future time; and, above all, you always have a dry path to walk on however bad the weather is.

A rockery border edging can also be made cheaply in concrete, by using moulds about 30ins. long, 6ins. deep and 3ins. thick at the top edge, tapering to 2½ins. at the bottom. This enables it to turn out of the box easily. To give the desired effect, some of the larger pieces of clean stone or flint should be reserved for placing in the top edge while the concrete is still wet. A ½in. hole should be made in each end of the mould and a short piece of metal inserted. A corresponding hole is thus formed in the finished block, and is needful in connecting the different lengths together in the border edging, either straight or otherwise, by means of a piece of iron rod, which then keeps the whole lot in position. By reversing the blocks with the rusticated part now to the front and using three or more layers with the vertical joints broken as in brickwork, quite a good retaining wall can be built at a minimum cost.

GEO. W. HALL.

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Tuberous Begonias in the Greenhouse.

Upon re-starting tuberous begonias into growth early in February, remove the tubers from their pots and, instead of filling trays with fresh loam, leaf-soil or peat, use the old soil in which they were grown. It will be found that this is full of dead root-fibre, which proves a most excellent starting medium. It encourages shy starters to break more readily and growth is invariably more vigorous and healthy than if fresh soil or fibre is used. A dash of flowers of sulphur added to the old soil is a precaution against mite. —C. C.

How to Obtain Earlier Potatoes.

To obtain an earlier supply of potatoes the following will be found very useful: Before putting tubers up to sprout, place a layer of dry, riddled ashes to a depth of 1in. in the boxes or trays, placing tubers as is usual. The ashes should be moistened, allowing the part which is resting on the ashes to become rooted. Under ordinary circumstances the tubers would not be rooted until a fortnight or so after planting. Care should be taken when removing for planting not to pull off any of the roots. A good soaking of the ashes will prevent any fear of loss in that respect. Should the tops appear when frost is expected, straw should be placed over them at night, taking it off in the morning and placing it in the rows ready for use again.—W. M.

Softening Hard Hands.

After handling soil during potting operations the hands become hard. The following hint will be most useful to those who find gloves impede the progress of potting: When washing the hands, pour a tablespoonful of ordinary paraffin into the water. This will soften the skin, removing the objectionable hard feeling.—T. H. H.

Chrysanthemum Cuttings.

Make up a compost of two parts good loam to half part of leaf-mould and one part sand. Put loam and leaf-mould through an ½in. sieve and sand through a ¼in. sieve. Mix this thoroughly and fill cutting box to within ½in. of top after putting a layer of coarse leaves over bottom of box. Cover this with a good layer of sand, and water if too dry. I generally use boxes 2ft. by 1ft. 3ins. and 4ins. deep. Take stiff stocky shoots about 3ins. long, coming direct from soil of old stools. Remove carefully with a sharp knife and have pieces of paper to name varieties as taken. Trim cuttings and cut stem squarely across immediately below joint with sharp knife so as to prevent bruising. Insert cuttings in box with unsharpened end of pencil and label as varieties are put in. I get sixty cuttings in a box on an average. Water and put on shelf in greenhouse with a temperature about 50°. Now take cutting box same size and remove bottom, put this over cuttings and cover with a piece of glass. Keep fairly close for a few days and turn glass every morning to remove condensed moisture. Gradually increase air until the glass can be removed altogether. Cuttings root in about three weeks. Never put cuttings in boxes where wood is not well seasoned, as I note results are disappointing, which must be caused by sap in wood. I always get a good percentage of strikes by this metohd.—W. J. B.

A Novel Method of Staking Perennials:

Before growth begins, lay a piece of wire netting of the same size on top of the clump. A month later fix a stake, about 6ins. shorter than the plants grow in height, firmly right in centre of clump. As the stalks force their way upwards through the openings "wriggle" up the wire netting part way. The branches and leaves prevent it from slipping back. Repeat from time to time until the wire is about three parts of the way up the full growth. The centre stick prevents the plants being blown sideways by the wind, and all the flowers are beautifully spaced by the wire openings. Neither heavy rain nor wind will destroy the regular and natural appearance of the plants.—J. T. M.

A Good Kneeling Pad.

At this time of year a gardener is constantly in need of a kneeling pad. May I suggest that a very good substitute for a more expensive one can be made with a piece of old motor tyre, by cutting off the outer rim, which can be done with a small sharp saw. A piece 16ins. long will make two good pads. Holes can be punched into it at each end with a cold chisel, and tapes or string adjusted for tying round the knee. This makes an inexpensive and thoroughly waterproof pad.—W. H. D.

A Ready Supply of Baked, Weed-free Soil for the Seed-boxes.

When raising plants from seed, trouble is always experienced, in a greater or lesser degree, from the weed seeds that lurk in the potting soil. The use of baked soil is the only absolute safeguard; but the baking of soil, even in the limited quantities needed for the operations of a small garden, is both a tedious and difficult business. The kitchen oven is seldom available, is limited in its capacity, and, moreover, this method does not usually find favour with the cook. The following plan is highly recommended as offering an ample supply of baked soil with an absolute minimum of trouble: When the periodical garden bonfire happens to be a big one and is burning in good heart, place half a barrowful of turves in and around the hottest parts, or bank the whole fire down with them as soon as there is plenty of heat inside. As the fire is worked to a finish the turf will break up and mix with the hot ashes, and the soil it contains will be thoroughly baked. The resultant diluted mixture of soil and ash, put through a fine riddle and mixed with clean sand or grit, as required, forms a most excellent weed-free and stimulating mixture for filling into the top 2ins. of pots and seed-boxes. —H. L. S.

HOW TO TAKE CUTTINGS OF BEDDING PLANTS

This article emphasises the value of sand as a propagating medium. Judging by the experience of our contributor, this is a method to be followed by all amateurs who desire to increase their stock of bedding plants easily and quickly.

I HAVE frequently advised that pure sand be used for many purposes of propagation, but never until last year have I used it to such an extent. I may say that I am now more than ever convinced that it is a good method of propagating a great many kinds of plants. During last year I had to fill some large beds in a large design with bedding plants, the number of plants used being in the vicinity of 10,000. As I only took over the work in late October, when not a cutting of any kind was put in, it may be imagined that I had to hurry things along. In the matter of bedding pelargoniums I was able to get a lot potted so as to provide cuttings in the spring. The same was done with ivy-leaved pelargoniums. By rooting these cuttings in the spring in sand I was able to get sufficient for the purpose. The ivy-leaved pelargoniums were put into sand in the propagator and did well, but with the cuttings of Paul Crampel I found that when they were set close together in the propagating frame they lost too many of their leaves. But this did not make me lose faith in the value of sand, for I filled some 5in. pots with sand and rooted the cuttings in these, the watering being done by dipping the pots in water. In this way they were rooted in a much quicker time than were some which were put in soil in the usual way. It is generally supposed that cuttings of geraniums are best not put in a propagator.

How to Proceed.

The sand used for propagation was from a local pit, and was fairly sharp and clean. It was passed through a sieve made with the perforated zinc as used for meat safes. The propagator consisted of two planks set at about 15ins. apart on the staging, with pieces nailed to the ends to keep them in place and form an enclosure. In the bottom was placed a layer of leaves, and this was surmounted by a layer of the sand about 4ins. in depth. The sand was levelled and pressed firmly, and then watered through a rosed can. When the water had drained away the prepared cuttings were pressed into the wet sand to the required depth. Often all the cuttings had been thus pressed into the sand another watering was given for the purpose of washing the sand close up to the stems. No other kind of firming was given. When the foliage had dried somewhat the covers were put on. These consisted merely of loose sheets of glass. The advantage of this arrangement is that there is no need to wipe the moisture-laden surface, but merely to reverse the glasses as the inner surface becomes beaded with moisture. There is less danger from damping or over-watering in the sand propagator, and when the cuttings have rooted they may be removed without the loss of a single root. Over and above this there is no need to make up fresh soil every time more cuttings are put in. All that should be done is to level the sand, water it again, and then put the cuttings in.

Hints on Treatment.

One hint I would like to give: that is not to have too shallow a depth of sand, and not to allow the cuttings to remain in the propagator long after they are rooted. If this is done the layer of leaves at the bottom is disturbed

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when the cuttings are removed, and are then in the way of pressing the cuttings in. Those cuttings which are too soft in the stem to admit of their being pressed into the sand are put in by making a hole with a penknife, and pressing the sand back again. There is no need to be particular about this as the watering after insertion will ensure close contact of the sand with the stems.

A New Method of Striking Heliotrope.

It may interest readers to know that I wanted to make two large beds of heliotrope, each of which would need 500 plants. In February I had not a single cutting, but was able to get 100 from a friend. These were put into the warm propagator and in ten days they were rooted sufficiently to be boxed up. I left them for ten days and then took out the tops for further cuttings. Here I took the risk of taking them as internode cuttings, merely snipping them off above the leaf-joints with a pair of pocket scissors. The cuttings were not jointed, and no leaves were removed. They were merely snipped off and pressed into the wet sand. These also were rooted in ten days, and I was then able to put in another batch of cuttings from the the first plants. I continued in this way, removing some from the propagator and putting other cuttings in throughout the season till at bedding time I had 1,200 well rooted plants to set out.

Cuttings Without Joints.

I think that this question of taking cuttings without jointing them, needs a little investigation. I have found that there are many cuttings which will root as well when they are cut above as they will when they are cut below a joint. That is the case with Nepeta Mussinii. Last spring I needed 1,000 of these as young plants, and cut the young growths from the plants in the border in late February. Instead of first of all cutting these below a joint with a knife, and then in two cuts, removing the lower leaves, I snipped the tops off just above a joint with the scissors, thus making one cut instead of three. The cuttings rooted with scarcely a single loss. Other cuttings which I have tried as internode cuttings are Verbena venosa, antirrhinums, nasturtiums, tomatoes and bedding begonias of the fibrous type.

Raising Antirrhinums in Large Quantities.

In the matter of antirrhinums I would like to record an interesting experiment which I was compelled by necessity to make. I needed about 4,000 antirrhinums, and sowed the seeds accordingly, but found at the time of pricking them off that I had not sufficient. That meant either that I had to sow some more and risk their being late or worse still, to change my plans. I had found that heliotrope and nepeta would root well from internode cuttings, so why not antirrhinums also? Those of the pricked off antirrhinums which had sufficient length of stem were tried. I put in about twenty cuttings, which were mere tops with the bunch of small leaves at the top, cutting them just above the lowest pair of leaves so that there would be an opportunity of their breaking out from these leaves. In about a week I found that some of these cuttings were throwing out roots in the sand, so I at once took the tops off 1,000 seedlings and dibbled them into a propagator. Practically all of these rooted well, the older plants threw out growths, and I kept these plants which were rooted from the seedlings together so that I could form two beds of them. They flowered quite well, and if there was any difference in the quantity of flowers, it was in favour of the tops which were rooted. This hint may be useful to anyone who at a late date finds that he has not enough plants to fill the required space.

Now my chief point is that the propagation of soft-wooded plants can be done more quickly, and more economically, by using sand as a medium than in the older way of putting them in sandy soil. Just think of the difference in procedure. With soil you have to prepare the various ingredients, mix them, fill the pots, after cleaning and draining them. Then you have to secure the cuttings, joint them, remove the lower leaves, make a hole with the dibber, and firm each cutting. In my way you have to prepare the sand only for the first lot of cuttings, for the same sand serves throughout the season. Then you water it, snip off the cuttings with the scissors, press them into the wet sand, and water again. Of course, I do not say that it is better in all cases to use internode cuttings, but there are many plants which respond to this treatment, and it would be worth while for gardeners to experiment in that direction. W. F. R.

OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Clematis for Pillars.

I have three climbing roses on pillars on my lawn. They are American Pillar, Albéric Barbier and Paul's Scarlet Climber. I want to plant three large-flowered clematis to grow up with and among them. As I am away all August and September, I want these to flower before I go and after I come back. The colours should harmonise with the roses. What do you suggest? The soil is loamy clay.—C. M., Hampstead.

We suggest that you plant the following varieties of clematis to grow among your roses: Clematis Duchess of Edinburgh with Paul's Scarlet Climber, Clematis Henryi with American Pillar, and Clematis Lady Northcliffe with Albéric Barbier.

Canker on Fruit Trees.

I am enclosing a few apple twigs showing a peculiar scab or trouble of some sort on the bark. This has been spreading on my trees during the last one or two years and although I spray ½ gallon blue vitrol and one handful of lime to six or seven gallons of water, winter and summer, I cannot clear the trees. This spray seems to check the disease, but not to eradicate or prevent it spreading. The new shoots on the trees, apple and pear, grow away healthy at first, then the leaves turn yellow and the whole shoot either checks or dies off.—R. E. G., Melksham.

The shoots that you send are attacked by the canker disease. This is a contagious disease and spreads rapidly each season, from branch to branch and tree to tree. Spraying offers no means of controlling canker, the only remedy for which is to cut out and burn every scrap of diseased wood. This may seem—and is—drastic treatment, but it is the only way to get rid of the trouble. If you have a particular tree which is very badly infested, we should advise you to grub and burn it straight away, for it can only prove a fertile source of further trouble while it remains. We might mention that the home-made wash you have been using is likely to prove of little use against any disease or pest, applied in winter or summer. Fruit tree washes must be prepared with scientific accuracy to prove efficacious, and particularly is this so where fungicides are concerned.

Pruning Newly-planted Apples.

I purchased two half standard apples (James Grieve and Cox's Pomona) in September last. They are four years old and the nurseryman told me he would prune them before delivery. I received and planted them in early November. I doubt if they have been pruned, as all the growths are about 2ft. in length and are rather numerous. Would you kindly inform me if and how I should prune (I have heard that horizontal branches should be cut out)? Should I put grease bands round both trees and stakes? Would you also let me know if I may expect any fruit this year?—H. A. R., New Malden.

The two newly planted half standard apple trees should certainly be pruned, the best time for the work being February. At four years old the main branches should have developed and the pruning now required will be to shorten the leading or extension shoot of each branch by about half, and to cut back all side shoots on the branches, along with shoots that crowd the tree centre, to two bottom buds. You should have no difficulty in telling whether or no the nurseryman has pruned the trees. If he has, the cut surfaces terminating each shoot will be apparent; whereas, if unpruned, the shoot will be terminated by a bud. There is no need to remove horizontal branches. Your aim must be to establish four or five main branches, these being evenly spaced round the top of the stem so that the tree is well balanced. Then, the leading shoot on each branch is cut by half and all other side growths—unwanted as branches—cut hard back to two buds.

It is late in the season to apply grease bands, but it is still worth while doing so, for there are many egg-laying moths yet to attempt the long climb from the ground to the branches. As the trees are half standard they should certainly be staked at once. Regarding fruit, you must not expect any crop next summer, for the tree must be encouraged to make strong growth and a sound framework of sturdy branches before ever fruit is borne.

When to Apply Lawn Sand.

Can lawn sand be applied to daisies in dull weather, or does it require bright sunlight to be effective?—D. C. P., Felsted, Essex.

It is, on the whole, better to apply lawn sand, or any similar weed eradicator, in dry and bright weather. These eradicators are more effective when used under these conditions. It is generally advisable to divide the lawn into strips by means of pegs and string. This ensures that every part of the lawn is covered.

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THE

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Continued from page iii.

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THE GARDEN

VOL. XCI.—No. 2880. FEBRUARY 12, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Spring Planting.

IT seems appropriate to commence a spring number with a few notes on spring planting, although it is natural that the seed list is the most important factor in the gardeners' diary during the first three or four months of the year. It is difficult to discover how the very prevalent idea that planting can only be carried out in autumn has arisen, unless it be that gardening books and periodicals lay more stress on autumn planting than on spring. This idea, which almost amounts to a fetish with many keen gardeners, is entirely erroneous. Planting can be done at any time during the winter up to the end of March, provided the weather remains open and soil conditions permit, except in the case of many small plants, like strawberries and a few bulbous plants. But the list of the latter is small and for all practical purposes can be ignored. It may be taken as a golden rule that spring planting is as good, if not better, than autumn planting, as long as an observant eye is kept on the weather. The plants settle just as well into their places in the bed or border if planted in spring as at any other time, unless the season be particularly bad. It is not always the season that is at fault. The majority of failures can be put down to hasty and careless planting, in the hurry to get the work done. It is most important to plant carefully in order to give the plants every chance of survival.

It follows that since February and March are the months to carry out the necessary overhauling and replenishing of the rock garden, which simply contains miniatures of other plants in the garden, the early spring is not too late to plant up or fill the gaps in the herbaceous or shrubbery border. If the border was dug over in the autumn and planting had to be withheld owing to the heavy rains of November and to the recent frosts, so much the better for the soil and the plants now. This period of rest will do a great deal of good, for frost, wind and rain are decidedly beneficial to all soils. On the whole, too, the plants have a better chance of establishing themselves if planted during the next few weeks. They will soon be on the move, and once root activity commences the roots will readily take hold of the soil. The only point necessary is to take every precaution against a period of sunny weather accompanied by drying winds, which is common in spring, and keep the soil and the roots of the plants as moist as possible without being waterlogged.

Spring planting is necessary in all cases where pot plants are purchased, as it is unwise to consign a plant which has spent its early years in a pot to the mercy of an uncertain winter in the open ground. The pot is more suggestive of a rubus than a rose, plant responds much more readily to spring planting and has certainly a better chance of success.

Most of our plants are more elastic in nature than is generally supposed and provided they are properly handled and treated, they will respond as much to one period of planting as another. Be careful with the actual planting. Do not hurry over the work and at the same time expect good results. Finally, let your gardening knowledge and practical technique be guided by a little common sense, which is just as useful in gardening as it is with anything else.

A Rose Discovery.

DURING the past season an important development has taken place in the evolution of the rose, which may lead to the creation of a new and interesting race. It is too early yet to write definitely of the results accomplished by the art of the hybridist, but our representative in Scotland is now in a position to publish the essential facts for the first time.

Some time ago, Mr. Reginald Farrer discovered in China an unidentified rose species which is unlike any other in cultivation. Perhaps the most distinguishing feature about this novelty is the small, narrow-shaped leaflets and the dense distribution of spines on the wood. The appearance of the foliage while the wine red colour of the leafage provides a pretty setting for the myriads of white flowers whose pleasing effect is accentuated by their yellow centre.

The blooms are produced in massive trusses containing from fifty to eighty individual flowers that are conspicuous for their strong, delicious scent, quite distinct from the fragrance that is to be found in other roses. Another good point in favour of this novelty is its immunity to mildew; and as an example of its strong climbing habit it may be mentioned that the leading stems measure several yards in length and extend up the side of the glasshouse, along the roof to within a few inches of the apex. Some experts see in it a resemblance to the old musk rose Garland, but, be that as it may, the outstanding qualities which are outlined briefly hold out great possibilities to the hybridist.

This rare rose is in the possession of Messrs. Dobbie and Co., Edinburgh, who have used it as a parent. A number of crosses have been made with selected examples of the hybrid tea group, and herein lies the genesis of a new race. One has only to recall the popular hybrids obtained by crossing the Wichuraiana rose to recognise the possibilities of Nature's ample lap.

This Week's Work

Sow early peas and broad beans.

Sow cauliflower, onions and Brussel sprouts in boxes placed in a greenhouse.

Plant a few early potatoes on a warm south border.

Finish renovating the garden paths.

Fork over and lightly top-dress the herbaceous border.

Prepare ground for spring planting of perennials and shrubs.

Feed your lawn with a mixture of superphosphate, three parts, and sulphate of ammonia, one part.

Plant some Jerusalem artichokes.

Fill up all gaps in your rose beds with young healthy bushes.

A New Gaillardia.

A SEEDLING from Gaillardia grandiflora of a tangerine orange self, known as Tangerine provides a striking break in this useful border plant. The habit is identical with Gaillardia grandiflora, and the effective shade—which, being a self colour, permits of its use in colour schemes—is one which will be most attractive in the border, being entirely unrepresented by any similar free-flowering and hardy subject. It does not in any way perpetuate the rather garish shades of the majority of gaillardias, and will easily be the foremost variety in this class.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 11, which appeared in our issue of January 29 h, have been awarded to

Mrs. Manser,
4, Heath Grove,
Barming Heath, Maidstone.

and

Mr. F. T. Bradbury,
Rosewarne, Mawnan,
Near Falmouth.

To each of whom a cheque for that amount has been sent.

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BEGONIAS for BEDDING and GREENHOUSE

BEGONIAS of to-day as produced by our British growers have no rivals in the course of flower evolution. No flower can boast of such reform as has been enacted in the begonia by our hybridists, and we should be proud of the fact that all the varieties introduced during the past twenty-five years, which means, in fact, all those named varieties which attract so much attention at our leading horticultural shows, have been produced in our own country. A comparatively few years ago the popular begonia possessed a flower similar in shape to our double hollyhock and a long stem which would almost commend it for use as a basket variety. These features have now been eliminated and we have in their stead beautifully formed rose-like flowers carried on stiff, upright stems, which need little or no support; beside which the flowers are now at least three times larger than their predecessors and the variety of colour has been increased amazingly.

A few of the new large-flowered varieties which should be in every grower's collection are Lord Lambourne, lovely shaded orange; Lucy V. Toner, old rose; Peace, cream; Mrs. J. S. Brunton, lilac rose; Hilda Langdon, pink (a real gem); Grand Monarch, deep crimson; Nurse Cavell, pure white; and Mrs. T. Crawford, salmon pink.

Many would-be growers of these improved begonias are deterred from doing so, thinking they require very special facilities and conveniences. This is a fallacy. Everyone having a greenhouse, whether heated or not, can possess a batch of these plants, which will give such a profusion of flowers for at least four months of the year as is provided by no other tuberous-rooted subjects.

As bedding plants, too, begonias are indispensable, thriving, as they will, in those shady corners of the garden where few other bedding plants are successful.

To grow begonias from seed, a heated greenhouse is essential if they are required to flower the same year. It is necessary to retain a temperature of 65° to 67°. The seed should be sown during January or February in well drained pots, using a compost containing equal proportions of well decayed loam and leaf-mould and a liberal sprinkling of sand. Place some of the rougher parts of the prepared soil over the crocks and fill to within half an inch of the rim of the pot, making the surface perfectly level by pressing lightly. Then water the soil, using a fine rose, sufficiently to saturate the whole, and leave the pots a few hours to drain before sowing.

The seed, which is among the smallest of our flower seeds, should be mixed with a pinch of fine silver sand, as this will ensure a more even distribution. Cover the pot with a piece of glass and place a sheet of paper over the whole. It is essential that the surface of the soil and seed be kept moist and heavily shaded until germination has taken place. The seedlings will appear in about ten to fourteen days, when they should be gradually exposed to the light and air to prevent them from becoming drawn. When the third leaf appears they should be pricked off into boxes about an inch apart, and in a month or six weeks' time these seedlings should have two or three leaves in addition to their seed leaves. They can then be transplanted into larger and deeper boxes and eventually either potted into 2½in. pots, if required for greenhouse work, or placed in a cold frame and gradually hardened off for bedding purposes. A similar procedure to this may be adopted in a cold house, but the sowing should not be made until April and there will be no time to transplant into the second box. Small tubers, however, will have formed, and these can be started the following spring and will produce strong plants.

Starting the Tubers.

The quickest and easiest method of getting plants is from tubers, which should be started during January or February in a heated house, or March or April if unheated. Boxes 2½ins. deep with a nice light soil consisting of one part each loam and leaf-mould and a half part coarse sand. The tubers should be just buried, and watering should be done sparingly until growth appears. When the shoots are an inch or so long, they can be potted into 4in. or 4½in. pots, using a compost similar to the above with a quarter part decayed manure added. As soon as the roots reach the sides of the pots they are ready for their final move into 6in., 7in. or 8in., according to the size and vigour of the plants, care being taken not to overpot. The soil for this should contain two parts fibrous loam, one part leaf-mould, sufficient sand to keep it open, half part well decayed manure, a sprinkling of soot, also a little bone flour or bone meal. Should any of the plants be showing flower-buds, these must be rigorously removed until they are thoroughly established, as only undeveloped flowers will otherwise be produced. The plants should be ready to flower about a month after potting, at which period a weak liquid manure may be given occasionally.

The atmosphere in the begonia house must always be kept moist by damping stages and floors, and the plants may be sprayed on bright mornings until they begin to flower. While begonias require all the light they can get, they should be protected from the direct rays of the sun. A rolling blind is the best method of shading the house, but if this is impracticable a thin permanent shading may be applied on the outside.

Begonias detest a sour soil, and the chief cause of this is overwatering. The soil must be on the dry side before more water is added. On no account coddle strong begonia plants, give all the light and air possible while avoiding direct sun and draughts.

For Bedding.

Tubers required for bedding purposes should be started in March or April in a

BEGONIA HILDA LANGDON, ONE OF THE MOST BEAUTIFUL OF MODERN VARIETIES.

A COLLECTION OF BEGONIAS IN AN AMATEUR'S GREENHOUSE.

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manner similar to that recommended for pot culture, but instead of being potted they should be placed outside in a cold frame and gradually hardened off for planting out about the first week in June. The ground which is to receive them should have previously been well dug and manured, and the plants should be placed about 10ins. to 12ins. apart. Immediately after planting give them a good watering and then a mulching of either rotten manure, leaf-mould or coconut fibre. This will help to retain the moisture at their roots, which they so much require.

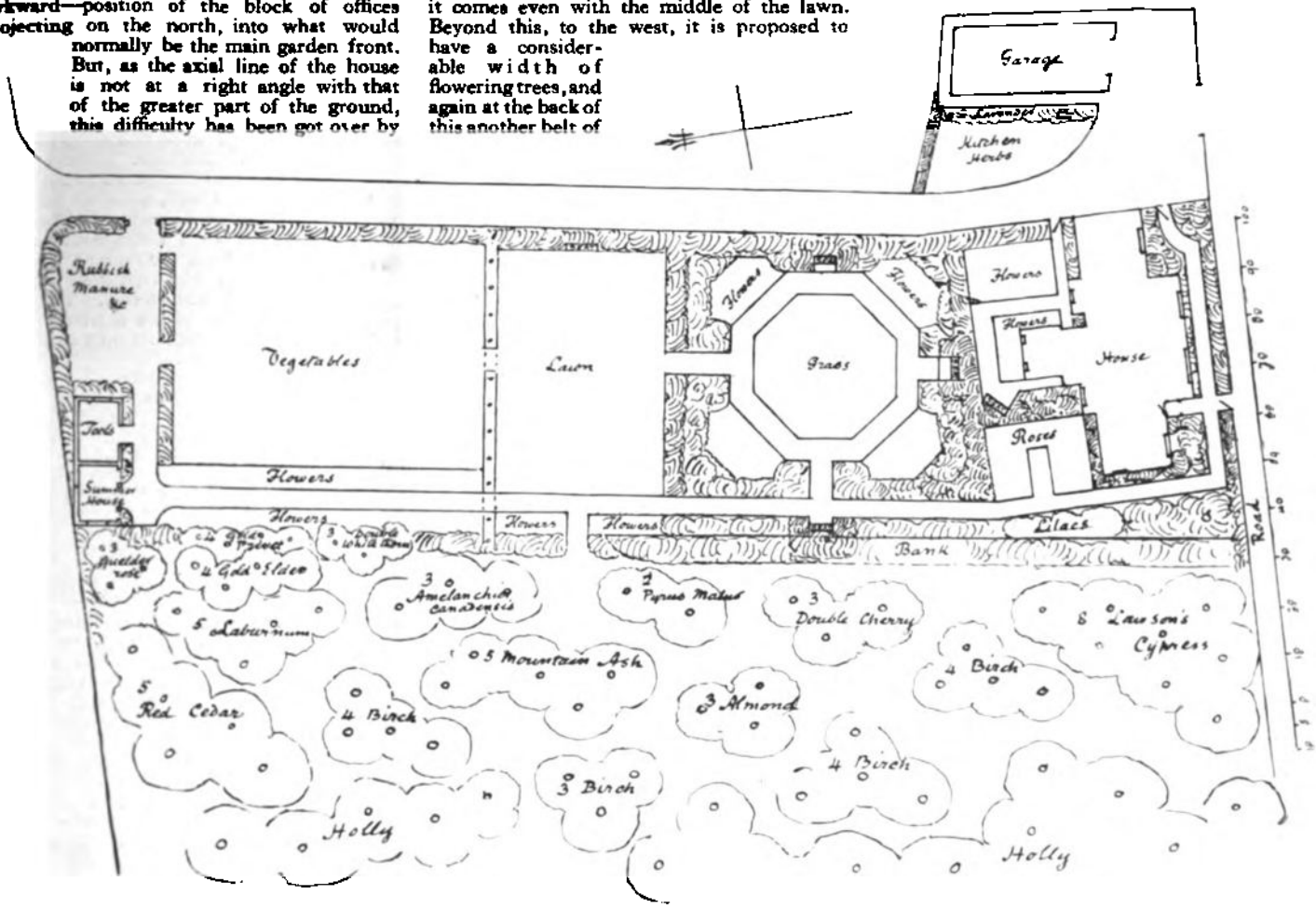
As with pot begonias, all flower-buds should be removed for a week or two after planting out, as this will give the plants a chance to make roots and foliage. A. G. L.

THE JOY OF MAKING A NEW GARDEN

BY GERTRUDE JEKYLL.

THE planning of a garden to this house has not been an easy matter, on account of the unusually placed—and, from the garden designer's point of view, awkward—position of the block of offices projecting on the north, into what would normally be the main garden front. But, as the axial line of the house is not at a right angle with that of the greater part of the ground, this difficulty has been got over by enclosing a small space, which will be a pleasant little garden for the maids, square with the house, and then having the main flower garden, of octagonal form, agreeing with the different angle of the ground beyond. A planting of shrubs, mostly evergreen, surrounds this garden and the small one next the house. Box, yew, laurustinus and laurel give an ample choice for the background planting and for enclosing the seats, with smaller green shrubs such as skimmia, rosemary and the dwarf alpine rhododendrons for the places nearer the paths and immediately surrounding the four divisions for flowers in the angles. To the south and east are seats embowered in yew or box, with a western seat across the long path. To the north the middle path of the octagon leads out to the lawn. With flowers all round, the eight-sided grass plot will be a pleasant feature. It may be tempting to give it some central ornament—sundial, bird-bath or stone basket—but it will be none the worse, and will be more restful, if it has nothing to break its own quiet space. Below the lawn a hedge or trellis or rambling roses will make a good screen to the vegetable quarters. There is a bank sloping down away from the house on the west side, dying out to nothing when it comes even with the middle of the lawn. Beyond this, to the west, it is proposed to have a considerable width of flowering trees, and again at the back of this another belt of trees for shelter. A quantity of flowering trees may easily be planted so that very little good effect is gained; it is a matter that calls for some restraint and careful consideration. A lesser number, such as is shown on the plan, will be of much greater value in the garden landscape. Such a planting, with the addition of groups of silver-stemmed birches, with a general background of green hollies joining into Lawson's Cypress at the southern end, and red cedar, which is really a juniper, at the northern, will be much more effective.

On the west side of the long path next to the road, and including the slope of the bank, there should be a quiet planting of one kind of evergreen, preferably Portugal laurel; this will join into the taller group of Lawson's Cypress. Just beyond the western end of the house there will be a planting of bush lilacs; the square recess opposite will be a little garden of roses. Then more flowering shrubs on the bank side, with some evergreens, to balance the shrubs east of the path that encloses the octagonal garden. The same kind of shrub planting will follow beyond the seat and will continue to the beginning of the lawn. From that point onward there will be a flower border on each side, mainly of useful things for cutting. The group of gold privet, gold elder and laburnum will combine into a fine effect of yellow flower and foliage. Here will be an opportunity for the best display of the perfect blue of delphinium and anchusa in the border, for though, as a rule, the best effects are produced by groupings of plants in graduated harmonies, yet the pure blues demand the exceptional treatment of a distinct contrast. The patch of ground west of the garage with a partly rounded front will be a treasure to a careful cook. A lavender hedge, though not of kitchen use, will come well at the back. A fine clump of globe artichoke will handsomely fill the north-east angle; some tufts of the broad-leaved sorrel, so good for milk soups, will follow parallel with the lavender, then a patch of mint and one of sage, with thyme, savory and marjoram along the front edge, ending with tarragon in the warmest corner next to the privet hedge at the back. These various herbs when fully established will not only be of considerable decorative value in the garden but also of great use in the kitchen.



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SPRING PLANTING OF ROSES

I AM often asked in January, "Is it too late to plant roses?" and invariably reply, "Certainly not. You may plant with every chance of success even up till April." I have had clients calling upon me and saying how successful had been these late-planted roses.

However, I do not advocate leaving the planting until April. It is much better to have the work done before the end of February. Personally, so long as the weather keeps open, I would rather plant now than I would during the terribly wet month of November, which everybody proclaims as the month for rose planting.

Conditions of soil should govern us more in the matter of planting than the actual date, providing we obtain dormant plants. For this purpose many growers offer retarded plants. When plants start into growth in spring, then there is more risk to their ultimate success than if quite dormant.

If one thing deterred me from spring planting more than any other, it would be the fear that I should not obtain the varieties I wanted. There is every sign that the most popular roses will be difficult to obtain presently, so I would counsel my readers to secure what they require now, and if they cannot plant at once, just heel in the plants in a trench, with the roots well covered with fine soil. It is often surprising to me that some people cannot understand that plants have perishable roots. They will leave plants for days in the package in which they arrive; whereas if the plants were unpacked, the roots placed for a time in a tub of water and then buried in soil, they would remain fresh and lively for weeks.

A very essential detail in all planting, but more especially in spring, is to have some good compost ready to place on the roots. A reliable mixture is old potting soil (sifted), leaf-soil, a little burnt garden refuse, and about half a peck of bone-meal to a bushel of the compost. Let these all be well mixed together, then, when about to plant, make a hole in the prepared bed of about 1ft. square, hold the rose bush in the centre of the hole, and work in among the roots a shovelful of this compost. After pressing this firm, fill up with the soil removed. If at all wet, this top soil need not be trodden too firm. Rather defer doing this until it is a little drier.

All roots of roses should be trimmed over before planting. The jagged ends cut off, and even if there are no jagged ends it is best just to cut the extreme ends, so that new roots have a good start.

If there is one thing I object to more than another, it is planting roses to fill up gaps in existing beds. I know this is often unavoidable, and if heavy rains follow see that the holes are free from stagnant water.

Wherever possible, dig up a fresh piece of soil for the roses. I am thinking now of the very tiny garden. Of course, some roses are wanted. It would not be a garden without a rose or two. Possibly it is a new garden with a border all round the side and a grass plot in the centre. You can cut out a bed in the turf about 6ft. in diameter and grow eight to twelve good roses. If you decide to have them in the borders, just start and trench these. It is not a long job and it pays to start well. Mark out a yard in length. Dig out the top spadeful and wheel it to the end of the border where the work will finish. Now shovel out the loose soil and also wheel away. You now take a strong fork and dig up the next layer of soil. After this is done, give a coating of manure and garden rubbish or Wakeleys Hop manure, which is an excellent substitute, and incorporate this with the already forked-up soil.

You now mark off another yard. Dig the top soil of this No. 2 trench and put it into No. 1 trench, and this latter is now complete.

If you can afford all the border for roses you will be well repaid; if not, plant half a dozen or a dozen bushes 2ft. apart each way.

Six fine varieties for the novice would be Mrs. John Laing, Hugh Dickson, Frau Karl Druschki, Caroline Testout, Mme. Butterfly and Independence Day. These would grow in any garden which is not overshaded by trees. If no manure can be procured, the bone-meal will give plants a good start, and a sprinkling of a good fertiliser, such as Clay's, during May and June, will be sufficient nourishment.

A BED OF THE HYBRID TEA ROSE CAROLINE TESTOUT.

If for any reason planting must be deferred till March, I advise pruning the plants back to 2ins. or 3ins. at time of planting. It sounds drastic, but it pays. Ramblers planted late are best cut back to about 12ins.; but climbing hybrid teas should not be pruned the first season.

But some of my readers may desire a somewhat larger selection, and I append a list of eighteen really reliable varieties: Hugh Dickson, Frau Karl Druschki, General McArthur, Betty Uprichard, Mme. Butterfly, Christine, Mme. Jules Bouché, Souvenir de Georges Pernet, Etoile de Hollande, Independence Day, Mrs. Wemyss Quin, Mrs. Henry Morse (susceptible to mildew), Miss Willmott, Los Angeles, Covent Garden, Shot Silk, Lady Pirrie and Clarice Goodacre.

It should be remembered that roses repay for being transplanted every two or three years. Supposing one has a bed with several blank spaces, I would advise that the existing plants be dug up, their roots trimmed back and the plants carefully heeled in. Now proceed to dig the bed two spades deep, working in some bone-meal as work proceeds, also old rotted manure if available. When all is finished, replant the older plants in the centre and fill up the bed with some or all of the varieties I have given. I once knew an eminents gardener who made it a practice to transplant one-third of his roses each year; thus the whole rose garden was replanted in three years, and with marked success. The transplanting affords the plants a new lease of life, and it can be carried out on a small scale as well as on a large one.

Of course, where plants have been established for some years then it would not be advisable to move them. WALTER EASLEA.

FLOWER GARDEN NOTES

A Rock Garden Pentstemon.

OF all the interesting and useful species of pentstemons which grow in the Rocky Mountains of Canada, P. cyananthus is one of the best. For planting in the herbaceous border or, better still, between large rocks in the rock garden this penstemon always attracts the attention it deserves. Growing from 3ft. to 4ft. high, its spikes of lovely blue flowers open in June and continue for a long period. It seems of quite easy culture, providing the site is sunny, the soil well drained and a fair amount of sharp sand added.

P. cyananthus can be raised from seed sown in the autumn, preferably as soon as it is ripe, also propagated by cuttings and struck in a cold frame. Like other species of pentstemons, P. cyananthus will sometimes die off in winter, although to all appearances in good health, therefore it is always wise to raise a few new plants every year.—R. MOORE.

The Blue Mountain Daisy.

ASTER ALPINUS, commonly known as the blue mountain daisy, is a delight on the rock garden and in the front of an ordinary flower border. It forms sturdy tufts about 6ins. high and the Michaelmas daisy shaped flowers are a pale blue, with a golden yellow centre. There are, however, a number of different forms and varieties—Elliott's variety being a grand plant, with large flowers, in every way an improvement on the type. Then we have albus for those who enjoy white flowers, roseus with lilac pink blooms, superbus deep violet blue, and Wargrave Pink. A choice form is subcœrulea, with rich violet flowers 2ins. across, the centre being deep orange. This plant

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grows about 9ins. high. A. alpinus and its varieties present no difficulties in the way of cultivation, and they will succeed in a loamy soil where they escape the hot, midday sun.

They are quite hardy and are at their best about June. With ordinary care they soon increase, and in time it will be advisable to lift and divide them, such work being carried out in early autumn or spring, just before the roots become active. The spring is also a good time to purchase plants of this description and pot grown examples can often be obtained. The alpine aster is a gem that should be found on every rock garden, however small for a batch of healthy plants covered with daisy-like flowers, especially the blue varieties is a pleasing and attractive sight. Mice and slugs are particularly devoted to the young growths of A. alpinus, the former must be trapped and the latter are held at bay by a liberal sprinkling of sharp grit well worked in among the crowns.—T. W. B.

Saxifraga oppositifolia.

IT is interesting to observe that few writers agree regarding the treatment of this charming rockfoil, so it is evident that each grower must, to a large extent, discover what will suit the plant in his own particular locality and then act accordingly. However, a few remarks on S. oppositifolia and its varieties, together with a cultural hint or two, may not be amiss, and, moreover, they may act as a sign-post to many who try to grow and flower this delightful saxifrage and more or less fail in the attempt.

They are in flower, early in the year—February and March—fine examples being being covered with bloom in varying degrees of red. One of the brightest forms is known as splendens, which produces a wealth of its heather-purple flowers in March. Another distinct variety is the Italian latina, of a rosy purple hue; while pallida, as its name implies, is much paler in colour. The white one known as alba is free flowering, but somewhat starry in appearance, and perhaps W. A. Clark is the brightest of the set. Other varieties are quoted in catalogues, and there may be improvements on those mentioned above. S. oppositifolia is found in the Alps, the Pyrenees, in Scotland and in Yorkshire; the best varieties, however, hail from the first two places named.

So far, I have found no great difficulty in growing these rock foils, either in pots or pans or on the rock garden. At one time I had scores in the former receptacles plunged in ashes and sand, and it was remarkable how well they rooted in the sand. This, however, is not suggested as a rooting medium, but it shows that it could be added to the soil with advantage. A cold, heavy loam must be avoided, so a good compost would be of a medium texture with a little broken sandstone or limestone added.

A cool root run is the ideal, and positions ought to be chosen where the hot, dry sun of summer will have no bad effects.

No doubt, the principal secret of success is frequent propagation, and fine results are obtained from annual increase by division, or the second year from cuttings. The plants are divided immediately after flowering, and when planting it should be remembered that the growths form roots as they extend, and for this reason they must be set in the soil fairly deeply or failure will accrue. There may be large patches which will go another year, but these must receive attention by top-dressing with a gritty, limy compost. In dry weather water will be required occasionally, and where this treatment causes the foliage to brown, it would be as well to use rain-water only.

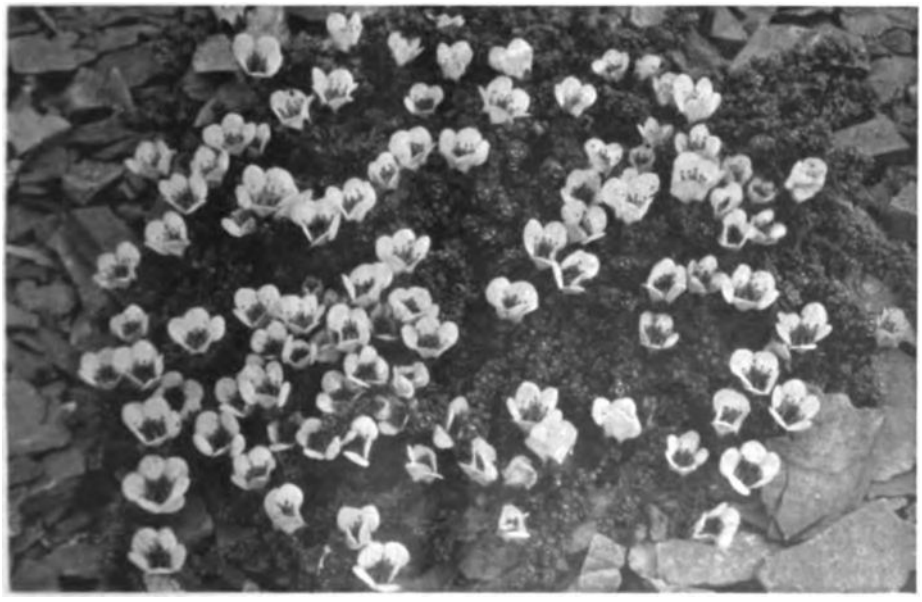
These rock foils form lovely carpets in the rock garden or moraine, and when smothered with bloom they are indeed glorious—particularly as they flower so early in the year. Slugs, for some reason, do not appear to be very fond of these exquisite saxifrages. —CHEPSTOW.

A Perennial with Handsome Foliage

A GROUP of plants well worthy of more attention than it receives is acanthus. Practically all the species have extremely fine foliage and a generally striking habit of growth which ensures a distinctive effect. Although the plants come from countries adjoining the Mediterranean, they seem to be quite hardy in Britain, for, even if the foliage is damaged, the roots do not suffer from frost. Acanthus is not a showy subject for the mixed border, as the flowers, although possessing a peculiar shade, are not gaily coloured. But all the species are well worth growing for their foliage alone. It is best to plant singly or in groups where the specimens can exhibit their true character. Acanthus is very accommodating in the matter of soil and it often succeeds well on poor ground, especially if this is on the light side. On heavy clay soils the results are not so good and in such positions the plants often refuse to flower altogether. Acanthus is a very handsome subject to plant on the turf of lawns and it may also be employed on rocky banks or similar situations. The plants will

THE HANDSOME FOLIAGE AND FLOWER SPIKES OF ACANTHUS LOOK WELL IN THE BORDER.

grow in fairly deep shade, but here they rarely flower and the foliage is usually less fine than in a more open position. The chief hardy species of acanthus include the following: AA. hirsutus, syriacus, mollis, spinosa, longifolius and spinosissimus. The plants vary from 1½ft. to 4ft. in height, according to soil and situation. When very favourably placed it is not an uncommon thing for an acanthus at flowering time to reach the height of 6ft. and such a specimen is about as handsome as anything one could see in the garden.—S. LEONARD BASTIN.



ONE OF THE BEST SAXIFRAGES, S. OPPOSITIFOLIA.

Time to Plant Ranunculi.

ONE of the finest sights in the garden is a bed or a border of ranunculi in full bloom. Various sorts of these plants are to be obtained in a great variety of shades and the roots are inexpensive. Light soil, which has been well manured and deeply dug suits the plants best. If the natural soil is very heavy and wholly unsuitable, it is worth taking it out to the depth of 2ft. and filling in the position with a mixture of two parts of loam and one each of leaf-mould, sharp sand and well decayed manure. The roots should be placed about 6ins. apart and covered with a couple of inches of fine soil. Often, a beginner will set his ranunculus roots upside down and it is worth pointing out that the "claws" should always be placed downwards, the crown being more or less flat. It is very helpful to bed each root in with a little sand before finally covering with soil. If the weather is dry when the ranunculus plants begin to grow, watering will be needed, but this should be done after the sun has left the bed.—L. B.

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RENOVATING THE ROCK GARDEN

WITH the promise of spring in the near future, any work in the rock garden that was not carried out in the autumn can now be done. One of the most important items is that of replanting groups that have been long in one position and have become overcrowded, also have exhausted the soil in which they are growing. This applies only to the stronger-growing subjects, like primulas, violas, arabis and saxifrages of the megasea section. Other plants, like those of the Kabschia saxifrages, may be left for some years in the same position, their only requirements being an annual top-dressing. This top-dressing is very necessary for the majority of rock plants, as many plants, like some of the alpine primulas, have a tendency to form stems and grow away from the surface of the ground, resulting in a leggy appearance. If given a good top-dressing, fresh roots are formed higher up the stem, and thus the plants benefit to a great extent by this being periodically performed.

Mossy phloxes, androsaces, achilleas and similar carpeting plants should also have a like compost of fine soil, leaf-mould and sharp sand worked in between their prostrate stems. Where there is room between the plants the surface should first be cleared of all weeds, then stirred up with a hand fork to loosen the soil in order to sweeten it. Then the top-dressing may be added, taking care that all trailing stems and exposed roots are covered with the gritty soil. As well as providing fresh food for the plants, the top-dressing gives the rock garden a neat and finished appearance in readiness for the coming season. For lime-loving plants, which constitute the majority of the inhabitants of the rock garden, a little bone-meal added to the mixture will be found beneficial. For peat-loving plants like shortias and plants of the heath family, a peaty mixture must be used for top-dressing.

Transplanting.

Although autumn is the best time for replanting early spring-flowering plants, the majority of stronger-growing kinds that come into flower somewhat later may be attended to now during favourable weather. Pockets in which the soil has become sour and exhausted should be emptied, and re-filled with good gritty soil, taking care to put plenty of drainage in the bottom. The stronger-growing plants that show signs of having exhausted the soil in which they are growing should be taken up and placed on one side. Then the old soil can be taken out, afterwards filling up the hole with new soil. In re-planting, select the strongest clumps and divide them up into pieces, each containing two or three growing points, or crowns, according to the kind of plant being dealt with. See that there are plenty of good healthy roots attached to each piece before planting. In planting, give each plant room for future growth. The accompanying illustration of a primula before and after re-planting will give readers an idea as to how this work should be done. In place of the crowded appearance of the former, we have the newly planted plants spaced out, each having plenty of room in which to develop.

Plants Requiring Attention.

The following are some of the principal families that require more frequent attention in transplanting: Alyssum, campanula, dianthus, erodium, aster, primulas of the bog, or strong-growing japonica section, saxifrages of the megasea section, as well as the mossy kinds; aubrietias, iberis, geranium, viola and veronica. There are many other strong-growing rock plants not mentioned above, but the list will give some idea of the kind of plant that soon exhausts the soil in a pocket, and either requires feeding with manure or replanting in fresh soil. It often happens that a coarse-growing plant tends to overrun its smaller neighbour, so it is necessary for a close watch to be kept on all plants to see that the weaker ones get a fair chance. The stronger plant should be either periodically cut back, or removed entirely to a fresh place where it will have more room.

The Best Time for the Work.

Early spring is the time for filling up gaps in the rock garden. At this time one can see what plants have been killed during the winter, and steps should be taken at once to make good the groups that have suffered. Although the best time for planting is in the early spring, or early autumn, established plants in pots may be put out at any time, although not advisable in hot dry weather. Some plants, like the alpine primulas, are dependent upon the developed growth of one season for flowering in the spring following. Therefore, these should be replanted soon after flowering. Saxifrages also are best moved in the spring in order to become established and secure a season's growth before flowering. Campanulas, asters and such-like plants may be moved in early spring and will flower the same season.

Hints on Planting.

A most important point to remember in planting alpines is to plant firmly. In their native haunts many plants are usually found wedged between rocks, and even grow in crevices from which it is almost impossible to dislodge them. Therefore, the soil round about the plant must be made very solid by means of forcing in stones quite close to the tufts. Many failures with the rarer alpines are due to careless and loose planting, the roots being merely covered with soil and not pressed firm enough to enable the roots to take hold. Many alpine plants, like some of the Kabschia saxifrages, that form large tufts, develop brown patches in the centre. These should be dealt with by cutting out all the dead parts, and then giving it a mulching of a mixture of grit and leaf-mould worked well in between the growths. Where, however, the plant has got too bad for this remedy, it should be taken up, divided into small pieces, each with plenty of roots attached, and planted again firmly. Advantage should be taken to renew the soil at the same time.

It may have been noticed that some patches of plants did not flourish as they ought to have done during the past season. This may have been due to their not being planted in the right position, either too much sun, or too shady. Their requirements should be ascertained, and the plants put into positions where they get more sun or more shade as required. Plants like æthionema prefer a hot sunny ledge or crevice, while plants like the mossy saxifrages require more moisture in a half-shady situation.

When all this work has been carried out and the necessary labelling attended to, the rock garden can be cleaned up and left to produce its welcome display of bloom during the coming season. It will, however, be necessary to watch for weeds, and also for slugs, which are very fond of the rarer plants.—W. I.

THINNING AND REPLANTING OF A CROWDED PATCH OF PRIMULAS.

A group requiring thinning and replanting. *After thinning. Each plant has sufficient room to develop.*

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LILIES FOR THE AMATEUR

THE genus lilium includes some of the most beautiful plants for garden decoration, and to a certain extent vies with the rose in popularity; but, alas! unlike the rose, the majority are not so amenable to general cultivation. In fact, many of them are only for the specialist or enthusiastic amateur. Even then, with all the care and attention lavished on them, they prove difficult. This is not so surprising when we consider their wide geographical range and the varied conditions under which they grow in nature, nearly always associated with other plants, such as shrubs and grasses, the roots of which help to keep the soil in good mechanical condition. I am convinced that it is this lack of plant association under garden cultivation that accounts for so many failures with this beautiful race of plants and, indeed, many other bulbous plants.

Cultural Details.

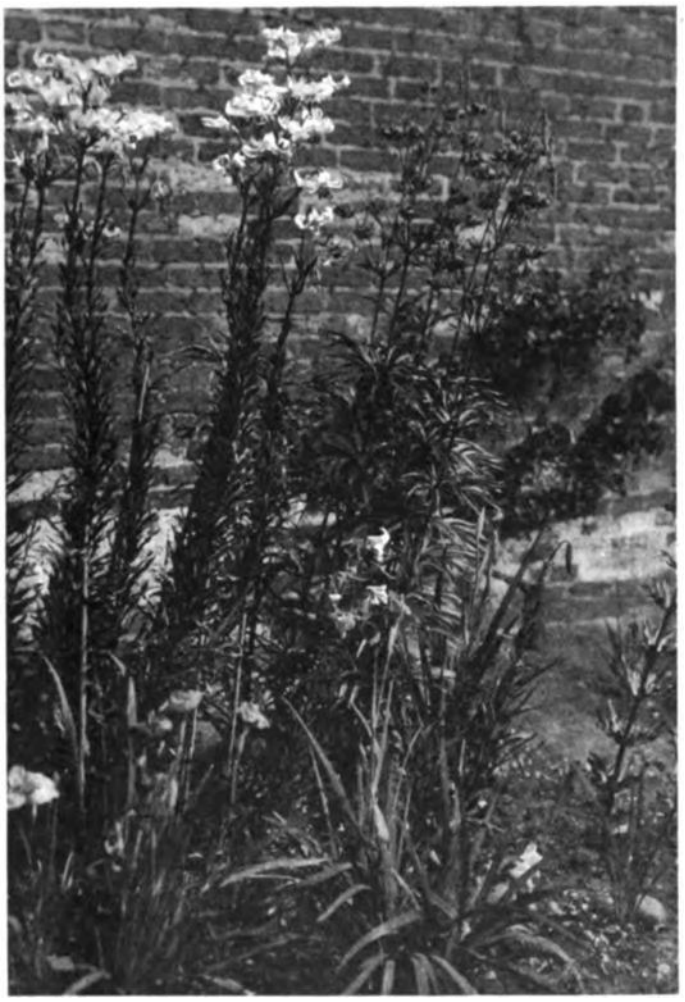
The first essential is to secure healthy bulbs. Having procured them, if they cannot be planted at once, they should be laid in boxes and covered with leaf-soil or fibre until such time as they can be dealt with, for lily bulbs quickly suffer if left exposed to the air for any length of time. With some of the choicer species it is a good plan to pot them up and keep them in a cold frame until better weather conditions prevail, when they may be planted out in sites previously prepared for them. Regarding the sites, there are quite a number of lilies that may be expected to succeed in any good medium well drained loam. And here let me say that the first essential to successful cultivation is sharp and perfect drainage. Especially is this necessary during the winter months, when wet, stagnant conditions at the root prove fatal to so many lilies, even to those species that enjoy ample moisture at the root during the growing season.

To ensure, at least to some extent, comfortable winter conditions at the root, it is a good plan to plant them among dwarf shrubs, the roots of which help to keep the ground in good condition. Even then, unless the soil conditions are ideal, it is wise to take out good holes at least 2ft. deep and put plenty of drainage in the bottom, filling the holes with prepared compost consisting of good loam, leaf-soil and sand. Do not spare plenty of gritty material—even a quantity of small stones—in the compost. Before planting, the fresh compost should be trodden fairly firm. When planting species with large bulbs, such as auratum and Henryi, they may be planted singly, but when dealing with smaller and choice species it is best to plant in colonies of three or even six bulbs. The larger bulbs should be planted at least 8ins. deep and the smaller ones not less than 4ins., remembering that the stem-rooting species should be planted deeper than the species that do not develop roots from the stem during the growing season.

The bulbs should be planted on and surrounded with plenty of clean coarse sand. This is of prime importance, and it is false economy to use it sparingly.

The sites should be marked with a neat stake, so that the young shoots when just coming through the ground may not be damaged by cultural operations.

Most liliums will stand all the sun they are likely to get in the British Isles, but most of them benefit by shade at the root. In planting them among dwarf shrubs and similar plants we, to a certain extent, provide them with good mechanical conditions at the root and also the essential shade at the root. Another important advantage of such a position is the fact that the bushes provide a certain amount of shelter during the spring, when the young shoots are apt to suffer from late spring frosts and cold cutting winds.



A CLUMP OF THE NANKEEN LILY (L. TESTACEUM).

Species that Succeed in Ordinary Loam.

All the following species and varieties may be expected to succeed in any well drained medium loam with the possible addition of some flaky leaf-soil, *viz.*: Lilium candidum.—This species requires different treatment from most of the others, for it should be planted or replanted during August, as it commences growth then; also, unlike most of them, it must not be planted deeply. The top of the bulbs should only be covered with 2ins. to 3ins. of soil, as this lily does best when the bulbs are exposed. Other species are croceum, the orange lily, tigrinum and its varieties Hansoni, regale, chalcedonicum, pomponium, monadelphum and its variety szovitsianum, Martagon and its varieties, album, dalmaticum and Catanii, also testaceum, elegans and its many varieties, umbellatum and Henryi, this last flourishing in heavy loam. LL. Willmottæ and tenuifolium also succeed under similar conditions. All the foregoing with the exception of L. tigrinum and its varieties, are—if not lime-lovers—indifferent to its presence. At the same time its presence does not seem necessary to them, although I feel sure that candidum is better for occasional dressings of lime or basic slag, the latter applied at the rate of 6 oz. to 8 oz. per square yard. It should be noted here that L. auratum and its varieties will not succeed in limy soils.

Species that Enjoy a Soil Rich in Humus.

All the following should do well in light medium loams with the addition of plenty of well decayed leaf-soil. This should be used in preference to peat, which when it gets into bad condition is very poisonous and is only safe when permeated with the fine roots of rhododendrons and similar shrubs. L. auratum and its varieties come into this group, also L. speciosum and its varieties. They are largely grown in pots and, except in the south and west, flower rather late for general outdoor cultivation. Like auratum, this lily dislikes lime. LL. rubellum and japonicum syn. Krameri, although I cannot say they are easy, are, however, so beautiful that they are worth a good deal of trouble. They enjoy a light loam with the addition of plenty of leaf-soil. There is quite a number of beautiful American lilies, but they are by no means easy under cultivation with the exception of L. pardalinum, the Californian panther lily, and its many varieties; while LL. superbum, parviflorum, parvum, philadelphicum, canadense, Grayi, Humboldtii var. magnificum and Parryi are all fairly easy in light loam with plenty of added leaf-soil. In common with most of the American lilies, they enjoy full sunshine with shade at the root.

Insect and Other Pests.

Considering the many cultural difficulties that attend the growing of lilies, they are singularly free from insect and other pests. Out of doors, especially on some soils, slugs are a real menace. Clean cultivation, plenty of sand round the bulbs and persistent trapping will do much to keep them in check, dry bran forming a very attractive bait for slugs. Mice eat lily bulbs, generally devoting their attention to the edible lilies of Japan, such as LL. rubellum, Leichtlinii, auratum and tigrinum.

Fungoid Diseases.

Botrytis cinerea, which attacks so many garden plants, often attacks lilies, especially L. candidum, late spring frosts and cold winds generally inducing attacks. On the first signs of attack the plants should be sprayed with liver of sulphur (sulphide of potassium), using 1 oz. to 3 gallons of water. If a little soft soap is dissolved with the mixture, it adheres much better to the foliage and is not so easily washed off.

J. C.

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THE BUSY MAN'S PAGE

Mulching Newly Planted Trees and Shrubs.

IT is advisable that all newly planted trees and shrubs, including fruit trees and also ornamental trees and shrubs, should receive a mulching of decayed manure at the present time. This applies whether they are autumn or spring planted. A mulch of this description neutralises to a large extent the bad effects liable to be caused as the result of drying winds which may prevail during the next few weeks. Trees and shrubs thus treated will also better resist spells of drought during the summer, and this is of especial benefit to trees planted on shallow soils or on soils resting on a very porous subsoil. If a mulching of manure is thought to be unsightly, a scattering of soil may be spread over its surface. Previous to applying the mulch make sure that each tree or shrub is securely fastened to its stake in such a manner that the bark cannot be injured and so that the ties cannot cut into the bark as it expands with growth.

Cinerarias from Off-Sets.

FROM a packet of mixed cineraria seeds it often happens that a plant with an exceptionally fine shade of colour or form of flower is among them. If the particular colour finds favour and has an attraction for the owner, he very naturally wishes to retain stock of it if possible. In some cases this may be successfully done by saving the seeds, but the flowers require protection from bees and various flies with a covering of gauze or fine muslin. Even though the flowers be protected, it does not always ensure their coming true to type.

The surest way to overcome the difficulty and perpetuate stock of a favourite plant is to increase it from off-sets taken from the old plant. During the flowering period great care should be observed when watering by keeping the pots in an evenly moist condition—never waterlogged or the other extreme. When the plant has finished flowering, cut it back to within a few inches of the pot. Encourage the plants to make side growths and off-sets by placing them in a position where they will not be exposed to much sunshine. A temperature of about 50° should be maintained, and the staging and surroundings kept somewhat damp in order to promote growth. When the off-sets have attained sufficient size, they should be pulled off with some roots attached and placed in 3in. pots. A compost of about equal parts of loam and decayed leaves passed through a ½in. sieve, with enough sand to keep it open, will do for the first potting. The plants may then be kept rather close for a few days until established. Afterwards their treatment should be similar to plants raised from seeds, potting them on into larger-sized pots as they require it. The plants should be labelled as a means of identification afterwards.

Potting Mixtures.

THE soil mixture which is used when potting naturally depends to a considerable extent on the plants which are to be grown. Professional gardeners will at times hold forth on the elaborate composts which they prepare, but, happily, most plants will be suited with one or other of about three comparatively simple mixtures. A good general potting mixture which will meet the needs of begonias, fuchsias, calceolarias, primulas, geraniums, cinerarias, carnations and by far the greater number of plants commonly grown is made in this way: To three parts of fibrous loam add one part of well crumbled manure, one part of leaf-mould and one-tenth part of sand, the whole being well mixed together.

Pot roses do best in a mixture of fibrous loam and well decayed manure in equal parts, to which is added a twelfth part of sharp sand.

Azaleas, heaths, hard-wooded plants generally, and also ferns and palms, should be potted in a soil which consists of two parts of peat, one part of loam and just a sprinkling of sand.

Garden Steps and Paths.

IT has become quite a common practice to make use of steps and paths about a garden and to plant them with dwarf and creeping subjects, and, so long as this is not done at the expense of thwarting the use of either steps or path, well and good. The illustration shows a judicious use of plants at the foot of steps and clinging to the sides, and is in keeping with the surroundings. With few exceptions, it will, I think, be found more satisfactory to raise plants from seed, sowing it thinly where wanted, rather than

LOW-GROWING PLANTS MAKE ATTRACTIVE DECORATION FOR PATHS AND STEPS.

to attempt the pressing into a confined space of young plants that have to be found root room. In this connection, one thinks of aubrietias, seeds of which can be sown in the crevices, aided by a little fine sandy soil; and Cerastium tomentosum, sweet alyssum, some of the dwarf campanulas, Erinus alpinus and saxifrages. In the case of flagged paths, while it may not be a difficult matter to put in young plants from pots between the spaces, on steps it is, generally speaking, better to make use of those raised from seed sown where they are wanted, and thinning out as need be.

Sowing Choice Flower Seeds.

THE growing of choice plants like begonias, cyclamen, primulas, cinerarias, etc., from seed is a simple matter, but it pays to give a little special care to secure the best results. Here are a few points worth bearing in mind. The seeds may be sown in boxes, pots or pans, and the mould, which should be a good potting compost, must be crumbled or sifted until it is very fine. Place the soil in the pot, or whatever the receptacle may be, not forgetting some drainage at the bottom. Arrange to have some fine, almost sand-like soil at the top, and moisten this slightly with warm water. Open the packet and shake the seed into the dry palm of the hand, then rubbing it very gently off with one finger so as to spread the thinnest possible layer over the soil. In the case of the tiny seeds of begonias and calceolarias it is just as well not to attempt to cover with soil at all. With other seeds sprinkle a thin layer of soil very lightly after sowing. The next step is to spread some damp moss over the seed-bed or, if this cannot be obtained, sheets of paper kept in a moist state may be employed. Examine in about two days, and if the surface soil seems dry sprinkle water on to the moss or the paper. Never water directly on to soil which has been sown with choice seeds. As soon as the little plants begin to appear remove the moss or paper and protect with a sheet of glass rested on the rim of the pot or box. For a few days shade the glass with brown paper, afterwards using white sheets. Do not forget to raise the glass a little for a few hours each day to admit air. When the seedlings are about half an inch high carefully prick them out at 2ins. apart into another pot. Remember that in some cases, and this is especially so with primulas, germination is rather irregular. Some of the last plants to appear may be a week or even ten days behind those that first put in an appearance. The first change into separate pots comes when the transplanted seedlings are just beginning to touch each other.

Clovers and Weeds on Lawns.

FEBRUARY is the best month in which to deal with lawns infested with clover and weeds. Of course, in the case of a lawn that has to sustain a great deal of wear a certain amount of clover is useful, but in ordinary cases the plant should be kept well in check, as it tends to kill the grass. Sulphate of ammonia is the best thing to employ for stopping clover and weed growth; this chemical will, at the same time, have a very stimulating effect on the grass plants. Where moss is prevalent sulphate of iron will soon eradicate the growth. A very excellent lawn sand which, while killing weeds, moss, etc., will help the grass to develop, is prepared in this way: Grind a quarter of a pound of sulphate of iron (green copperas) into powder; then add one pound of sulphate of ammonia, also well ground. Mix these two well together and blend thoroughly with 8lb. of fine sand of any kind. Those who live near the coast will find that sand from the beach answers the purpose very well. This dressing should be applied at the rate of 4 oz. to each square yard. In the case of big weeds it pays to place a pinch of the powder on the crown of each plant so as to ensure a speedy death. Where large weeds or considerable patches die there will naturally be a space left, and this must be returfed or sown with seed as soon as the weather becomes spring-like.

A Wallflower Hint.

WALLFLOWER plants that are of poor development and not as bushy as one would wish may be very much improved if treated in the following manner: Choose a mild day and then pinch back to the distance of about 2ins.; if the plants are small and stunted, 1in. will be sufficient. The result of this is the development of numerous side shoots, all of which head up for bloom. Sometimes the pinching back may make the wallflowers slightly later in coming into flower, but unless the spring is very late and cold the difference is hardly worth bothering about. In any case this method will ensure a large increase in the number of flowers actually produced.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Flowers for Small Gardens.

THE smaller the size of the garden, the greater the need for care in the choice of plants for succession of bloom. In the little garden illustrated here, a careful selection of plants gives a constant change of flowers from early spring until late autumn. The first necessity in a shut-in garden is to clothe the fences. Scarlet runner beans, which appear in the back of the border, are a good forerunner of more permanent climbers. String or stakes can be used as support for the beans. It is too early to sow, but no time should be lost in ordering seeds and preparing soil. As the digging is done for such a border, work in any organic manure, leaves, decayed vegetable matter, etc., and also 2oz. of lime and a handful of bone meal to each square yard. Borders by the side of fences often suffer from dryness, and to improve the supply of soil moisture, dig deeply, breaking up the subsoil thoroughly. Bulbs and early spring flowers were followed in the garden shown here by annuals, carnations, ten-week stocks, Madonna lilies and dahlias. The candytuft and virginian stock used as an edging were sown among crocus leaves, allowing these to die off naturally without becoming unsightly. A fine crop of tomatoes was also grown in the left border, showing how much more ingenuity can be exercised in the small garden than is needed in the garden of several acres.

Designing the Small Garden.

TASTES vary, and no hard and fast rules can be given for designing the tiny garden. Borders are generally best mixed, so that there shall be something in flower at each season of the year. They should run round the lawn; beds cut out of the lawn for special plants tend to diminish the apparent size of the garden. Shelter, shade and privacy are desirable on the lawn, and these can be obtained even in a small garden by the use of trellis work covered with climbing plants. Straight paths are best, and edged with suitable plants they can be made very attractive. Avoid useless ornaments. A stone vase filled with flowers, or a garden seat may be admitted, but garden statuary is only suitable for the large garden.

Planting Standard Roses.

ROSES must have fresh air. Anyone who has compared the foliage of a bush rose grown in a shut-in garden with that of a similar rose grown in a nursery field, will appreciate this point. Thick, closely grown, privet hedges and walled-in gardens are one of the biggest obstacles to rose culture in small gardens. I am particularly keen on the use of *standard* roses for this position. They hold their heads well above the boxed-in and stagnant air, and so thrive better than roses of the bush type. This is the best season for planting in towns, and a few hints may be useful to those who intend to grow roses for the first time.

When you see a single standard rose in a front garden, in nine cases out of ten you will find that it is perched on the top of a cone of parched soil. This is fatal. Roses must have a constant supply of water at the roots, and the little mounds in which many roses die a lingering death are dried out after a few hours of sunshine. *Keep the rose bed on the general level of the garden.*

Suppose you have ordered a few standard roses. They should arrive fresh, that is, the green parts of the stems should be firm, shiny and fresh looking. If not, they have been delayed in transit and are probably dried up. In such a case, lay the roses right into moist soil for a few days, after which they can be taken out and planted. Most nurserymen dip the roots in a prepared clay solution, which prevents loss of moisture.

If you are planting your roses in an old garden, *work up a little of the subsoil.* Never mind if it is a bit clayey, it will renovate the top layer. And, above all, break up the subsoil beneath your standard roses, and every year you will be glad of the extra work you put in preparing the site for it. Plant the rose firmly, spreading out the roots evenly. I find it best to stake the plants before filling in the soil. Use a strong stake, and do not tie too tightly. After planting, keep an eye open for strong winds. They loosen the stake and allow the plant to gyrate. This tears the delicate roots to shreds.

STANDARD ROSES ARE BEST FOR A SHUT-IN GARDEN.

THE EFFECTIVE TREATMENT OF A TINY GARDEN.

A few good varieties for present planting are Christine and Golden Emblem (yellow), K. of K. and Donald McDonald (red), Los Angeles, Mme. Edouard Herriot, Gorgeous and Independence Day (copper and flame colour), Lady Ashtown (pink), Ophelia and Pharisaer (rosy white).

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WHAT to PLANT in the HERBACEOUS BORDER

Many of the varieties of perennials mentioned in this article are newcomers to the border, and all are worthy of being included in the planting schemes this month. The majority show considerable improvement both in colour and habit and in many ways are superior to the older forms.

A BORDER IN EARLY SUMMER.

This is the month when all renovation work should be carried out. All gaps in the herbaceous border may be filled now, and in the following list will be found plants which are useful for all parts of the border, some may be utilised in back row planting, others, again, for furnishing masses of colour in the front.

ALTHOUGH autumn is the best time for preparing the border and dividing and transplanting old, well established plants, the spring is certainly the best season in which to put in new plants, as they will then have the summer before them in which to make good, instead of being exposed to the perils of hard frost before their roots—rarely either strong or numerous in young stock—have had time to get hold of the ground. The choice of plants for a border depends, of course, on many things, including personal fancy; but there are some which are practically indispensable.

Delphiniums.

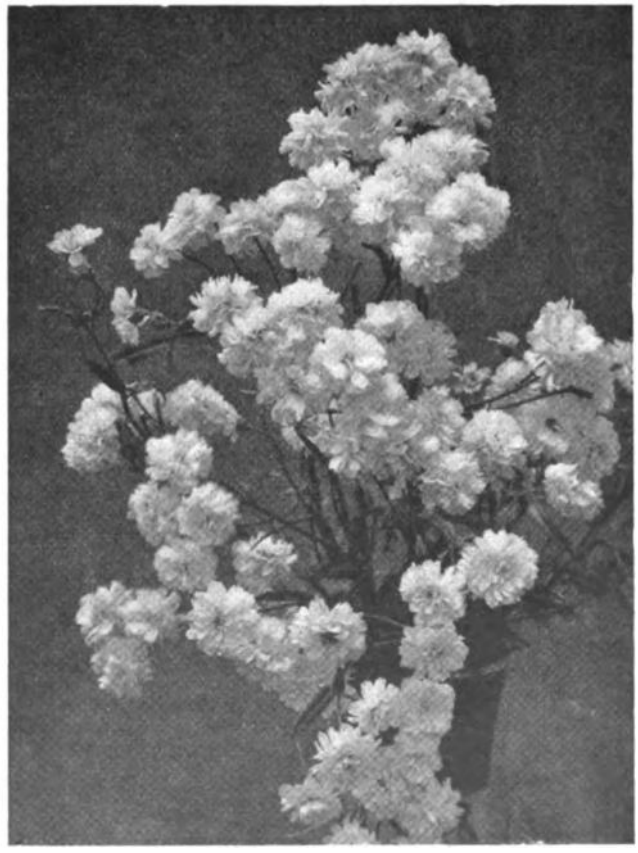
Of these, probably the finest of border plants, there are so many fine varieties that it is difficult to make a selection; but of the tall-growing kinds the following half-dozen will be found most satisfactory: Blue Boy, deep blue with a white eye, a variety with a gracefully tapering spike; Blue Bird, semi-double; Edward Bromet, an improved Rev. E. Lascelles; The Shah, a new and charming shade of rosy lavender; Blue Princess, sky blue; and Millicent Blackmore, blue shaded mauve. From the latter and the purple and blue Sir Douglas Haig, a fine new strain of delphiniums has been raised, known as the Wrexham or Hollyhock delphiniums. These are plants of taller stature, with a more tapering flower spike, which varies from 3ft. to 5ft. in height. In this strain there are many fine varieties, such as Monarch of Wales, illustrated on the front cover of THE GARDEN, September 25th, 1926. Purple Splendour, Joy Bells, and Coquette, all worthy of a place in the border by reason of their graceful habit and charming shades of blue, purple and pink. For the narrow border, Persimmon and other varieties of the dwarf Belladonna type are more suitable than the giants of 5ft., 6ft. or even 7ft. high. Kelway's Blue, Branching Persimmon and Lamartine are all good shades of light blue, and do not exceed 3ft. The perfectly satisfactory pure white delphinium has yet to make its appearance, but Beauty of Langport and Mrs. Christie Millar, both creamy white, are very pretty; and there is, of course, the old D. Moerheimii, a good white, but with unimposing spikes. It is a commendable plan to plant

Phlox decussata

immediately in front of the delphiniums, to screen them as far as possible in their ugly dying down stage. The phloxes can be grown in mixed colours, but the orange-scarlets must be separated from the pinks by the judicious interposition of whites and lilacs, otherwise the effect will be most discordant. Here is a list of a few of the most desirable varieties: Antonin Mercie, lavender and white, a very strong grower; Le Mahdi, reddish purple; Marvel, purple, less red than Le Mahdi; Baron van Dedem, orange scarlet; Coquelicot, vivid orange-scarlet—I do not find it a strong grower; General van Heutz, cerise-scarlet; Selma, soft pink; Rijnstroom, rose pink; Jules Cambon, deep rose; Baron van Heeckeren, salmon pink; Europa, pure white; E. A. Buchner, white flushed pink. Phloxes are easy of culture, but it should be remembered that they need ample supplies of water in a dry season, and that the orange scarlets are apt to "burn" under a strong sun.

The Torch Lilies

were, in the past, almost entirely grown on lawns or at the edge of shrubberies; but of late years the effectiveness in the border of their splendid red and yellow spikes has been recognised. Kniphofia Corallina and erecta are both good species, while among the best tall kniphofias are K. glaucescens



MANY HERBACEOUS FLOWERS ARE SUITABLE FOR CUTTING.
This is a vase of Achillea Perry's White.

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maxima, K. caulescens and the newer varieties Lord Roberts, St. Elmo and Mount Etna, of a glowing orange scarlet (recently introduced by Messrs. Artindale). Royal Standard, Rufus and Triumph—the last is of an uncommon bronzy yellow shade—do not exceed 3½ft. in height; while the golden yellow Goldelse is barely 2ft., and the whole group of K. gracilis hybrids, the colours of which range from canary to orange, is dwarf. Groups of well grown

Eremuri

at the back of a wide border are most imposing, but, unfortunately, they are not hardy except in warm districts, and even then must have a sheltered but sunny position, while their roots (which must not be planted deeply) require protection from frost with coconut fibre or ashes. The eremuri that do best in this country are E. Bungei, with a spike of bright yellow flowers; E. himalaicus, white; and E. robustus, pinkish lilac. The most suitable

Lupins

for the herbaceous border are the hybrids between L. arboreus and L. polyphyllus. These are of many colours—pink, rose, wine red, purple, lavender and yellow, as well as the blue of the original L. polyphyllus, which has never been surpassed. Some of these hybrids display charming combinations of colour; Lady Constance, for instance, is shaded from soft lavender blue to cream; Queen of Sheba from violet to gold; Rosy Gem from rosy mauve to amber; while in Eastern Queen, mauve, pink, buff, yellow and fawn are wonderfully blended. Sunshine is a good all-yellow, but white lupins are not very numerous; Kelway's Alabaster and Enchantress are among the best. Four other good varieties are Downer's Delight, Light of Lodden, Crossroads and Glowworm. Slugs are the great enemies of lupins; the clumps should be covered with sharp cinders before they begin to shoot, and when they have made some growth these should be removed and the soil watered with a solution of alum. In all but very narrow borders

Peonies

should certainly find a place. There is such an infinite number of beautiful Chinese peonies, both single and double, that it is hard to pick out any for special recommendation; but of those sufficiently low-priced to suit the garden-lover whose means are small, the dozen named below—all Langport introductions—are among the best: *Single*, June-flowering.—Brightness and Diana, both delicate pink; Lady Wolseley, deep rose; Ida Chamberlain, pale rose; Ruby Light, crimson; Lady M. Dashwood, white. *Double* (the majority are sweetly scented).—Lady Algernon Lennox, pink shaded cream; James Kelway, white; President Poincaré, crimson; Empress Eugénie, bright rose; Limosel, lilac rose; Anna Pavlova, rose pink. The double Chinese peonies bloom in June and July, and may be combined happily with delphiniums, pale pink peonies and sky blue delphiniums harmonising delightfully. The varieties of P. arietina are good border

THE TALL AND STATELY EREMURUS.

plants; they are in pretty tones of pink and rose, and bloom in May, before the single Chinese section.

Michaelmas Daisies

are seen at their best when grown by themselves, but they are useful in the mixed border by reason of their late flowering. One of the best recent introductions is Barr's Pink, of the Novæ Angliæ class. The flowers are large, of a beautiful shade of pink, and it is a rapid grower, for a root planted in my garden very late in the autumn of 1925 had become a sizeable bush by the following September and bloomed profusely. Other desirable asters are Little Boy Blue, which comes as near to being true blue as any Michaelmas daisy ever does, is semi-double, and only 2½ft. in height; Namur, pink; Mons, deep pink; Rachel Ballard, a pretty pinkish mauve; Queen of Colwall, pale mauve; Beauty of Colwall, deep lavender blue and very double; Climax, still the best of all for cutting; and King of the Belgians; the two last being bright lavender and 5ft. tall. A new introduction of Mr. Ernest Ballard's is Pioneer, the result of a cordifolius and Novi Belgii cross; it is bushy in habit, 2½ft. in height, and its flowers are pink and of fair size. Really first-class large-flowered white asters are not numerous. Perry's White and Maid of Colwall are, perhaps, the most satisfactory; but Snowdrift and White Button are nice semi-doubles and bloom very freely; the last-mentioned has innumerable tiny white blossoms. The finest aster of the Amellus section is undoubtedly King George, with its huge violet-purple flowers; but Beauty of Ronsdorff, mauve, is nearly as good; and although Perry's Favourite has smaller blossoms, they are of a charming shade of pink. Among the more recent novelties in perennial asters, I would call attention to two: one known as Queen Mary, raised by Mr. W. Wells; and the other Ruby Tips, shown for the first time at Holland Park Show last year; both these are worth a place in the border this spring. The two first, grown in conjunction with the orange yellow Rudbeckia speciosa, will provide a truly gorgeous September display in the front of the border.

Other plants of the daisy family which deserve a place in the border are Boltonia asteroides (pinky white) and B. decurrens (white), the sprays of the latter being particularly pretty in a vase; Heliopsis B. Ladhams and the newer Excelsior, both orange yellow; Rudbeckia laciniata, single and double (too coarse-growing for the narrow border); the indispensable Shasta daisy, of which Mayfield Giant and Snowflake are rather better than the older King Edward and Mrs. Lothian Bell; Erigeron Amos Perry (lilac), E. Elsie (pink) and Merstham Glory (violet blue), all three being dwarfer and of neater growth than the old type E. speciosus; Gaillardias Mrs. J. Mackellar and The King; gold-flowered perennials such as heleniums and helianthus, of which Heleniums autumnale Riverton Gem and autumnale pumilum magnificum are two free-flowering varieties; while Helianthus rigidus Miss Mellish and H. sparsifolius are first-class tall-growing sunflowers for the back of the border; also Solidago Golden Wings with its feathery arching sprays of bright yellow flowers; and, finally—for lack of space rather than of material must bring this list to an end—there are the achilleas, A. Ptarmica Perry's White and A. millifolium Cerise Queen, both of which will flower nearly all summer.

R. E. HEAD

ASTER QUEEN MARY.
A newcomer among Michaelmas Daisies

PHLOX BORDER GEM.
A fine variety of deep blue colour.

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ROSES FOR SCOTTISH GARDENS

PRACTICAL SPRING WORK

IN northern latitudes where winds are high and temperatures are low in normal winters, safety first should be the motto of gardeners. It is quite true that roses may be planted at any time between November and March, provided soil and weather conditions are favourable, but if risks are to be minimised, the earlier period should be chosen, failing which the work is better to be postponed until spring. Frequently, however, circumstances do not permit of autumn planting and in that case the amateur must not overlook the advantages that are to be obtained by early preparation of the soil for the reception of the plants in March. Ground that is of a heavy or clayey nature should be trenched to a depth of 2ft. or 3ft. so as to provide a drainage system that will prevent the accumulation of stagnant water at the roots, while the breaking up of the solid earth and the introduction of strawy stable manure, bone meal, or other materials improve the tilth and contribute to the healthy development of the plant. Should the original soil be sticky, it would be advantageous to substitute good loam, if it is obtainable in the locality.

To give the roses a good start in sandy soil, turfy loam mixed with a liberal supply of farmyard manure should be provided to a depth of 2ft. Satisfactory results are also obtained by incorporating cow and pig manure with light soil, supplemented by old turf well chopped up at the time of planting.

Two people should always be employed in the work of planting and the chief points to be observed are: (1) Dig the hole large enough to enable the roots to be well spread out; (2) See that the depth provides for the union of the graft and the stock being covered by the soil; and (3) tread the soil firmly. The distance between each plant depends on the vigour of growth, but it will be found that 18ins. is sufficient for dwarf hybrid teas. Roses planted in spring may be pruned at the time they are put in, whereas those varieties that are planted in autumn should be pruned in April. Earlier pruning is not advisable in Scottish gardens. The middle of the month is the best time, but the operation may be delayed for a week or two without proving detrimental to future success. As regards established roses, I make a practice of forking in the best old farmyard manure that can be obtained just after the plants have been pruned, as the roots are then able to make use of the nourishment at the season when they are most in need of it. New roses that were planted in prepared soil, which received a dressing of bone meal at the time of planting, require no additional food until the summer, when occasional applications of liquid manure are beneficial to the production of foliage and bloom.

There are so many good roses in commerce that the selection of varieties is largely influenced by personal taste, fragrance, soil, locality and other considerations. One must therefore be guided in some measure by personal experience and if popularity be taken as a guide, there is less difficulty in selecting a representative collection suitable for garden cultivation in Scotland.

As a class, hybrid perpetuals are no longer fashionable. With the exception of a few favourites, such as Hugh Dickson and Frau Karl Druschki, they no longer meet the requirements of the present day rosarian. Interest, however, has been stimulated by the introduction of a new crimson named Henry Nevard, which possesses the old hybrid perpetual fragrance in a superlative degree and reports from different parts of the country testify to its many fine qualities.

Hybrid teas may be divided into two groups, *viz.*, the newer roses that have already established a good reputation and those recognised as standard varieties. In the former category Betty Uprichard takes first place. Next in the order of popularity are Shot Silk and Angele Pernet, a distinctive trio of meretorious novelties. Los Angeles has also caught the public fancy, while the yellow trio composed of Mabel Morse, Betty Hulton and Florence Izzard tends to increase the perplexities of the amateur. The yellow problem is particularly interesting. For a number of years public opinion favoured Golden Emblem as the best yellow rose, but it lacked the free flowering character of Mrs. Wemyss Quin and as losses were numerous owing to an unfortunate habit of dying back in winter, its place is being filled by Mabel Morse and other new representatives.

Among the reliable bedding roses that serve the two-fold purposes of garden decoration and cutting, a selection may be made from Admiration, Mrs. Henry Bowles, Ophelia and its sport Mme. Butterfly, Lady Pirrie, Etoile de Hollande, Mme. Melanie Soupert, Caroline Testout, General McArthur, Emma Wright, Gorgeous, Independence Day, Hawlmark Crimson, Mme. Abel Chatenay, Covent Garden (beautiful in autumn), Diadem and Gorgeous.

Some people may consider that no collection is complete without Mme. E. Herriot, but the colour bleaches readily and besides hanging its head badly, growth is none too vigorous. Sunstar is another lovely flower of that ephemeral type.

Despite its spreading habit of growth, Countess Clanwilliam deserves a trial and Benedicte Sequin is another of my successes. As for single roses, there is nothing to beat Isobel and Vesuvius, while Grüss an Teplitz and Tausendschön possess all the qualifications necessary for covering a wall rapidly. Emily Gray has no equal as a yellow rambler and if there is an odd corner or exposed place in the garden where nothing else will grow, plant a bush of Conrad Meyer. Then there is a little gem of the rose world known as Rosa Moyesii, which has achieved wide popularity for its delightful colour in early summer and the peculiar elongated scarlet fruits in winter.

ST. MUNGO.

A SELECTION of FANCY PANSIES

DURING the last few years these flowers have been very much improved, and an up-to-date collection should include a good proportion of varieties of recent introduction. There are, however, a few old favourites that are still indispensable, and the following selection should satisfy the most fastidious grower.

Alexander Millar.—This is one of Mr. Frater's new varieties and was introduced last year. It is a brilliantly coloured flower and is very reliable. The blotches are plum purple, and the top petals are pencilled with plum purple on light wine colour.

Adam A. White.—One of Mr. Douglas' new varieties, and a general favourite among the 1926 novelties. The blotches are a dense brown-purple with rich canary yellow margins. The top petals are canary, suffused with light and dark purple, and with an outer edge of white. The general colour blend is very beautiful. This variety is a seedling from the well known variety, John Greig.

A. R. Stevenson.—A distinct new break, and raised by the well known Scottish raiser, whose name it bears. It has large claret blotches with margins of pale chrome yellow and wine colour. The top petals are deep chrome yellow shading to wine colour. A very beautiful flower of good quality.

Alexander Lister.—An old favourite. It has plum blotches, laced with greyish white and suffused with rose. The top petals are rose and white. This variety has probably won more first prizes for the best bloom in the show than any other kind.

Alexander Cochrane.—Another old favourite. Blackish blotches, edged with purple and white.

Agnes Cochrane.—Dark velvety plum blotches with beautiful margins of lemon yellow. The top petals are very light purple pencilled with dark purple, and banded with lemon yellow. A flower of fine texture with a good under petal.

Ada McCowan.—Dark plum blotches with margins of rose and lemon yellow. The top petals are lemon yellow, mauve and rosy purple, pencilled with plum colour and faintly edged with white. A beautiful combination.

Andrew Stewart.—A very reliable standard variety. Dark plum blotches with margins of purple and white. The top petals are plum colour and crimson.

Councillor Steel.—A favourite exhibition variety bearing large, well formed flowers of good texture. Dark purple blotches with a beautiful margin of claret and a wire edge of white. The top petals are glossy purple.

Dr. Riddell.—A very beautiful new variety of Mr. Paul's. Large dark plum blotches with claret and chamois margins. The top petals are chamois, claret and purple. This is a distinct colour break.

Duncan Gilchrist.—Another of Mr. Paul's varieties, and one of his most vigorous and reliable kinds. It has large plum blotches with margins of cream. The top petals are cream and mauve with an edging of white.

Dr. McKinnon.—A large-flowered and vigorous variety; also one of Mr. Paul's. It has large plum blotches with margins of lemon. The top petals are lemon splashed with rosy purple and edged and suffused with light purple.

Dryden McColl.—This is a beautifully coloured flower with dense blotches margined with purple and gold. The top petals are gold and purple.

David Stevenson.—A very attractive flower with dense velvety blotches and beautiful wine-coloured margins. The top petals are wine colour, pencilled with dark velvety purple and a picotee edge of white.

David Brown.—One of Mr. Stevenson's most beautifully coloured flowers. The blotches are dark plum with margins of pale yellow. The top petals are yellow, shading to wine colour and edged with very pale yellow. This variety is very easy to set up.

Gladys Turnbull.—Another new variety, raised by Mr. Frater. Large dense blotches are margined with lemon. The top petals are pencilled with violet. It is a big flower of good form and splendid texture and has a fine under petal.

Jean Lister McKellar.—This is one of the finest of the standard varieties. It has large, dark purple blotches with creamy white margins. The top petals are creamy white and purple.

James Stevenson.—This is a fine all-round variety, as good for garden decoration as it is for exhibition. It is a splendid grower and the colours are lovely. It has dark brown blotches banded with yellow, carmine and white.

NORMAN LAMBERT.

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SHRUBS FOR THE SMALL GARDEN

Select the right shrubs for your garden this spring and save time, expense and disappointment by following the hints given in this article and by making a choice from the list supplied.

WHENEVER weather and soil conditions will permit, planting operations may be successfully undertaken throughout early spring. It is wise to deal during February with deciduous shrubs, leaving the evergreens until the end of March or early April.

Gaps which have occurred in shrubberies and beds should be filled, and alterations decided upon during the past flowering season carried out now.

Planting.

Although not strictly essential, the positions intended for the spring planting of shrubs are best prepared in the autumn, allowing them to remain vacant during the winter months so that the manures applied will become dissolved or decomposed into available plant food. The successful cultivation of shrubs depends very largely on proper planting at the outset, and, although some plants require special treatment, certain general rules govern all planting operations.

The first consideration is the soil. Postpone all planting while the ground is frost-bound or waterlogged. Plants received from a nurseryman during frost should not be unpacked but placed in a frost-proof shed until a thaw sets in. Shrubs planted in waterlogged conditions seldom recover. The soil should always be in such a condition that it can be worked around the roots of the plants so that all crevices are filled in.

Soil.

A medium lime-free loam is suitable for most shrubs. Any ingredient particularly required can be added at the time of planting.

To render all possible aid to the shrubs at the time of planting it is advisable to consider the following points:

(1) The habit and rate of growth of each shrub so as to allow for its unhampered development for a few years.

(2) Always consider the root system of individual plants. They may be shallow or deep rooted, fibrous or woody, and plant accordingly.

(3) Never plant a shrub with dry roots, make certain that those carrying balls of soil are wet. Too many plants should not be "laid out" ready for planting at one time, as exposure to drying winds will damage their tender roots.

(4) Positions should be selected in keeping with the natural requirements of each variety of shrub. Their likes and dislikes as regards sun or shade and moist or dry conditions must always be considered.

(5) Do not plant too deeply, more shrubs owe their death to deep planting than to any other cause.

(6) "Taking out" the holes for each plant in a thorough manner is important. Allow plenty of room for root development. Where shrubberies or beds have been well prepared this operation is comparatively simple. The bottom should be made reasonably firm to prevent sinkage. The sides of the hole should be broken down with a fork or spade. If they are left hard and smooth the effect on the plant is the same as that of a pot, and instead of the roots penetrating through they double back on themselves. This applies particularly to isolated shrubs planted in lawns, which are too often dropped into a pot-like hole.

THE GUELDER ROSE (VIBURNUM PLICATUM).
Grows equally well in the open or against a wall, and is very effective when in full blossom.

(7) Each shrub as it is being handled for planting should have its roots examined and any damaged ones cleanly severed; this promotes the growth of young fibrous roots.

(8) The roots should be spread out evenly around the hole and fine soil worked well into all crevices. The addition of a little leaf-soil to each shrub is beneficial in producing early root action. The soil should be added evenly in small quantities around the hole and trodden in. It is a great mistake to throw in a large quantity and then try to firm it.

(9) Hard, compact balls of soil are best broken up slightly with a fork, otherwise the young roots cannot push through to the new soil.

Treatment after Planting.

After planting, level over the surface of the soil, being particularly careful not to collect it around the "collars" of the plants. Attention should also be given to staking those plants which need support until they have become naturally fixed to the soil by their new roots. Occasionally evergreens need watering after planting, and to ensure the water reaching the roots the soil can be arranged in saucer-like fashion around the plants. Before the hot weather sets in give these newly planted shrubs a light mulch of well-rotted stable or Wakeley's Hop manure.

Below is given a list of flowering shrubs suitable for spring planting and easy to cultivate. All are obtainable from nurseries

MAGNOLIA STELLATA, A DWARF GROWING SHRUB THAT FLOWERS IN SPRING.
It is one of the most useful and accommodating shrubs for the small garden, where it looks well either in a shrubbery border or in a bed on the lawn.

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at reasonable prices and should find a place in every garden. The time of flowering and cultural details regarding each are given.

In addition to being ideal for grouping in shrubbery borders and beds, some, such as Magnolia stellata, are particularly attractive when grown as isolated specimens in the centre of a small lawn.

Berberis Darwinii.—Evergreen, 6–12ft. high. Position sheltered from cutting winds. Good loamy soil. Produces its beautiful golden flowers in drooping racemes in April and May and again attempts flowering in autumn, when it carries an abundant crop of berries.

Buddleia variabilis and varieties Veitchii and magnifica.—Sunny position, with plenty of room. Rich loamy soil. Among the finest of all autumn-flowering shrubs.

Escallonia langleyensis.—Evergreen. Bright rose-carmine flowers borne profusely in June–July. Sunny position and sandy soil. Only damaged by severest winters.

Forsythia intermedia var. spectabilis.—Deciduous. Strong growing, needing plenty of room. Very rich soil. Yellow flowers. One of the finest of all flowering shrubs.

Hamamelis mollis.—Deciduous. A splendid plant with yellow flowers borne in January. Prefers a light loamy soil with peat and leaf-soil added.

Philadelphus Virginal. — Double white. Compact habit. Moderately sunny position in loamy soil. Flowers freely in June and July.

Philadelphus purpureo-maculatus.—Single, fragrant flowers, petals white with purple blotch at base. A good subject for grouping in a small bed. Flowering at midsummer. Position as above.

Olearia Haastii.—Evergreen. A valuable shrub for planting in town and seaside gardens. Flowers freely in late summer. Prefers light loamy or peaty soil free from lime. Valuable for most positions which are not too wet.

Veronica Traversii.—Evergreen. The best of all New Zealand veronicas for general use. An ideal subject as an isolated lawn specimen. Prefers a sandy loam. Flowers freely and regularly in July.

Ceanothus Gloire de Versailles.—Valuable as a late-flowering shrub, producing its beautiful blue flowers until the autumn frosts set in. Needs a sunny position and sandy soil. Best purchased in pots, as it transplants badly. Equally good for grouping in beds or training on a wall.

Spiræas.—A selection of shrubby spiræas should include Spiræa arguta, Thunbergii and japonica var. Anthony Waterer. S. Thunbergii produces its pure white flowers in April. S. arguta flowers a little later and is generally considered the finest of the white spring-flowering spiræas. S. japonica var. Anthony Waterer has flowers of a brilliant shade of crimson borne freely in late summer up to September. Dwarf habit, only reaching to 18ins., and ideal for grouping in a bed. All three require full sunlight and a moist loam.

Cytisus.—So many cytisuses have been placed on the market in late years that a selection is difficult. To add brilliance to the garden in May Cytisus Dallimorei and its seedling form C. Dorothy Walpole need only to be known to be more largely grown. The soil in which they are grown should not be rich, but rather sandy or stony, and a position in full sunshine chosen. Purchase in pots.

Deutzias.—Deutzias are excellent shrubs for small gardens in partially shady places. For general purposes D. scabra and its varieties are best, as they usually escape damage by late spring frosts. Preference should be given to D. scabra flore roseo pleno and Pride of Rochester. The soil suitable is a good moist loam.

Hydrangea paniculata var. grandiflora is preferable to Hydrangea hortensis for general hardiness. Requires a rich loam and mulching in spring. Flowers are nearly all sterile, and borne freely in August and September. Needs plenty of room in order to give of its best.

Hypericum patulum var. Henryi.—A useful yellow-flowered low-growing shrub suitable for grouping in beds of a well drained loamy soil with abundant moisture. Flowers from July to October.

Syringas.—Of the numerous hybrids in cultivation Souvenir de Louis Späth, single-flowered, and Mme. Lemoine, double-flowered, are recommended. A well grown lilac makes an ideal lawn specimen, and should be planted in a stiff, well drained loam and mulched in the winter. Flowering in May, a shrubbery border of mixed varieties of hybrid lilacs is particularly pleasing.

Viburnum tomentosum var. plicatum may be selected from the mass of viburnums in cultivation as one of the finest known shrubs. Should be planted in a moist, deep, rich loam. Flowers profusely in June.

Magnolia stellata has proved itself to be the most useful of the genus for ordinary gardens. Flowering early, it is sometimes damaged by winds and frost. An excellent plant for grouping in a bed on a lawn. Should be given plenty of peat at the time of planting. This is best done in May. Should never be allowed to dry at the roots.

Two shrubs suitable for covering walls which may be planted now are:

Prunus triloba fl. pleno.—Flowers profusely in March and early April, when it forms one of the most beautiful features in a garden. This should always be purchased on its own roots.

Forsythia suspensa var. Sieboldii.—A splendid climbing variety useful for covering an expansive wall or training up pillars and verandas. Beautiful yellow flowers borne freely in early spring. Soil which suits it best is a good moist loam.

The above by no means exhausts the number of flowering shrubs suitable for the smaller garden, and of necessity it does not include any rhododendrons or azaleas, which are too numerous and vary so much in habit and colour that a limited selection is practically impossible to make.

DUNHEVED.

WHAT OUR READERS SAY

CISTUS LAURIFOLIUS.

SIR,—As an addition to Mr. S. Arnott's interesting note on Cistus laurifolius in THE GARDEN of January 29th, it may interest readers to know that in an East Suffolk garden, or rather in the plantations surrounding an East Suffolk garden, six miles from the sea, Cistus laurifolius, first put in as a seedling in 1910, has taken possession of the place and is now the undergrowth, just as rhododendron is in some of the woods of the Exe Valley in Somerset. There are literally thousands of self-sown seedlings of all sizes from 1in. to 8ft. A bit of hillside planted in the early days when we thought them very rare and precious (precious they still are) with 125 carefully collected and transplanted seedlings is now a solid mass, the bushes averaging 7ft. in height—a wonderful sight on a June morning when covered with the fresh daily crop of large white flowers. Bees love them for their pollen. Would that they contained an equal amount of honey! It is interesting to see how the seedlings get about; they have appeared all over the plantations, wherever they can find a sunny open spot in this very sandy soil. Another charm of this cistus is the queer aromatic scent given off by the plant in certain states of the weather. Also rabbits do not eat it; they occasionally nip off a few shoots, but only it seems from their innate habit of destructiveness, not for food. Cistus cyprius seems equally hardy here, but being a hybrid never produces fertile seed. Villosus seeds, but rabbits eat that, and purpureus was killed last winter by frost.—F. RIVIS, *Saxmundham, Suffolk.*

SPROUTING MAINCROP POTATOES.

(ITS VALUE IN RELATION TO YIELD.)

SIR,—I was very interested in "St. Mungo's" note in THE GARDEN issue of January 29th, page 76, regarding the advantages in crop gained by starting or sprouting maincrop potatoes in boxes before planting them out. I can thoroughly endorse what he says: that a much greater yield of tubers is obtained by this means. There are many large farmers in the southern parts of Scotland who cultivate potatoes extensively that have followed the practice of sprouting their maincrops in seed boxes for years. He says that within the last four years the North of Scotland College at Aberdeen have discovered that the early sprouting of Golden Wonder potato before planting gave an increase of 25 per cent. in weight in tubers at lifting-time. I should like to say that I have followed this method annually, for the last seven years with Golden Wonder, and with an increase in crop of at least 25 per cent, as they state, over that of unsprouted seeds. I had followed this practice with Golden Wonder for three years before the discovery was made at the North of Scotland College. Four years ago I planted in a field a few lines of Golden Wonder unsprouted potatoes on May 12th. On the 28th of the month I planted an equal number of lines of sprouted Golden Wonder, sixteen days later. (This was very late for planting, of course.) In a very short time the lines of sprouted tubers came through the soil, and had made from 4ins. to 6ins. of growth by the time that the unsprouted ones had done little more than broken through. At lifting-time I secured a crop from the sprouted seeds weighing 21cwt.—splendid equal-sized table potatoes with scarcely a small one among them. From the lines of unsprouted seed of exactly the same length I only scaled 15cwt., and of these only about 12cwt. were fit for table use, the remainder being small chats, only food for pigs and seeds. I believe in giving a generous supply of well decayed manure to Golden Wonder and ample space to grow. The results have always justified my experiment.—WILLIAM GRANT, *Grathes, N.B.*

POTASH FOR TOMATOES OR POTATOES.

SIR,—I most cordially agree with "Lanarkshire's" remarks introducing the article having the above headline: the addendum is mine—published in THE GARDEN issue of January 22nd. Also, I agree with him that a balanced food ration is conducive to that stable uniform growth which betokens fruitfulness.

But, with his kind permission, I would add that excessive use of phosphates, nitrogenous matter or potash, or the lack of either, will defeat its own ends. To strengthen one arm of a tripod does not ensure increased stability,

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and it is obvious that if one be taken away the whole fabric will collapse.

It is very well known that phosphates have no particular tendency to promote excessive growth. Rather do they tend to the development of a good root system, and to promote fruitfulness, early maturity with good quality—great desiderata in the culture of tomatoes.

And I trust we can agree to disagree as to wood ashes forming the best source of potash. By all means, use them if they are available; but they are not particularly a potash manure.

The most that can be said of them is that they make a very mild fertiliser, containing small quantities of all the mineral elements found in plants, apt to vary greatly according to the material from which they were produced. Also, if the soil contains sufficient lime—as it ought to—they can be applied at one dressing in the potting medium without fear of loss of potash and with the additional benefit of keeping the compost open and allowing firm potting with copious watering.

Further, he recommends saltpetre or nitrate of potash—a strong nitrogenous fertiliser, to be applied during the growing season. If the plants have set a good crop of fruit, no harm may accrue; but with the addition of this to the strong potassic fertiliser already mentioned, he seems hardly consistent, as both these manures have a proclivity to growth and formation of tissue opposed to the objective in view, namely, fruitfulness and quality. "Lanarkshire" does not say if—and how much—he has provided a phosphatic manure to balance this extreme food ration.

If it would be agreeable to him, I am sure it would be a matter of general interest—and especially for the writer—if he would kindly give the series of trials through which wood ashes reached such a pinnacle of perfection to the complete elimination of such manures as phosphate of potash or sulphate of ammonia, for the purpose he had in view. —WM. MCCARRELL, *Perthshire.*

ROSE MME. ALFRED CARRIERE.

SIR,—I was just on the point of writing a few words in praise of Rose Mme. A. Carrière when your other contributor forestalled me, but left out one or two of its great charms. The delicately clean green leaves, for one thing. With me it is invaluable. Most other roses die after a few years—no rest in the winter, which is usually mild; but Mme. Alfred survives all the rest. I have three; the oldest has grown on my porch for over twelve years, flowering profusely from early summer till well on into the winter. We have a light peaty soil, not suitable for many roses.

The only thing this rose dislikes is a wind-swept situation. I know this and give the necessary shelter; but I have seen it in other Devonshire gardens looking peaky and wretched. Given a sheltered position, and no pruning, otherwise than removing dead wood, it repays you with its charming presence and delicate scent.

Have any of your readers tried this for an edging to a border? White pink Mrs. Sinkins or, better still, the old fringed white, and underneath, white and purple crocuses? They come up through the mat of silvery green foliage, which keeps them from being splashed with mud, and look charming in the spring. Before the pinks flower, the untidy crocus grass can be tucked away neatly underneath and does no harm.

Most Apennine anemones and their various relations like a heavy soil. I cannot make them happy here in this light soil. I can grow Robinsoni and very happily on a slope in the rock garden, but nowhere else. Possibly field mice eat them: but why do they overlook Robinsons, if that is the case? Hepaticas, of course, are hopeless. I like them and have tried them everywhere, for the last thirty years or so, but they will not grow for me, sad to say. I grew one clump happily once under a hawthorn—the small dead leaves seemed to please it—but never before or since.

I saw an enquiry as to Magnolia Exmouth variety not flowering. My experience is exactly the same. My plant is about 12ft. high and as broad. On a house wall it produces one flower now and then, just to show what it can do. A very old gardener told me that the only magnolia that flowered well has brownish undernеaths to its leaves and mine is an uncompromising green all over. If it never flowered I would cut it down but as it is I go on hoping from year to year, and there is nothing else to be done. More than once I have signed a death warrant for disappointing flowers and shrubs, but when I do, they flower at once and get reprieved; but it does not act in the magnolia's case.

I should be grateful if any of your readers could give me any advice about the anemones. The magnolia, I fear, is a hopeless case, and I must content myself with its splendid shiny leaves, which are most decorative.—NORA ELLOART, *South Brent, Devon.*

PETROL OR METHYLATED SPIRIT FOR DESTROYING WOOLLY APHIS.

SIR,—I am exceedingly sorry if any phrase or expression contained in my note on the above in your issue of December 8th, 1926, should be capable of being construed as a criticism of your correspondent "R. C.'s" letter on the same subject. Petrol is excellent for the purpose of destroying these pests—in summer. I have used it myself for twenty years or more and it was, I know, formerly in common use in some of the largest Continental fruit nurseries. The object of my letter was to point out that both petrol and methylated spirit are to be regarded as essentially *summertime* remedies, and that of the two the latter is to be preferred in that it does not injure the young growth. There are plenty of winter washes and sprays which are fully as effective and far less expensive. The trouble is that during the winter months these aphides, for the most part, "take cover" beyond the reach of sprays and washes and the sharp eyes of small birds. The painting of trees in winter with either petrol or methylated spirit is largely in the nature of "destroying the nest when the birds have flown"! Had "R. C." taken into account the life history of these pests he might have also avoided the error contained in the suggestion that woolly aphis upon new growths necessarily infers serious infection or the presence of a separate variety of aphis. The fact does not warrant the destruction of such trees, as he suggests. There are, therefore, two methods of attack to be advocated in consideration of the life history of the aphis. A winter spray of ½lb. caustic soda (98 per cent.). ½lb. pearl ash and 5 gallons of water will destroy all the eggs and aphides it touches; but no spray in summer will destroy the pest without destroying the foliage, which brings us back to our starting point as to the relative merits of petrol or methylated spirit applied to the colonies with a small stiff paint brush. Of these I prefer to use methylated spirit, because it does not injure the foliage.—HERBERT G. LONGFORD.

THE CHRISTMAS DAISY.

SIR,—With reference to the Note by "R. E." on page 728 of THE GARDEN, dated December 18th last, on the subject of "The Christmas Daisy" (A. grandiflorus), I should be much obliged if your correspondent could kindly state where plants of this late-flowering aster can be obtained. I cannot find it listed in any catalogue at present in my possession.—E. A. SAUNDERS, *Havant, Hants.*

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Worm Casts on the Lawn.

One of the most efficient devices for breaking up worm casts on the lawn is made in the following simple way: A moderately sized piece of wire netting is obtained, and through this are threaded three fairly heavy iron rods, one at each extremity, and one in the centre. A hook is then attached to one of the outermost rods, and a length of rope again to this hook. The use of this device is obvious. When it is dragged by the rope along the lawn, the wire netting catches and breaks all worm casts, while the iron rods keep the implement weighted down. By using this "pulveriser" a lawn may be treated in one-tenth the time taken up when using a besom, and the work is done quite as thoroughly. A suggested size for use on a small lawn is 18ins. by 36in., but, of course, this may be varied as required.—B. D. S.

Fitting a Broom Handle.

The handles of brooms, when fitted in the usual way—that is, by simply tapering the end to fit the hole in the broom and nailing it in place—often work loose. If a cut is first made with a saw in the end of the handle to be inserted, and a wedge, slightly wider at the top and the same length as the cut, is placed therein and, with slight pressure, kept in position so that the shaft may be placed in the hole, and then driven home and nailed, there will be no further trouble with loose handles.—C. C.

Protecting Primulas and other Alpines.

An effective and not unsightly way to protect early-flowering primulas and other alpines is to plant above them a companion which makes vigorous growth in the autumn and needs to be cut back in the spring. I have a bush of santolina spreading umbrella-wise over Primulas denticulata and roses, and under its protection from frost and damp they are full of healthy buds. The santolina will be cut back hard later.—A. B. W.

Extermination of Wireworm.

This pest is the most difficult to get rid of by any simple application of an insecticide. Tomato borders in the greenhouse, now being made up with fresh turf, are generally infested with it. The following method of dealing with the trouble has proved most successful. Give a heavy dressing over the surface of the borders, of a naphthalene preparation (sold for killing (?) wireworms) and fork this in about 3ins. deep, afterwards raking over and making it firm. Before nightfall, place some old sacks or boxes of soil on the border, and next morning, on lifting these articles, dozens of wireworms will be found hiding under them. They can then be picked up and destroyed. No other method has proved so successful.—F. L.

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GREENHOUSE NOTES

A Greenhouse Gem.

THE achimene is one of those greenhouse gems that is both attractive and at the same time useful. There are many greenhouse plants that are just as useful for decorative purposes when staged together, but here you have a plant that is quite distinctive among other plants for its beautiful and free-flowering habit. A large number of the varieties are of hybrid origin, being originally raised from species discovered in South America; hence it is that they delight in a fairly brisk heat for the greater part of the year, at all events, while in summer, when in flower, artificial warmth is not necessary providing they are sheltered from draughts of cold air. There is no time like the present for starting the tubers. Some pans or pots should be got ready and filled to within 1½ins. from the rim with a compost of leaf-mould, loam and silver sand in equal parts passed through a sieve. Set the tubers firmly in the compost about ½in. apart and fill up with soil just to cover them. A good temperature of about 65° Fahr. by day and 60° by night should be maintained.

Great care in watering is necessary at first until the tubers have started into growth, and on no account must they be saturated with water, but kept just nicely moist on the surface; after growth commences, plenty of water may be supplied. As soon as the stems have made about 2ins. of growth the plants should be shifted into large pots. For the second shift some 8in. pots will be required. A good supply of drainage material should be got together, and a handful or so of crocks and cinders put into the pots before filling up with compost, made up as follows: 2 parts fibrous loam, 1 part leaf-mould and ½ part silver sand, the whole passed through a sieve and well mixed together.

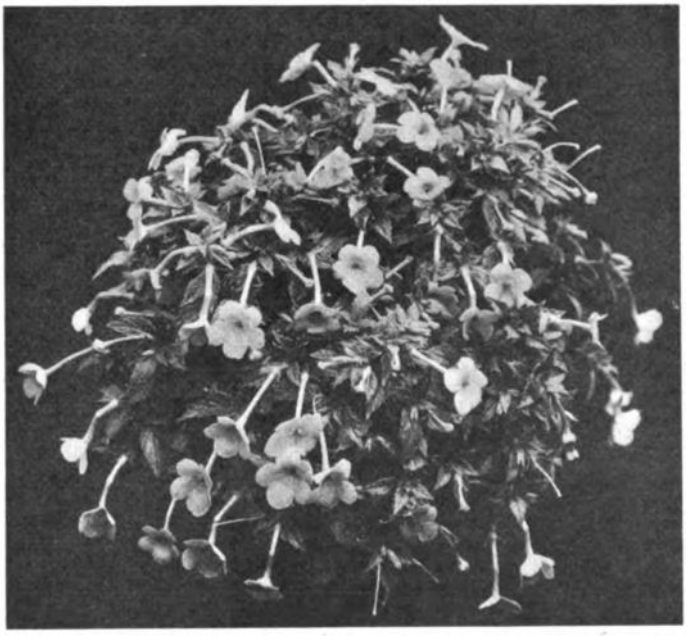
Pot moderately firmly, and after potting place the plants on a shelf near the glass in the house. In a short time the plants will commence to grow apace, but in order to prevent them becoming drawn and also to induce the plants to branch out, they should have the points pinched out once or twice, the first stopping to be done when the stems are 6ins. high.

When the flowering buds appear the temperature should be reduced several degrees to harden the plants off. An application of weak manure water given three times a week will prove beneficial by improving the flowers. These charming plants do extremely well when grown in wire baskets. The baskets should be lined with sphagnum moss on the outside and leaf-mould and moss on the inside. After planting, the baskets should be soaked with water and, when drained, suspended from the roof of the greenhouse or conservatory by means of a wire. If the plants are placed in a basket so that they grow through the bottom and sides, the effect is a most pleasing one for the adornment of the house. When the flowering period is over, the tubers should not be disturbed until the stems have died down; then carefully remove them from the pots and store away in dry sand. The best storing place is a warm greenhouse where a temperature of 50° Fahr. is maintained.

Achimenes may also be raised by sowing seed during February or March and giving the same treatment as gloxinias; but, as a rule, tubers are more reliable for coming up true.—G. B.

The Balsam.

BALSAMS are easily raised from seed and, being quick-growing, soon make an effective display. Though requiring more attention than most flowers of their class, they are, nevertheless, not beyond the skill of the average amateur. They are fine subjects in pots for greenhouse decoration, and may also be grown in a sunny window and in beds outside. A good strain of the camellia-flowered or rose-flowered will give the highest satisfaction. Seed should be sown in February or March, in a light compost of loam, leaf-soil and sand, in well drained pans or boxes, and lightly covered with a sprinkling of fine soil. A temperature of 65° Fahr. will suffice for germination. The seedlings should be kept near the glass and air admitted to them daily when outside conditions permit. When the first pair of leaves have formed, transfer to 3in. pots, burying the stems almost to the seed leaves. Water well and shade from sunshine. The next move is into 5in. or 6in. pots, and repotting should be done before the roots become in the least pot-bound, to prevent premature flowering. For the final potting a compost of 2 parts rich loam and 1 part each of leaf-soil and well decayed manure is suitable. The soil should be made fairly firm, but not pressed hard round the roots. A temperature of about 60° Fahr., with frequent syringings overhead, plenty of water at the roots, and a free circulation of air, will promote free and proportionately strong growth. Extra fine specimens may be grown in 7in. and 8in. pots, and with the aid of weak doses of liquid manure twice or thrice weekly when flower buds develop the best results are obtained. As the outside temperature increases, ordinary greenhouse conditions will suit balsams perfectly.—J. C. C.



A DWARF ACHIMENE MAKES A DECORATIVE POT PLANT.

Annuals for the Greenhouse.

THE growing of annual flowers, hardy or tender, gives but little trouble and takes a small amount of time compared with the usual greenhouse subjects. Considering the fact that seeds are cheap and plentiful and germination extremely easy without any forcing heat, every greenhouse owner with little time to spare should grow a few annual flowers under glass. An advantage is the fact that seeds can be sown at any time of the year and the plants can be had in bloom just when they are required to fill up a gap in the floral display. This gap is very obvious from May to July, when spring-flowering subjects have finished their work.

This is a good time for annuals in the glasshouse, for as the summer advances the plants give just as good a display out of doors and space in the greenhouse is thus wasted. Annuals can be sown outdoors in the autumn and the plants lifted and potted up; but they may be sown and grown on under glass early in the year. It may be advisable to germinate the seeds quickly in a warm house, and then transfer the pots to an unheated structure, placed quite close to the glass. Sow very few seeds in a pot, and thin them out when about an inch in height, leaving one or more of the strongest, according to the size of the pot. Clarkia and godetia are very ornamental treated thus, and an autumn-raised plant will grow into a specimen bush 2ft. to 3ft. high.

Some less hardy plants may be raised for summer and autumn flowering at the present time, using a little heat to germinate the seeds, and thereafter growing them in a cold house. These include schizanthuses, nicotiana, salvias, Primula malacoides, intermediate stocks, Lobelia cardinalis and syphilites.

It depends upon the conveniences and style of glasshouse available as to whether seeds of these plants are sown during January or whether the sowing is deferred until February or March; and the time during which the flowers are required is another factor governing the sowing. It should be remembered that the longer the growth under cool conditions—and even outdoors later on—the more sturdy and floriferous will the plants be. As soon as through the soil the seedlings should go quite close up to the glass, protecting them during frosty weather.

Early Vegetable Marrows.

THE great majority of the growers of vegetables do not attempt to secure a crop of marrows before the month of July. Such crops are borne by plants planted outside early in June, after all danger of frost is past. It is not possible to obtain fruits earlier by such practice, but by raising in a frame or warm greenhouse early supplies can be obtained. The small-fruited early varieties, such as Table Dainty, Improved Custard or Pen-y-Byd, should be grown. About the middle of February make up a compost of loam and leaf-soil in equal proportions, fill 3½in. pots with the soil, press two seeds 1in. deep into the soil in each pot. If available, make use of a warm greenhouse for raising the seedlings. The soil used should be moderately moist, then watering will not be necessary before the seedlings appear. Repot into 6in. pots, retain the plants on shelves in the greenhouse. In the meantime, form a mild hotbed, put on a frame and, inside, good light compost, 1ft. deep. Transplant the marrows there early in April, treat as for frame cucumbers and you will have tender fruits ready by mid-May.—HANTS.

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FRUIT TREES FOR THE HOUSE WALL

Planting can still be carried out in open weather during the next few weeks.

In this article will be found a list of varieties suitable for the amateur who has only a limited space in which to grow fruit.

THERE is much to be said for the ornamental value of well grown fruit trees neatly trained to cover the house walls. There is even more to be claimed for fruit trees grown this fashion on the score of general utility, particularly when planting space in the garden is limited and the needs of shady pyramid or standard trees would most certainly clash with the interests of flower borders and vegetable beds. It is certain that there are few house walls which could not profitably

CORDON PEARS ON A HOUSE WALL.
This variety is Pitmaston Duchess.

accommodate trained fruit trees of one kind or other—even at the expense of the customary unproductive "creepers" of sorts.

There remain several planting weeks in which suitably trained trees may be established, for not until late March does the tree-planting season close.

The wall space available will largely determine the form of tree and the aspect the kind of fruit that it will be best to plant, though within certain limits the choice becomes a matter of personal taste. For while one or two kinds of fruit are eminently suited to certain aspects only, there are others, such as apples, pears, plums, etc., which will do well in almost any position. On the sunny south side of the house any kind of fruit may be grown, from the tender peach or nectarine, apricot or fig tree to the more plebeian apples and pears, currants and gooseberries. Similarly on the house wall facing west almost every kind of fruit will thrive, pears or plums often proving the wisest selection. On the east wall choice is properly limited to apples, pears, plums and cherries, and gooseberries and currants—if such a variety can be considered any limitation. The least attractive of all is the wall facing north, yet even here we can grow early pears and plums, sweet cherries, gooseberries and currants. The most generally satisfactory selection for this bleak spot is a tree of the hardy and prolific Morello cherry, however.

Regarding the form of tree to plant, the inexpert will wisely restrict choice to the easily manipulated fan-trained tree, the espalier or cordon. In one or other of these forms it is possible to train all kinds of hardy fruit.

The usual thing is to train as fan-shaped trees the peaches, nectarines, apricots, plums, sour and sweet cherries, and figs; as espaliers, the apples and pears; and as cordons the apples, pears, sweet cherries, gooseberries and currants. Occasionally plums are grown cordon fashion also.

When planning the plantings ample space must be allotted each tree, and generally the following lateral space should be allowed: 15ft. for each fan-trained tree, 12ft. for each espalier, and from 18ins. to 2ft. for each single cordon tree, double or treble stemmed cordons being planted so that their branches are at least 18ins. from each other.

Having decided these points, due care must next be given to choosing the varieties to plant. Some sorts are infinitely superior to others for this special purpose. This list comprises a few of the most generally suitable of each kind of fruit.

Peaches.—Hale's Early, Goshawk and Bellegarde.

Nectarines.—Early Rivers, Lord Napier and Hardwicke.

Apricots.—Breda and Moorpark.

Sweet Cherries.—Early Rivers, Governor Wood, Napoleon and Schrecken Biggareau.

Sour Cherries.—Morello and Kentish Red.

Plums.—Early Transparent Gage, Denniston's Superb, Bryanston Gage, Allgrove's Superb and Coe's Golden Drop.

Pears.—Conference, Doyenne du Comice and Souvenir de Congrès.

Apples (dessert).—James Grieve, Ellison's Orange, Egremont Russet, Laxton's Superb and Cox's Orange Pippin.

Apples (Cooking).—Rev. W. Wilks, Grenadier, Edward VII and Encore.

Figs.—Brown Turkey, Brunswick and White Marseilles.

Currants.—Red varieties: Perfection and Fay's Prolific; white variety: White Marseilles.

Gooseberries.—Leveller, Lancashire Lad, Lancer and Langley Gage.

It is well worth while planting really well made trees on these house side positions. To attempt to convert indifferently trained trees of uncertain form will prove disastrous, but well grown specimens obtained from nurserymen who make a speciality of trained trees for the garden will as surely prove a sound investment, providing always they receive reasonable care.

Three, four or even five year old trees are usually best for planting, there being a distinct advantage in having their branches nicely trained by skilled nursery hands.

Regarding the training of the trees to the walls, the old-time plan of securing the branches and shoots with cloth shreds and nails is not to be recommended. Not only is the nailing and tying—necessary every year—a laborious task, but the brickwork riddled with nail holes soon becomes unsightly. A better plan is to secure the branches with raffia or twine to vertical wires stretched taught between "eyelet" pegs driven in at the top and bottom of the wall space to be covered, the wires being fixed some 10ins. apart and about 1½ins. out from the wall.

In every case preparation of the soil must precede planting. Never more necessary is this than when the ground adjoining the house side is caked hard, with the top

A YOUNG SINGLE CORDON APPLE.
Note the wall damaged by nails.

layer composed in the main of builders' refuse, rubble and the like. Such unkindly conditions are typical of the soil about newly erected houses. In such cases it is best to excavate a strip some 3ft. wide and about 2ft. deep, where the tree is to go in, replacing the old soil with a suitably prepared compost. If the ground is heavy clay or waterlogged, then a small tile drain should be laid at the bottom of the border to carry away surplus water. When filling in the excavation, first should come a 5in. or 6in. layer of brickbats, then a 3in. layer of smaller rubble, and on top of this a layer of turves grass side down. On to this the compost is placed and trodden firm.

Fresh turfy loam should form the bulk of the compost used, and if to every barrowload of this is added a 6in. pottul of bone meal, the same amount of wood ashes and lime, and a quantity of finely broken mortar rubble—all being well mixed together—then you have a rooting medium in which any kind of tree will thrive. Not always need the

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planter go to this trouble, of course. When the existing soil is in "good heart" the trees may be planted with no more soil preparation than a good deep digging, bone meal, wood ashes and lime being added where it appears necessary—as it mostly is.

Avoid, at all costs, the mistake of putting fresh manure from the stable or farm into the soil. Far better apply this as a mulch after planting.

At the actual planting the roots must be spread out in a semi-circular hole, care being taken not to plant too deeply. Three or four inches of soil over the top layer of roots is ample. But firm planting is essential.

Leave a space of 2ins., 4ins. or 6ins.—according to the size of the tree—between the house wall and the tree stem, sloping the tree slightly so that the branches lean gently towards the wall.

Remember that the foot of a wall is rather a dry spot as a rule, and should a dry spring follow planting the roots should be well watered and a mulch of dung spread over the surface soil.

With careful pruning—root and branch—and good cultivation in after years, including the proper control of the abounding pests and diseases, the trees should quickly arrive at fruiting age.—A. R.

THE KITCHEN GARDEN

Raspberries.

THE spell of wet weather in the autumn, in some districts, would, no doubt, prevent many cultivators getting forward with the work of cleaning the soil between the rows and other necessary work in connection with the raspberry plantation. All arrears should be made up at once. The raspberry produces roots resembling a door mat where the plant is grown in a suitable rooting medium and great care must be taken to avoid injuring any of the roots near the surface when the weeds and other foreign matter are being cleared away. Where raspberries are grown in rows there are gaps to be filled occasionally with new canes. If this is necessary now, take out all old, dead roots and those of coarse weeds, if any are found, before planting the new canes. Spread out the roots of the young plants and sprinkle some almost dust-dry soil on them before filling up with the ordinary loam. New plantations should be made and treated in a similar way. Directly any young canes are planted they should be made secure to stakes or wires, but in a free, loose way, as this item of treatment will ensure early rooting into the new soil. Then there will be the surface mulch to apply. This is a very important matter and I always favour a mulch of half-rotted littery manure then the plants receive food from it in due course.—HANTS.

Brussels Sprouts for November Use.

OF autumn vegetables I think Brussels sprouts are the most profitable. On a given space just one savoy may be grown: on the same space 3lb. or 4lb. of sprouts. The savoy may weigh more, but it will not serve a family with vegetables as profitably as the sprouts, as the latter are richer and firmer—more satisfying. The raising of the plants does, however, create more work. They are raised as follows: Seed should be sown in really good soil in boxes 7ins. deep. To guard against any possible trouble from fungus in the soil, sprinkle a small quantity of very dry lime on the surface of it in the box and then prick it in with a pointed stick. Sow the seeds thinly on a level watered surface; cover them ½in. deep, but do not water afterwards. When the two first rough leaves form, transplant the seedlings, preferably in a bed in a cold frame; if such is not available, then in deep boxes. The plants will need hardening prior to being planted in their permanent quarters at the end of April. It is the truest economy to devote the whole of the ground to the plants from the first and not attempt to grow other crops between them.—CHRISTCHURCH.

Non-Bleeding Beet.

THERE is always a danger in lifting and storing the ordinary, tap-rooted beetroot, because these roots are so readily bruised or injured; such injury causes the roots to bleed when boiled. Sooner or later, it was to be expected that a non-bleeding variety would be placed on the market; it is here now, or, perhaps, I should say *they* are here, because several growers list them this year. I wish to draw attention to these, although, let it be confessed I have only grown one, known as Bell's Deep Red. This variety in no degree differs from the ordinary kinds; its flesh is a deep purple, almost black, not unlike several of the popular dark blood-red kinds grown. The flavour is of high standard; indeed, on the table it cannot be distinguished from other good varieties. The flesh of the roots is firm, reedless, and with practically no grain. The chief merit, as indicated, lies in the fact that there is no loss of colour in cooking, even when the roots are lacerated or when they may be cut in two, to facilitate the boiling process; I have even cut the roots into pieces and boiled them, with little loss in the deep coloration.—CLYDESDALE.

Mint and its Uses.

OUR common garden mint has many uses besides that of making mint sauce, or ss the seasoning herb for green peas and new potatoes. A strong decoction of the leaves will cure chapped hands, and is useful for healing sprains and bruises. The juice of mint blended with honey is recommended by homæopathic healers for relieving earache. Our forefathers used it for making the teeth white, and it forms a constituent of many tooth pastes in use to-day. The ancienta used mint to scent their baths and as smelling salts for fainting people. The red-currant jelly commonly used with mutton can be very well replaced with mint jelly. This is made by simply steeping mint leaves in apple jelly or gelatine, a handful being enough to flavour half a pint, rendering it a delicate green colour. The liquid should be strained through a jelly bag to remove all the little bits of leaf before being allowed to set. Mice have a great aversion to mint and a few leaves of it will keep them at a distance. If a bunch of the herb is hung in the pantry mice will never venture inside. It is also said to keep away flies.

The Carrot Fly.

ONE of the most destructive pests of the vegetable garden is the carrot fly. The grub of the carrot fly is cylindrical in shape and of a pale yellow colour. It attacks the roots, and when fully grown it leaves the carrot and, burrowing into the earth, becomes a pupa, light brown in colour and oval. The perfect insect is shining black slightly tinged with a greenish hue. In a crop the presence of carrot fly is seen by the rusty and yellow appearance of the leaves. As soon as this is noticed pull up every affected plant and burn it at once. Then dust along the drills sand which has had paraffin mixed with it at the rate of two quarts per cwt. Press this around the roots to prevent the pest spreading to unaffected plants. If any of the flies are seen on the plants, syringe with soapy paraffin water. A good dusting of soot after a slight shower will also be useful in keeping away the flies. After thinning the carrots press the soil back firmly round the roots to prevent the flies laying their eggs through the earth. After an attack the ground should be dressed with gas lime. A preventive measure when sowing is to dress the drills with a mixture of lime and soot. It is also very important not to use the same ground for carrots in two successive seasons.

Practical Cropping in the Kitchen Garden.

WITH the dawn of another sowing season again at hand, most gardeners will by this time be in possession of the stock of new seeds or eagerly contemplating their arrival. It should invariably be the aim of all garden enthusiasts to endeavour to obtain the largest possible amount of produce from their gardens, and that of the highest quality. In order to achieve these results careful planning, manuring and cropping, coupled with continuous observation, are essential.

Too much attention cannot be given to the rotation of crops, and in this respect it cannot be too well known that plants of the same family should never immediately succeed each other. Perhaps in gardens of a very limited area this is difficult to avoid, but, even so, the above principles should be the governing factor as far as circumstances will allow.

Assuming, then, celery has been grown through the winter, the trenches left open through earthing-up should be well manured, placing a stick at the end of each trench, which will denote the future "line of action." As the celery is used, these trenches gradually get filled in and here can be sown peas or beans, which will prove worthy successors. When these are finished, the ground, if given an application of soot lightly forked in, provides a suitable spot for some of the brassicas. Part of the ground that was manured last year for potatoes can be allotted to tap-rooted subjects, such as carrots, beet and parsnips. These, by the way, should never be grown on freshly manured ground owing to their tendency to "fork." An old strawberry plot, manured and trenched, provides a very suitable place for autumn-sown cabbage, Tripoli onions or catch crops, such as early varieties of beet and carrot, lettuce of both varieties, radish, turnip and spinach, or peas of first-early variety.

The ground on which maincrop carrots, beet and parsnips were grown can be allotted to celery, onions or an early batch of Brussels sprouts, followed by potatoes the following season. A batch of autumn-sown cauliflowers that have been pricked off and wintered in a frame can be planted out between potato rows. Radish and lettuce thrive well on the tops of celery banks. Runner beans can be grown without robbing the garden of much space, and although these are usually grown up sticks, they can also be trained to cover trelliswork as a screen for some unsightly corner, while vegetable marrows will thrive well on the decayed matter accumulated at the rubbish heap, or, if required to do so, will climb over any old structure if supported with an occasional tie, and will fruit very readily.

In this way the best use is being made of all ground, and the results agreeably correspond.—W. F. F.

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ANNUALS FOR EDGINGS (see page 116).

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THE GARDEN

VOL. XCI.—No. 2881. FEBRUARY 19, 1927. PRICE TWOPENCE.

THE CARE OF SHRUBS

Early Spring Work.

DURING open weather in February and March a good deal of general attention should be given to shrubs. The care and treatment they receive at this time do much to influence their condition in the next flowering season. The likes and dislikes of each individual shrub must be thoroughly understood. This does not only apply to shrubs in particular, but to all plants in general, if they are to give of their best.

In order to grow shrubs successfully the necessary requirements of each individual must be borne in mind, so that at time of planting the shrubs are given a correct site, a sunny or shady position as demanded, the necessary soil conditions, adding any material that may be lacking in its composition. This may be done by the application of fresh soil or by a dressing of some suitable artificial fertiliser. Select moisture loving plants for damp places and so on and find out whether certain plants like to grow in groups or as isolated specimens.

In addition to providing conditions as natural as possible, much may be done by judicious pruning, training, shaping and mulching, at the proper time.

A common fault is the overcrowding of shrubberies and beds. One cause appears to be that many amateurs, when planting a new bed or shrubbery border, fail to visualise the size to which their plants will grow in the course of a few years. The idea is prevalent that the greater the number of plants grown in a limited space, the better will be the display of flower. Such is a great mistake, as the only result is the production of much spindly growth with a consequent poor floral display. Where such cases occur, much can be done at this time to rectify matters.

In the renovation of a worn-out shrubbery or bed, commence by destroying useless plants. Examine the soil, and if this be poor, all the shrubs remaining should be lifted and laid on one side of the border. Where they are to be out of the ground for a few days, they should have their roots protected by piling soil or leaves around or covering with a layer of straw. Then trench the bed and work in some old decayed garden refuse or well rotted farmyard manure. If such is not available or is difficult to procure, some form of artificial fertiliser, such as Wakeley's Hop Manure may be employed. Finally, level over the border or bed and replant such of the old shrubs as are suitable and any new ones which it has been decided to add. Each plant as it is handled should be carefully looked over, as this is a most opportune time to examine the root system in relation to the stem growth. Any roots which are badly broken or damaged through lifting must be cut off evenly with a sharp knife, so as to promote the growth of young, fibrous roots, which are necessary to the health and vigour of the bush. It is best to think out the arrangement of the shrubs in their new positions before the actual planting. It will be generally found that the best plan is to place two or three plants in position and use these as a basis, arranging the others suitably around them according to their shape and size.

When satisfied with the new arrangement plant each carefully, spreading out the roots in a natural manner, and taking particular care not to plant too deeply. The addition of a little leaf soil round the roots will be found beneficial. Where such thorough treatment as the above is not necessary, overcrowded shrubberies and beds may be merely thinned out and the remainder of the plants more evenly spaced. Specimen shrubs which for no apparent reason have failed to give satisfaction for a few years, will often respond to being lifted out and the old soil carefully removed from their roots and new soil substituted.

The stem portions of the plants should also be looked over and all dead wood removed. It is of no use to the plant and only acts, during the spring months, as a centre for insect and fungoid disease. A few, and it may be emphasised, only a few, shrubs require a regular pruning, and in the case of the majority of our flowering shrubs only a shortening here and there of the more straggly and unruly branches is required. The early spring-flowering shrubs can all be attended to when the flowers are over, from the end of February until the end of March.

All surface rooting shrubs, such as many of the rhododendrons, will benefit by a surface dressing of some protective material, such as littery manure spread loosely around the base of the plants away from the stem. In times of late frosts it acts as a protection to the roots when they are active and easily injured. The material can be renewed from time to time and left during the summer, when it acts then, not as a protection against frost, but as a moisture-conserving factor.

It cannot be too strongly recommended that an endeavour should be made to understand the likes and dislikes of the individual constituents of the shrubbery. All shrubs do not thrive in similar soils; some like shade, others prefer an open sunny situation, and it is at this time that consideration should be given to these points, judging by past experience and alterations made accordingly. Care and attention to one's shrubs will be well repaid.

This Week's Work

Sow another batch of half-hardy annuals in the greenhouse.

Fork over any vacant ground in the kitchen garden.

Protect wall fruit from birds and frost by covering with fish netting.

Make a sowing of sweet peas in a frame.

Thin boxes and pans of seedlings as soon as the young plants are large enough to handle.

Transplant autumn-sown onions if the ground is in a fairly dry condition.

Set up in boxes second-early potatoes and place in a light shed for sprouting.

Fill in any gaps in your herbaceous border

British Columbia Horticulturists Growing Bulbs.

BRITISH COLUMBIA horticulturists are entering the bulb industry on a very large scale and a market is being found for the Canadian grown bulbs in Canada and the United States. So far, the bulb production in British Columbia has been only on a moderate scale, but a big future is seen for this industry, since Canada imported last year over 3,000,000 bulbs.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 12, which appeared in our issue of February 5th, have been awarded to

Mrs. Dodson,
6, North Road,
Surbiton, Surrey.

and

Mr. R. C. Rollinson,
Pencrebar,
Severns Avenue,
Acomb, Yorks.

To each of whom a cheque for that amount has been sent.

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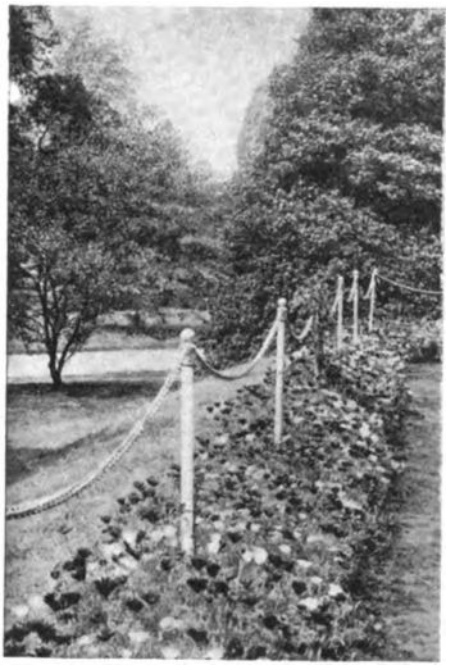
HARDY ANNUALS FOR EDGING AND CARPETING

THE difficulty of selecting attractive plants for furnishing colour and finish to path and border edgings and for groundwork to beds and borders is a very real one to many amateurs. Many annuals, by reason of their short life, their wealth and beauty of flower, their colour and habit, are particularly suitable for this purpose. A selection of choice kinds should be made from the accompanying list.



ESCHSCHOLTZIAS. THE TALL-GROWING AS WELL AS THE DWARF SORTS ARE MOST USEFUL ANNUALS FOR CARPETING.

AN EDGING OF LIMNANTHES DOUGLASII AND SHIRLEY POPPIES WHICH CHARMS BY ITS SIMPLICITY.

OF these, one of the hardiest, the easiest to grow and the most generally useful, is the well known Alyssum maritimum; but to get the best results it is necessary to obtain a really good compact strain, such as Little Dorrit, to sow in boxes early in March, to prick out on the appearance of the second pair of leaves and to transfer plants to their flowering quarters in May when they should be sturdy little plants about 2½ins. high—a plan which might be followed with advantage in the case of many other small annuals. There is a pinky-lilac variety of Little Dorrit which is pretty in a quiet way. A. maritimum procumbens Snow Carpet is very dwarf, of spreading habit and is admirable for small beds, as is white Candytuft Little Prince, the spiral variety, which is 1ft. high, being better suited to wide borders and large beds. The old so-called crimson candytuft was poor in colour, but the newer varieties, Rose Cardinal and Rose Beauty, leave little to be desired. Less well known than either of the two plants already mentioned is Omphalodes linifolia, which is 9ins. high, has starry white flowers and grey green foliage; it makes a charming edging, but is scarcely compact enough for carpeting. It is, by the way, one of the very few annuals that does not object to a moist situation and semi-shade. Asperula azurea setosa, the blue woodruff, which has pale blue flowers, will continue to bloom throughout the whole summer, but, like omphalodes, it is a better "edger" than "carpeter." Of a purer, brighter blue is Nemophila insignis grandiflora, and richer than that of either is the colour of Phacelia campanularia, which is 9ins. high. It is an early flowerer, but is a little capricious in some gardens and in its seedling stage is far too much beloved of slugs. An admirable carpeting plant is the Swan River daisy (Brachycome iberidifolia), which is now to be had in separate colours, although it is exceedingly effective sown in mixture. Little Blue Star and Summer Beauty (mauve) are among the prettiest of the distinct varieties. The daisy, the height of which is about 8ins., is classed as half hardy by some seedsmen and as hardy by others; on the whole it is safest to treat it as the former, but it may be sown in the open in May without risk.

For a very dry and hot situation the portulaca—another plant on the borderline between hardy and half-hardy—is the best possible choice. It is from 4ins. to 6ins. high and the seed is supplied in mixed colours, all very brilliant. It may be sown out of doors at the end of April. Viscaria Tom Thumb Rosy Gem is another sun-lover, but has the merit of being perfectly hardy, is a neat grower and of a pretty shade of pink.

The value as edging plants of Virginia stock and Tom Thumb nasturtiums is already fully appreciated. Indeed, the stock is more popular than it really deserves to be, for it is an uninteresting thing and apt to flop about feebly unless drastically thinned out. Of the nasturtiums the old favourites, King of Tom Thumbs and Empress of India, both scarlet, and the spotted yellow Ladybird, are still to be counted among the best, but the newer Sunset is a striking shade of pinkish orange.

Much less commonly met with than these familiar friends, are the miniature eschscholtzia (cæspitosa), much less showy than its taller kindred, but bearing pretty pale gold flowers in profusion. The rose pink Saponaria calibrica also a persistent bloomer; Eucharidium Brewerii, also pink; Sanvitalia procumbens, bright yellow; Eutoca viscida, bright blue; and Arctotis calendulacea, which has rich orange daisy-like blossoms. The two last mentioned are slightly trailing in habit, but are quite neat enough for edging or carpeting. The arctotis should be treated as half-hardy. Limnanthes Douglasii is another exceedingly pretty dwarf annual, with myriads of yellow and white flowers, which are most attractive to bees. It is exceedingly hardy, does not dislike a little shade and seeds itself abundantly, but it has the drawback of being too early-flowering to combine satisfactorily with summer bedding plants as its beauty is over by the beginning of July. R. E. HEAD.

SOME HARDY ANNUALS FOR EDGING AND CARPETING.

Name.	*Colour.*	*Height.*
Alyssum maritimum Little Dorrit	White	6ins
,, ,, Lilac Queen	Pale mauve	,,
,, procumbens Snow Carpet	White	3ins.
Arctotis calendulacea	Orange	10ins.
Asperula azurea setosa	Pale blue	10-12 ins.
Brachycome iberidifolia (type)	Various colours	1ft.
,, ,, Little Blue Star	Bright blue	6ins.
,, ,, Purple King	Deep purple	,,
,, ,, Summer Beauty	Mauve	8ins.
Candytuft	White, lilac, rose	1ft.
,, Little Prince	White	6ins.
Eschscholtzia cæspitosa (tall and dwarf)	Pale yellow	4-6ins.
Eucharidium Breweri	Rose pink	6ins.
Eutoca viscida	Bright blue	1ft.
Limnanthes Douglasii	Yellow and white	6ins.
Nasturtium Tom Thumb	Various colours	8-10ins.
Nemophila insignis grandiflora	Sky blue	8-9ins.
Omphalodes linifolia	White	9ins.
Phacelia campanularia	Deep blue	,,
Portulaca grandiflora	Various colours	4-6ins.
Sanvitalia procumbens	Yellow	4ins.
Saponaria calibrica	Pink	6ins.
Viscaria Tom Thumb Rosy Gem	Pink	,,

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BULBS FOR THE COLD GREENHOUSE

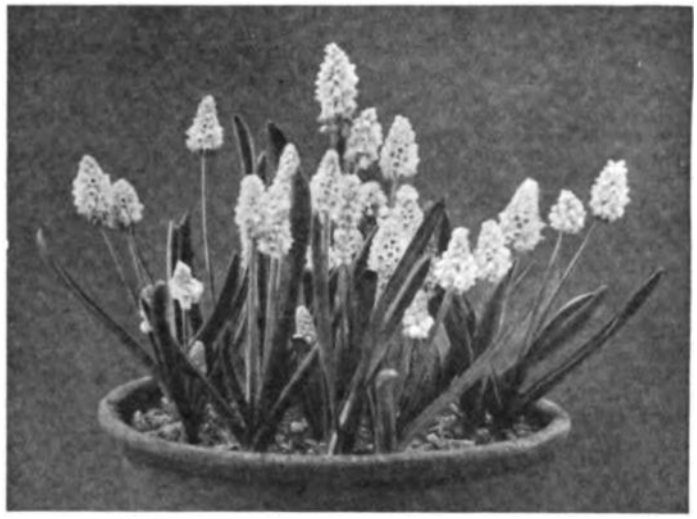
MANY bulbous and tuberous-rooted plants are of great value in providing a display of flowers for the cold house in the early months of the year. A number of them are easy to grow in pots or pans and the choice of subjects for this purpose is very extensive. Beginning with crocuses and snowdrops in January, one may have a succession of bloom for several months, provided by cyclamen, narcissus, scillas, erythroniums and tulips, to mention only a few out of a host of suitable plants. To obtain the best results bulbs should be potted up early in September in order to allow plenty of roots to be formed before winter sets in. A good sandy loam is suitable for most things, an exception being the dog's tooth violets (erythronium), which require a mixture that is richer in humus. After potting the bulbs, plunge the pans to the rim in ashes in a sheltered border and leave them there till they show signs of pushing up their flowers. They may then be brought into the house and protected from the weather while in bloom. After flowering, replunge the pans outside and keep well supplied with water till the bulbs have matured their foliage, then withhold the supply and allow the bulbs to become well ripened off. Among the more important families are:

Anemone (*Windflower*).—This genus includes the early-flowering A. blanda from Greece and Asia Minor, with its lovely dark blue flowers in February. There are also rose coloured forms, and another with white flowers shaded blue on the under side of the petals (A. blanda var. scythinica). A beautiful early spring flower is A. fulgens, with rich dazzling scarlet blooms and light, elegant foliage. Well flowered pans of this make a beautiful show and last a long time in good condition.

Crocuses of various kinds may be had in flower from August to March, the best for spring use being, among others, C. Imperati, with fawn petals, more or less feathered on the outside with violet. C. Sieberi is a charming species from Greece, with soft lavender blue flowers and golden yellow base, while the white and black C. biflorus and the pale purple C. versicolor, with distinctive feathering, are also desirable kinds. For those how desire to specialise in this genus, there are numerous other kinds.

One of the loveliest and most welcome of our spring flowers is the *Glory of the Snow* (*Chionodoxa*). C. Luciliæ has brilliant blue flowers with a snowy white centre, while C. sardensis has gentian blue flowers, somewhat smaller in size. They are produced several together on one stem, some three or four inches high.

Bulbocodium vernum, some 2ins. or 3ins. high, produces early in spring numerous bright rose purple flowers.



THE GRAPE HYACINTH, OR MUSCARI, MAKES A DECORATIVE LITTLE POT PLANT.

Cyclamen.—These charming plants are suitable for pans and usually open their flowers in January, but remain attractive for several weeks. There is C. ibericum, with its rosy purple flowers and faintly zoned leaves, and C. Coum, which differs from it in having unspotted dark green leaves. There is also a white-flowered variety of the latter, a very desirable plant. After flowering they should be placed outside to complete their growth and the corms should then be well ripened off by withholding water and giving exposure to sun.

The Winter Aconite (*Eranthis*), produces its golden blossoms early in spring, each flower resting on an emerald green cushion of leaves. In addition to our well known native species, E. hyemalis, there is one from Asia Minor, E. cilicicus, with larger flowers and a more finely cut frill of leaves.

A valuable family is the *Dog's Tooth Violets* (*Erythronium*), several of which can be grown in pans in a shady frame. E. californicum is a beautiful species, with handsomely mottled leaves and stems 9ins. high, bearing several large chrome yellow flowers with orange markings. A. Hendersoni has pale lilac flowers with a purple centre, and is one of the most distinct. A. revolutum varies in colour from bright rose (var. Johnsoni), to a form with large creamy white flowers having a golden central ring, and brown mottled foliage (var. Watsoni).

The Snowdrops (*Galanthus*) are too well known to need description. The best of all for our purpose is Elwes's Snowdrop (G. Elwesii, from Asia Minor, with broad glaucous leaves and large flowers which appear in January. G. cilicicus, a smaller kind, flowers still earlier, sometimes in full flower in December. G. latifolius has broad, arching, deep green leaves, and with G. plicatus comes into flower in February.

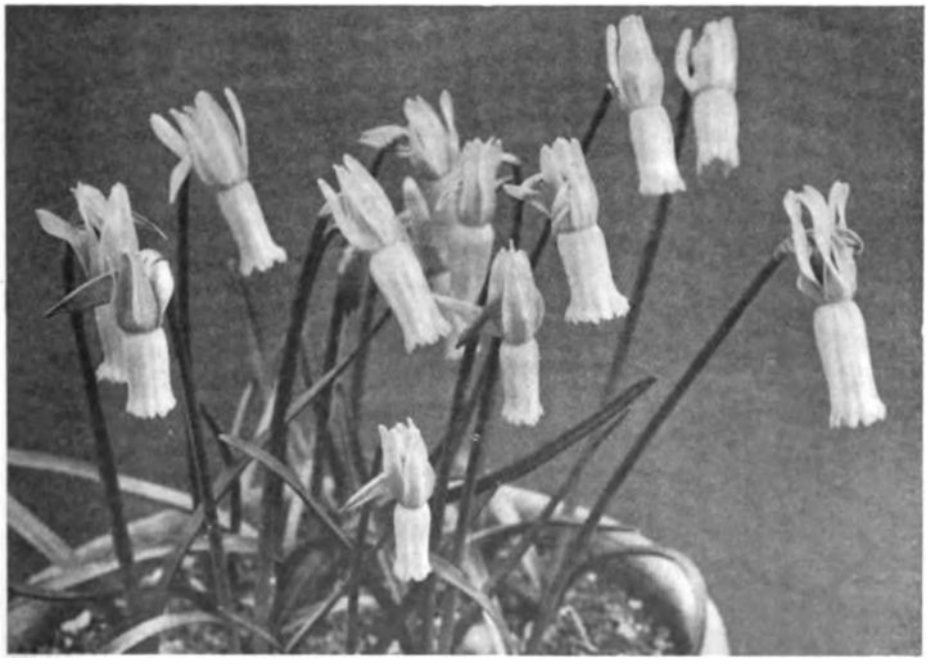
A beautiful little plant is *Hyacinthus azureus*, with little spikes of Cambridge blue coloured bells in February. It is also known as Muscari azureum. Some of the muscaris, or grape hyacinths, make lovely pot plants, one of the best being "Heavenly Blue," with tall spikes, well furnished with bells of the richest shade of gentian blue. M. neglectum has large blue-black flowers.

Many of the dwarf *Irises* are indispensable, such as the golden netted iris, I. reticulata, with its violet-scented flowers in February, while an earlier flowering kind is I. histrioides, with bright blue flowers, having a golden yellow blotch. These are only two out of a large number suitable for growing in the cold house.

The *Narcissi* form another valuable family of bulbous plants, some of the smaller-growing kinds being well adapted for growing in pans. The earliest flowering kind is the snowy white hoop-petticoat daffodil from Algiers, N. Bulbocodium var. monophylla. Others are Angel's Tears (N. triandrus), and the cyclamen-flowered daffodil (N. cyclamineus). The smallest of the family is N. minimus, only 2ins. or 3ins. high, with a miniature frilled trumpet.

All the bulbs above mentioned are easy to grow in any good sandy loam with some leaf soil and sand.

W. I.



NARCISSUS CYCLAMINEUS IS A MINIATURE DAFFODIL WELL ADAPTED FOR PAN CULTURE IN A COLD HOUSE.

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A BED OF EVERLASTING FLOWERS

IT is not often that one notices much attention being given to growing a representative collection of flowering plants in the garden, the characteristics of which are commonly understood when referred to as "everlastings." Nevertheless, there are subjects among hardy perennials, hardy and half-hardy annuals and biennials that serve our purpose, and, without much difficulty in regard to culture, can be taken in hand by most people who own a garden.

Spring is a suitable time both to review and to make arrangements for planting and sowing most of them, and though it is not suggested that flowers carried by them are equal to fresh cut, it has to be borne in mind that by far the greatest number of gardeners have no greenhouse from which to gather supplies when outdoor blossoms have gone. We submit that "everlasting" flowers fill a place in the home during winter and early spring and relieve the bareness at least of vases that otherwise would be empty. Taking hardy flowering plants which may be planted its double forms are not the least serviceable for anyone who desires to have something in the room long after summer flowers have left us. During this last autumn and winter a vase of the double variety kept its colour well and, though some of the buds shrivelled, it gave a light, pleasing appearance to a corner of my room.

With the exception of gypsophilas, all the above hardy plants will grow in very ordinary garden soil. In the case of gypsophilas, however, lime must form some part of the texture of the soil, and if the latter does not contain lime it should be made up by lime chippings or old mortar rubble being dug into the ground at the time of planting. No shallow digging will do for them, as they are deep rooters and need the soil being worked to a depth of 2ft. or 3ft.

Annuals.—Of these, the seed of the bulk of them should be sown, either in pans of light soil in the warmth of a house towards the end of February or March, in a cold frame in April, or out of doors at the end of May.

THE ATTRACTIVE PAPERY BLOSSOMS OF RHODANTHE MACULATA, ONE OF THE EVERLASTING FLOWERS.

in February or March, we have eryngiums (sea hollies), with bracts of glistening blue and white, as represented by E. alpinum (bracts metallic blue), E. amethystinum (amethyst-purple bracts and deeper coloured stems), E. giganteum (white stems and bracts). The echinops (globe thistles) also furnish heads of which two are useful for the garden, *viz.*, E. Ritro (deep blue) and E. sphærocephalus (light blue), should be included. Sea lavenders (statice), plants having broad green foliage and spreading panicles, are worthy of consideration in getting together a collection of everlasting flowering plants. Chief of the family is S. latifolia, with bluish flowers produced on low-spreading panicles often 2ft. across in established plants. Physalises (bladder cherries) are very popular from a market point of view, though comparatively few amateur gardeners appear to grow them. They are seen to their best advantage in late autumn, when the orange and red pods glow with vivid colour, and are useful both for home and harvest festival decorations. There is yet another hardy plant much in evidence to-day, gypsophila. This, too, bears its flowers in billowy panicles, sometimes a yard across, and G. paniculata and Comprising the most suitable are helichrysums, statices (annual sea lavenders) and acrocliniums. Rhodanthes (miniature daisy-like flowers) are exceeedingly pretty, but are best grown in pots, twelve to fifteen in a 6in. pot, being raised from seed sown in light loam and leaf-mould in the warmest corner of the greenhouse, the plants got into pots when an inch or so high, watered with care and kept near the glass as long as possible. A few thin twigs will be needful to keep the fragile, pea-like growths in position. There are pink and rose and silvery white sorts, and all are charming and dainty when in bloom.

The biennial which stands out prominently as necessary to a representative collection of everlasting blossoms (though, really, it is not the blossoms but the seed-pods which count) is Lunaria biennis, our old friend honesty. Seed of this should be sown in the open ground in May, plants got out into beds for the summer as soon as large enough for removal, and finally, in the autumn, being planted in their blooming quarters, which should be in a warm and well drained situation.

How to Gather the Flowers.—Blossoms intended for winter decoration should be gathered when half opened, as, unless this is done, in the process of drying they open still further, so that fully expanded flowers are liable to shed their petals and become useless.—CLAREMONT.

A SELECTION of FANCY PANSIES

IN my previous article I gave the names and colour descriptions of a number of up-to-date varieties and some of the older favourites, but the list was not exhaustive, and the following kinds would complete the selection.

James Brown.—Large, dense, dark purple blotches, with margins of cream and rose. The top petals are purple, heavily pencilled with plum and a wire edge of cream.

John Whiteford.—A bright wine coloured self with dark blotches and broad margins of wine colour. A very reliable standard variety.

John Greig.—Purple blotches with crimson and yellow margins. Another useful standard sort.

Mrs. A. B. Cochrane.—This is one of the finest fancy pansies ever raised, and it is a general favourite. It has dense purple blotches with beautiful margins of rich cream. The top petals are blotched and pencilled with purple and shade out to cream. It is a large flower of good texture, a strong grower and very free-flowering.

Mary Drummond.—Probably the best yellow on the market. One of Mr. Paul's famous seedlings. The blotches are brown and the margins yellow and crimson. The top petals are yellow edged with crimson.

Mrs. Alex. McAlpine.—Dense black blotches with broad margins of French white. The upper petals are plum purple and white.

Mrs. Thomas Hill.—Dense black blotches with broad margins of deep canary yellow, edged with wine colour. The upper petals are canary yellow, pencilled with dark purple with a band of wine colour.

Mrs. Henry Anderson.—Deep violet blotches edged with cream. The top petals are cream streaked with violet. A fine round, smooth flower. A very strong grower.

Mrs. Thomas King.—Dark blotches edged with gold and laced with crimson. The upper petals are yellow with a broad crimson band A flower of beautiful colouring.

Miss Nellie Thomson.—Large, dark velvety blotches margined with wine colour. The top petals are splashed with dark velvety purple with a large band of wine colour. A very fine dark pansy.

Mrs. Thomas Kennedy.—Large clean cut, dense brownish-black blotches with margins of canary yellow. The top petals are splashed with canary yellow and purple.

Nellie Cochrane.—Large light purple blotches with a double margin of claret and an outer edge of white and crimson. The top petals are white with a heavy band of crimson. A flower of fine colouring and good texture.

Robert Beveridge.—Deep purple blotches, margined with magenta shading out to white. The top petals are white, streaked with purple and edged with magenta. A large flower of bright colours.

Robert Allan.—Dense, dark purple circular blotches with margins of white. The top petals are rosy purple, edged with white, with pencillings of dark purple. Perhaps the largest of Mr. Paul's introductions.

Susan Milligan.—Large purple blotches with rose margins, shading out to light rose. The top petals are dark heliotrope shading out to a lighter tone with a white edge.

T. B. Cochrane.—Large dense Prussian blue blotches with margins of white. The top petals are splashed with dark purple, mottled with light purple and white. A large flower of good texture and probably the best of its class. NORMAN LAMBERT.

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PRACTICAL PARAGRAPHS on POPULAR PLANTS

We give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

Thyme. THYMES have come into much greater prominence during the last few years since the special interest shown in the building and furnishing of rock gardens. We know them as creeping, aromatic plants which bring bright patches of colour in the time of their blooming. Some of them are carpeters clinging close to the ground or pieces of stone and blooming in June; others are dwarf shrubby little plants about 4ins. in height. Thymes will grow in any ordinary garden soil so long as the position is sunny and, once established, grow rapidly. They can be propagated either by division in spring or autumn, or from cuttings inserted in sandy soil after the plants have bloomed. For a dry situation thymes should not be overlooked.

THYME, WITH ITS SPREADING MASSES OF LIGHT PURPLE FLOWERS, IS ATTRACTIVE IN THE ROCK GARDEN.

Alyssum (Madwort). THESE spring-flowering perennials enjoy a wide popularity, as do also the annual forms which bloom in the summer. The former has yellow and golden blossoms, and come to their beauty stage in April and May. About a foot in height, they are favourites with many for grottoes and certain positions in the rock garden, while one, A. saxatile, is much used for spring bedding. Three methods are open to the grower for propagating: by seed sown in light soil in the borders in April, by cuttings taken after the plants have flowered, and by division of roots, which may be in October or spring. Almost everyone is acquainted with the annual sweet alyssum with its white flowers, a plant much used for edging purposes. There is a lilac form, too, and a very dwarf sort, also producing white flowers, employed for carpeting and for sowing in pathways in the rock garden. Seed can be sown under glass—a cold frame suffices—in pans of light soil or where the plants are wanted to bloom. This alyssum is a noted "self sower."

ALYSSUM IS VERY FREE FLOWERING AND EASILY GROWN.

Nasturtiums. THERE is scarcely a garden, however poor the soil may be, where nasturtiums will not grow, provided they are sown where the sun can reach them; in fact, one might say, the poorer the soil the greater the output of blossom. One can use the Tom Thumb sorts for edgings to beds and borders, the tall sorts for twining on pillars and fences and training up walls, and no garden, however mean, if only the sun can reach it, need be anything but brilliant for months in the summer and autumn, by sowing seeds in succession for a few weeks commencing in April. Dryness at the roots will prevent their progress, so that plenty of water should be given the plants in weeks when no rain falls. The flowers are delightful for cutting, and the more this is done, and the plants prevented from producing seed, the longer will the display continue.

Sidalcea (Greek Mallow). INCREASED interest is being shown every year in the sildacea, one of our best hardy perennials for massing in the garden. Growing about 3ft. in height and yielding many spikes of blossoms from July for many weeks, its value for planting in groups is more appreciated by amateurs, because its culture is of the simplest. It needs but good ordinary soil and a sunny position and in a dry time, plenty of water. Planting may be done in March, when roots may be divided. It can also be raised from seed sown in pans of light soil in April.

Veronica (Speedwell). THE veronica is a large and interesting family of hardy herbaceous perennials, that will grow either in a town or country garden, bearing flowers of blue and white and rose from June to September, if care is taken to cut away old flowering stems and thus encourage lateral growths to bloom. They love the sun, but need not be left out of arrangements in planting a half-shady border and can be relied upon to do well in the garden of an amateur where the soil is only moderately good, as is sometimes the case near a town. They are effective if planted in groups or between white flowering campanulas. Propagation is by division, which may take place in late autumn or spring. They grow from about a foot to 3ft. or so in height.

Verbena (Vervain). A VERY showy flowering plant is the verbena, treated with very few exceptions to-day as an annual by sowing seed in pans of light soil in the warmth of a greenhouse in February or March, pricking off the plants when they have made 2ins. of growth and, after hardening them off in a cold frame, planting out towards the end of May or early June. They delight best in a light soil and a sunny position. A cold heavy soil is unsuitable. They are very effective in beds to themselves or occupying a stretch of a border and the growths pegged down, blooming profusely from July to September. Two varieties to which attention is called are V. chamædryoides, with scarlet flowers, of perennial habit, hardy in sheltered localities, but in others needing a covering of leaves or similar protection; and V. venosa, also of perennial growth, hardy in many places, but is best served by being lifted and placed in cold frames in winter. The flowers are of a vivid purple-violet, a very telling colour in the garden from July to often late in autumn.

VERBENA IS A SHOWY PLANT FOR BEDS AND BORDERS.

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THE BUSY MAN'S PAGE

Seasonable Work for February.

IF there is any pruning of fruit trees and bushes not yet finished, it should be completed during the month. Where the soil is found to be in a good friable working condition, not sticky or pasty, the first opportunity should be taken to finish the planting of fruit trees and bushes, placing a stout stake to each tree as the work proceeds. A piece of sacking, old leather or rubber tyre should be tied round the stem of the tree at the point where it is secured to the stake to keep the cord from cutting into the bark. Fruit trees and bushes will all benefit very much in cleanliness, general health and in the eradication of insect pests and improvement in crops if sprayed with some approved insecticide and fungicide (such as Bentley's Orchard Spray) and applied before the buds burst. For the removal of moss, lichens and fungus on old trees it will be necessary to use an alkaline wash, and used only when trees are dormant. Where there is still some vacant ground to be dug, endeavour to have the arrears overtaken this month. A small sowing of an early cauliflower, cabbage, sprouts and lettuce should be made now in boxes and placed in a cold frame to germinate, pricking out the seedlings when large enough to handle. Do likewise with a pinch of parsley seed, giving them a free rooting compost when pricked into another box, plenty of sifted leaf-mould and sand and only a small part of loam. Much better results are obtained with parsley in this way when transferred to open ground than if seeds are sown outside. Where shallots find favour the bulbs should now be planted on well manured soil 8ins. to 9ins. apart and 12ins. between the lines.

A sowing of early dwarf peas and broad beans should now be made in a warm, sheltered border. Potatoes that are being sprouted in boxes should be exposed to plenty of light to make sprouts sturdy, but keep well secured from frost.

New Life in Old Climbing Roses.

WHAT garden, where roses are grown, would be complete without the old favourite climbing varieties, Gloire de Dijon, W. A. Richardson, Climbing Caroline Testout and many others, which give such pleasant effects in their season. A feature often observed on very old plants of the above types, is the strong, bare wood, which gives a bad appearance. To remedy this bareness, the following simple method will give the best possible results. In re-arranging and tying in to whatever support is available, just take and bend the old growth in every way they will yield, with as much strain on the bend as is possible—even to breaking point does not matter, so long as there is no severance. At the next growing time, there will be seen breaking from the very numerous dormant joints, latent buds, which will grow into strong lengths of healthy, vigorous shoots of the kind desired for covering with new life very much of the bareness so objectionable to look at. These new shoots will also be found extremely useful for future bloom display. I have never known this simple plan fail to answer.—A. B.

Pentstemons from Seed.

THE pentstemons are among the finest summer-flowering plants for the open garden. They are excellent subjects for beds or borders, and may also be used as cut flowers. In addition to this, they also prove very useful for filling gaps in the herbaceous border. They may be obtained in a great variety of colours, ranging from white to deepest crimson, and these named varieties must be propagated from cuttings.

There are, however, so many fine forms and colours to be obtained from seedlings that named varieties are hardly necessary. Seed should be obtained from a reliable source, and sown early in March in shallow boxes or pans filled with a light compost. After sowing place in a warm house, cover with a sheet of glass and shade with a piece of paper until germination takes place. When the seedlings appear, remove the glass and paper, and stand the boxes on a shelf near the roof-glass, only shading from very bright sun. Water with care and on sunny mornings a misting over with a fine syringe is highly beneficial.

So soon as the plants are large enough to handle, prick them off into other boxes in the same manner as antirrhinums are treated, using a compost containing a liberal proportion of leaf-mould; return to the warm house until they have become established, and then gradually harden off in a cold frame so that they will be ready to plant out at the end of May or beginning of June.

The pentstemon succeeds best in a well manured, deeply dug, moist and rather sandy loam, and it is advisable where possible to dig in a liberal quantity of leaf-mould. On dry soils watering will be required during hot spells of summer weatner, and in all cases applications of weak liquid manure are of great benefit when the plants are in full bloom.

If it is desired to perpetuate any seedling of especial merit, basal cuttings should be taken in early September and dibbled in a sandy soil in a cold frame. The frame must be covered with mats during frosty spells, but on all favourable days in winter and spring ventilation must be given. These plants will be ready for transferring to the open ground in May.

In most parts of the country pentstemons will survive the winter quite well if they are cut down to the ground after the first frost which damages their foliage, and a mulch of strawy manure is placed around the roots; but, generally speaking, young plants are preferable as these last longer and produce the finest flower spikes.—T. H.

Lime in the Garden.

AS a purifier and cleanser of garden soil there is nothing to equal the judicious use of lime. When the garden shows signs of acidity, is suffering from over-manuring, or is infested with all kinds of insect pests, then lime is wanted, and its application will soon put matters right. So, too, when the soil is heavy and clayey, lime comes to the aid of the gardener by breaking it up and lightening it.

Chalk lime can be procured from any builder's merchant. The writer has found it a good plan to purchase it unslaked. The lime already slaked is powdery and apt to fly about when being applied to the garden. In the unslaked condition chalk lime is in lumps, of the average size of a cricket ball. It is, in this condition, much more satisfactory to handle. The price is, at the present time, about half a crown a bushel, delivered.

Keep the lime away from damp until ready for use. When ready to apply it to the garden the chalky lumps should be broken up into pieces about as big as a cob nut. The breaking is easily done with a hammer or mallet.

Spread the lumps, and smaller pieces resulting from the hammering, over the garden thinly. A bushel will cover from 100 to 150 square yards to work effectively, and this quantity and area should be adhered to fairly closely. The lime should now be worked into the ground by raking to a depth of 2ins. or 3ins.

If the ground be at all moist one or two days will be found sufficient to break up the lumps into powdery masses. Further raking should then be done to work the lime in deeper, and to disperse it about the soil. Dryness will make the slaking of the lime take somewhat longer, but a few days should see it powdering and ready to be worked in.

After a few days the fork can be used with advantage and the lime thus caused to enter deeper into the soil.

Treated early in the year in the manner described, ground which has previously been acid, heavy or infested (and because of any of these disadvantages bearing few and unhealthy-looking plants), will be found to be greatly improved.

Watering Wall Trees.

IT should never be forgotten that the soil in a border close to a wall often become extremely dry, and this may happen some time before the more open parts of the garden have recovered from the heavy rains of the winter. Dryness at the roots is a common cause of fruit trees trained on walls failing to "set" their fruit or, at a later date, of the small fruits falling away. If the soil around the base of the trees appears to be dust dry, fork it lightly and then give the ground a good soaking of water. Mild weather should be chosen for this treatment, and, at this early season, it is best that the water should be given in the morning, so as to avoid unduly chilling the ground just at nightfall. Later on, when the leaves of the fruit trees are developed, there is a great danger of dryness affecting the development of the crop. The foliage of the trees screens the ground so that even the heavy rains which may come with thunderstorms hardly reach the soil at all. All wall fruit trees would be the better for occasional watering except in the depths of winter.

Pruning Clematis.

The Kinds to Prune Now.

NO time should be lost in pruning those kinds of clematis which need hard cutting each year. The types which require this treatment are Jackmannii, lanuginosa and the Viticella groups, all of which should be cut back to within three or four buds of the base of the previous year's growth. This is done owing to the fact that the plants blossom on the young shoots. On the other hand, to cut the florida, montana and patens sections now is the same thing as cutting away the flowers. Really, the less pruning these types have the better. When growth starts away after pruning it is desirable to train the young shoots carefully rather than allow them to grow in a mass. If the stems are well spread about, the effect when the plant is in flower is much enhanced.

Trapping Wireworms.

WIREWORMS are often one of the most serious pests with which the gardener has to contend, and this is especially the case on newly dug grassland. Many of the plans recommended for fighting the wireworm trouble are only partially successful, and probably the best way of protecting crops is to set traps. Bury potatoes or carrots in the ground to the depth of 3ins. or 4ins., each one having a small stake pushed into it. By this means it may be removed and examined every other day. From a number of these traps quantities of wireworms may be removed and destroyed. Further, to a large extent, the wireworms concentrate on the potatoes and carrots and leave the crop alone.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

A Beginner's Rock Garden.

ROCK gardens can be made in a great variety of forms, but wherever possible they should be made so that the slopes of the rockery get the maximum amount of sunshine. Making the rockery in an odd corner of the garden, perhaps under the drip of trees and in entire shade, limits the selection of plants severely. In full sun the rock garden gives wonderful carpets of colour, besides being a suitable site for many of the rarer gems which would certainly perish under the drip of trees.

Weathered limestone from the hills of Yorkshire is the ideal stone, but a satisfactory and very much cheaper rockery can be built from old cement blocks, bricks and stones, which can be bought in many localities for a small sum. Sandstone is good, but as this is drier than limestone, it should be used with liberal dressings of lime and leaves in the soil. Bricks are similar to sandstone.

Arrangement of Stones.

Whatever material is used, the rockery must be built to resemble a mountainside, where bare rocks protrude in places, and pockets of soil are left here and there, in which the plants obtain root-hold. Size is immaterial. Half a ton of stones and a load of good mixed soil (two parts loam, one part sand and one part leaves) would make a useful and pretty rockery. The position of the stones is of great importance. Those protruding from the soil should slant so that the rain is carried into the rockery, and not off it. In shape and general design the rockery can be an expression of your own taste, a fern-covered knoll, a steep bank (like a railway cutting), a moraine (the pell mell heap of stones at the foot of a glacier), a dry ravine with a path down the middle, or simply a low wall which supports a small border. Ordinary garden soil with a little loam added is a suitable basis. It is best to leave the addition of lime until you are actually ready for planting, so that, should you desire to grow peat-loving plants, such as heaths and rhododendrons, which dislike lime, you can use the lime only where it is desired.

The rare alpines need special care, and the beginner would be wise not to attempt their culture, particularly if his garden is in or near a town. But this does not mean that you can neglect any rock garden. Weeds must be kept down and the soil surface stirred occasionally with a hand-fork. Plant carefully. A common error is to leave the plants too far out of the ground. If your rock garden is not too large, *remake it every three or four years.* In a town garden this is particularly advisable, as the surface soil becomes soured with atmospheric impurities.

Division of Perennials.

THE best and biggest flowers cannot be grown from overcrowded root stocks. The newly formed outer portions of such roots as perennial asters always give the best bloom. It has been found by practice that the best time for division of roots in or near towns is the early spring. At any time from now until the new shoots are a few inches high the division can take place. Almost all of the fibrous rooted perennials benefit from division at least once in three years, and some of them are best divided each year. Plants such as poppies and peonies, with soft, sappy roots, should rarely be divided, as they take a long time to recover.

It is often thought that a very rich soil must be provided for perennials, but if the soil is very deeply dug when the herbaceous border is first made and a supply of fertiliser incorporated at the same time, it will retain sufficient plant food for a fairly long period. Bone meal—3 ozs. to the square yard—is excellent for use in this way.

Choose a fine day for the division of perennials, and lift only as many plants as you can comfortably divide and replant on that day. A small border, say, 6ft. by 2oft., could have all the plants lifted and replanted in an afternoon, but a larger border should be done in patches. In most cases only a small portion of a clump will be required for replanting, and the outside pieces with strong shoots should be selected. About six stems are usually sufficient in the place of one large clump. It simplifies the work of re-arrangement if you lay the plants out on the dug soil in the places where you intend to plant them. Group according to the height and the probable breadth of each plant.

Succession of Bloom.

An important item in planting a herbaceous border is to secure a succession of bloom. From early spring until late autumn there should always be something flowering. Selection of plants is, for the experienced gardener, a matter of taste, but the beginner would find the following a useful guide: Forget-me-nots, doronicums, wallflowers, Geum Mrs. Bradshaw, irises and Oriental poppies. Plants of these could be purchased now for a new garden. Gladioli, roses, lilies, montbretias, phloxes, heleniums, Michaelmas daisies, sunflowers and red hot pokers will give flowers right on to the very early days of winter. I have known the valiant red hot poker to hold its flaming torch erect all through December and early January. Certain plants like forget-me-nots and wallflowers or tulips go well together.

A CAREFULLY PLANTED TOWN GARDEN WHICH IS ATTRACTIVE FROM EARLY SPRING UNTIL LATE AUTUMN.

Jasmine—Gold and White.

THE bright green stems of golden jasmine are now plentifully covered with yellow blossoms. It is eighty years since Robert Fortune, a plant collector, brought the first winter jasmine to this country, and since then its popularity has steadily increased. The leaves are usually green, and appear after the flowers are over, but there is a golden-leaved variety. The companion to the winter jasmine is the sweet-scented white jasmine which flowers during summer, and which can be obtained with either single or double flowers. Both these shrubs are excellent for covering walls either in town or country gardens. They are easily trained, requiring little or no pruning, and if grown in association so that both summer and winter flowers are produced, they transform an ugly bare wall into an object of beauty.

A Climber for Every Garden.

NEXT to roses, clematis is the showiest of climbers, and unlike roses, most of the varieties of clematis will grow and flower even in the smokiest districts. They are a very extensive family and hybridists have produced numerous garden varieties with large and brilliantly coloured flowers. Their climbing habit enables them to be grown in the tiniest of gardens, or even where the only garden available is made in tubs or window boxes. They like a sunny wall for preference, or a situation which receives during the course of the day a few hours sunshine, although I have seen them flowered successfully on a north wall.

A newly planted clematis needs no pruning the first year, being simply tied to its support. The time and method of subsequent pruning depend on the time of flowering and mode of growth. Early flowering sorts, like montana, which has masses of lovely white flowers in spring, must not be pruned now. Whatever restriction of growth is necessary should be done immediately after the flowers are past. Late flowering sorts, like Jackmanni, the old purple clematis which does so well in London gardens, flower on young growths of the current season. These may be pruned now or as soon as the new growth commences. The reason for waiting until this time, is that it is sometimes difficult to tell what stems are still alive, and until growth begins, one may easily cut out live wood in mistake. The pruning need be very slight if the plant is wanted to cover a large area, but more severe if outgrowing its allotted space.

For covering a porch or arbour, Clematis montana is one of the best. It has tiny white flowers which bloom in great profusion on the stems of the old shoots. It is specially useful for training along verandas, where its long shoots can be allowed to hang down like a curtain. Many new varieties are listed in trade catalogues, one of the best being rubens. All may be planted during the next few weeks in open weather.

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NOTES ON THE FLOWER GARDEN

The Blue Flax: Linum perenne.

BLUE seems to be a colour upon which gardeners cannot agree, but there is no doubt as to whether the flowers of Linum perenne are blue or not. It is a clear, sky blue, without a shade of red in its colouring, the blue of the harebell, or the dainty little butterfly, the "chalk-blue," so well known to those who live in chalky districts. It revels in full sunshine, the flowers closing up in dull weather, and is seen at its best in the early part of the day, the blooms opening long before the gardener is up and about.

It continues flowering and casting its petals all through the latter part of May, the whole of June, and the first week in July, by which time the earlier blossoms have so set their seed that the stems bow down under the load, when the plants should be sheared down to within 6ins. of the soil. The plants thus released from the strain of seed bearing, commence almost immediately

THE BLUE FLAX USED AS AN EDGING IN FRONT OF THE HOUSE.

to push out new flowering growths, which culminate in a further display six weeks from the cutting down.

Growth commences very early in the year from established plants. The merest suggestion of warmth makes the pretty, dainty foliage push forth. When this is observed the supports should be placed in position. These may take the form of short, twiggy pea boughs, small stakes connected by means of green twist, or better still, wire netting of 1ft. width and 1in. mesh, supported 1ft. above the plants by means of stakes driven into the ground. The growths will soon push through the netting, which will be completely hidden before blooming takes place.

As a plant, L. perenne is by no means exacting. Although happiest in a border receiving full sunshine, it will thrive in almost any position except absolute shade. In the writer's garden the plant is used as an edging in borders facing south, east and west, and there is little to choose between the actual blooms in any of the three positions. The greatest mass is produced in the border which faces south, but this may be due to the fact that this border received a heavy dressing of lime rubble to which the plant is very partial. For this reason, soil deficient in lime, or very light soils, should have slaked lime, builder's rubbish or chalk added before planting.

Plants may be purchased at any nurseryman's and put out in April, taking care that the tap roots are planted in a downward direction. Such plants should be spaced at from 9ins. to a foot apart in the clumps or rows, the distance depending on the quality of the soil. Here again, the plant is not exacting. It will grow splendidly on a dry border where little else will thrive, provided lime is present.

Plants are rather expensive and as the blooms are only seen to advantage when massed, it is advisable to raise a stock from seed. A threepenny packet properly sown will yield a thousand strong plants, sufficient to furnish quite a long edging. As the seed is fairly large, it is possible to sow it at intervals in a drill, which will obviate thinning, and make the most of the packet of seed. A piece of good ground should be chosen for the seed bed preferably in a sunny position. Drills are drawn 6ins. apart and 1in. in depth, the seeds being planted some 3ins. apart in the row during the months of April and early May. Subsequent culture consists in keeping the ground free from weeds. Splendid plants are produced by this means, which are lifted in the autumn and planted in their permanent positions.

Producing as it does, two crops of bloom and seed in a season, it stands to reason that some help should be given to established plants in the way of food, if they are to be kept in a healthy condition. Short manure applied in the autumn will mulch the plants and give them the necessary strength to continue their wonderful show of bloom.

When used as an edging, the plants should be inserted at least 1ft. away from the verge or path, the intervening space being filled with aubrietia, which will flower at the same time as the first blooming of the flax, or with nigella for a contrasting blue flower, or the double salmon clarkia, both of which will be in bloom when the second crop of linum appears.

In spite of it being a tap-rooted plant, linum will transplant with ease, even established plants can be divided when they become too large, or transplanted to another position, doing this work in March or April. The roots become broken in the process of lifting, but this has no ill effect on its subsequent growth.—CLARENCE PONTING.

A Rock Garden Gem: Lewesia rediviva.

THIS delightful little flower will prove a gem in any rock garden. It is a dwarf grower, only being about 1in. high, and from a cluster of narrow leaves the flowers grow on short stems, white and pink in colour. They are quite large for so small a plant, sometimes being some 2ins. across. L. rediviva, like all the species, must be grown in full sun, in the very dry crevices of rocks in sandy, well drained soil. It is of easy culture and sometimes the leaves will wither away in the very hot summer, only to revive again with the first rain.

It is best to raise it from seed sown thinly in small pots in the spring and when strong enough planted out from the pots without being disturbed. Its home is in the Rocky Mountains and it belongs to the Portulaca family—R. MOORE.

A Rose Worth Growing: Rosa Moyesii.

OF all the single roses in commerce pride of place can be awarded to R. Moyesii, a charming species introduced from China in 1903. It forms a bush or shrub up to 10ft. or more in height, and is fairly erect in habit and spiny, with dark green pinnate leaves somewhat like those of R. spinosissima. The flowers, about 2ins. or 3ins. across, are borne singly or in pairs on short spurs, the colour being a deep rich velvety crimson, a very taking colour. The beauty of the flower is further enhanced by the cluster of gold stamens. The flowers are followed by curious bottle-shaped, hairy fruits or seed pods, which turn a bright red by the autumn, and at this period of the year it proves a decided acquisition. Those who condemn the wild roses for their short flowering season should remember the autumnal effects of this peerless rose, for such it is, and years after some of the present-day hybrids have passed into the realms of obscurity R. Moyesii will still be held in high esteem by all lovers of the beauties of nature. Perhaps some may have just cause for complaint, because, unfortunately, a number of forms have been placed on the market, these being the result of increasing the plant from seeds.

Here at Castleford, Chepstow, we have fine examples of the original as shown by Messrs. Veitch, also another form with vieux rose flowers, the latter being nearly as good as the type, at any rate it is very acceptable, and proves that R. Moyesii when raised from seeds is a very variable plant. Since it has been discovered that seedlings are not reliable, grafting and budding has probably been resorted to, but we have also raised a few from layers. I have seen it stated that R. Moyesii is readily increased by cuttings, but this is the opposite to my experience, so if any reader has succeeded in rooting, say, 80 per cent., his methods would be welcome to at least one individual.

It should be stated that this rose is not suitable for the prim and proper rose garden. It needs space and freedom where it can extend, and for preference give it a spot where it can be viewed from various angles. It is not too late to plant, and where accommodation can be found buy five or six specimens and place them in a clump a few feet apart. No pruning is needed except the removal of dead wood and the reducing of any branches to keep it within bounds.

Like most roses, this species gives the best results in good soil rather on the heavy loamy side, but it is not absolutely essential, for I know of plants doing remarkably well

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in what gardeners call "brashy" ground. Such a rooting medium can be improved by adding a little clay and a liberal dressing of partly decayed cow manure. R. Fargesii may be considered a pink form of R. Moyesii for garden purposes.—T. W. BRISCOE.

The Hardy Pyrethrums.

PYRETHRUMS form one of the indispensable features of any herbaceous border worthy of the name, but their usefulness does not cease as worthy subjects for the position mentioned, for they are equally as useful and beautiful when planted in beds, while their value as cut flowers is proved by the quantities which are sold in the florists' shops during the months of May, June and July.

They thrive in any ordinary soil and position, although, like most other herbaceous plants, they delight in a deeply worked, medium loam which has been enriched by the addition of a liberal amount of well rotted stable manure. A rather cool rooting medium is advantageous, but should the soil be very light and sandy the incorporation of cow manure with it will assist in providing the requisite conditions, while a mulch of manure placed about the roots during hot weather will prove decidedly beneficial.

Opinion appears to be somewhat divided as to whether the best results are obtained from autumn or spring planting, but in my experience there is but little to choose between the two, and in wet districts or on heavy soils I would certainly advise that the latter course be followed. In any case there is no doubt that planting can be carried out with safety on any occasion when the soil is in a suitable condition up to the end of February. When planting take care to work some good fine soil in between the mass of fibrous roots so that a good start is ensured. In a border three plants placed triangle fashion will form a good clump; when planting in beds the best effect is obtained by only planting one variety in a bed.

Careful watch must be kept for slugs, otherwise they will devour all the young growth as quickly as it appears. Fine coal ashes spread on the ground around the plants will prevent their depredations and a dusting of soot applied at intervals will act as a deterrent.

The plants are greatly benefited during the growing season if they are given applications of weak liquid manure once a week. When the flower-stems begin to appear some light twiggy sticks should be inserted in the ground so that they will support the rather slender stems.

After the flowers have faded cut them off close to the ground and continue the applications of manure water. In this way a most welcome crop of flowers will be obtained during the autumn.

Pyrethrums are easily increased by division of the roots at planting time. Seed also proves a satisfactory method when single varieties are required.—T. H. E.

A Good Garden Rhododendron.

OF all the many rhododendrons which have been introduced from the East during the last thirty years there are only comparatively few suitable for the small garden, and of that few Rh. Augustinii is one of the best. It belongs to a series in the genus which has taken kindly to the conditions in the gardens, and those who are planting rhododendrons for the first time would be well advised to restrict their selection of rhododendrons to plants of this triflorum series.

This representative is of somewhat twiggy habit of growth, reaching 6ft. to 7ft. in average conditions. The blossoms, borne so profusely every year that it is best to disbud the plant, otherwise all its strength is gradually sapped away, are characteristic of the series to which it belongs. They are rather flat in appearance, with expanded petals and a short tube, and in colour they show extraordinary variation, from a pink and lilac to a form almost pure blue. All forms except that with lilac pink flowers are worth growing. The flowers appear just before the leaves or in a late season the flowering may synchronise with the opening of the leaf-buds during late April or the beginning of May.

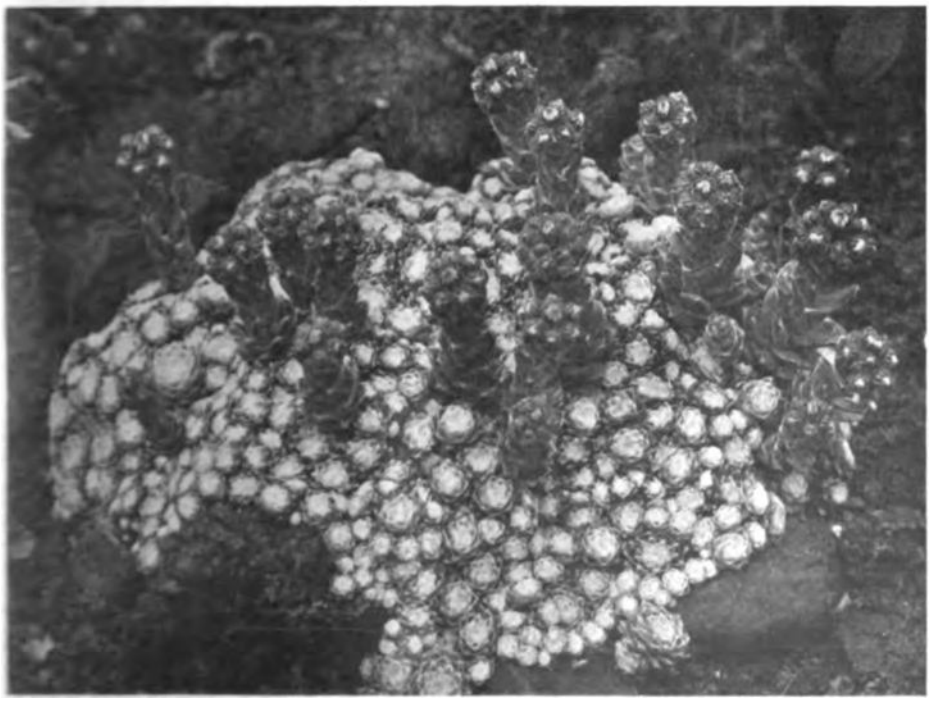
RH. AUGUSTINII IS EXCELLENT FOR THE SMALL GARDEN.

In this country it should be given a position which is fairly open and exposed to the sun, at least in all gardens in the north. In the south, however, like many of its relatives, it thrives best in partial shade in a medium to moist soil.

It is a most decorative shrub in spring when wreathed in its mass of blossom, and amateurs need have no hesitation in planting it, as it is a most accommodating grower and will respond to ordinary garden conditions and cultivation.—T.

The Spider Web Plant: Sempervivum arachnoideum.

THIS unique, interesting little plant is not seen at its best when planted on an ordinary rockery; for, although it is quite hardy in most parts of the country, it dislikes rain, and splashes of mud soon spoil the glistening cobweb covering each rosette. The accompanying illustration shows a colony flourishing on a dry rockery. When established this plant gradually spreads over the steep rock face, becoming rather crowded in the process. The rosettes vary considerably in size, and are composed of many leaflets, the tips of which are connected by soft silken threads, so thickly crossed and re-crossed as to simulate the work of an industrious spider. When a rosette gets a larger share of food and space than its neighbours, it increases in size, and the following season sends up a flower stalk about 4ins. to 6ins. in height, bearing a few starry, rosy red flowers which add much to the summer beauty of the plant. It is easily propagated by division, and multiplies rapidly, creeping along the crevices of a dry wall and forming masses over the stones. A native of central Europe and the northern mountains of Spain, it was introduced in 1699, being formerly grown in pots as a curiosity. —J. COMBER, *Nymans Gardens*.



A COLONY OF THE SPIDER WEB PLANT ON A DRY ROCKERY.

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ORCHIDS FOR THE AMATEUR

AT the present time there is a host of enthusiastic amateurs who are owners of a greenhouse which would be found quite ideal for the growing of orchids, and, moreover, the latter would be far less trouble than the miscellaneous collection of plants grown to-day, while the return in interesting flowers would more than compensate the grower for the small initial outlay necessary to furnish the house with suitable subjects. With care, they never need replacing; in fact, the stock will increase, and it will only be necessary to purchase from time to time up-to-date and improved varieties. Probably two slight alterations will be needed with the ordinary greenhouse: first, blinds of No. 2 canvas will be necessary, and the usual open stage must be covered with builders' slates or corrugated iron, on which is placed a thin layer of sifted ashes. This conserves the much appreciated moisture, and reduces watering to a minimum. The temperatures for orchids are: Warm, 70° Fahr.; intermediate, 60° Fahr.; and cool, 50° Fahr.; and for the amateur with only one house o. division the latter is recommended. In such a structure a variety of showy and easily grown orchids can be accommodated with success, the flowering period will extend over the greater part of the year, and, owing to this fact, the repotting will be done at intervals, thereby being very convenient to the amateur who does most of his gardening on Saturdays.

The Slipper Orchids.

For autumn and winter flowering there is a large number of slipper orchids (cypripediums), both species and hybrids, to choose from. First and foremost is the Sanderæ variety of C. insigne, with its primrose yellow and white flowers, and the bold spotted Harefield Hall. The twain are the cream of the insignes, and of the hybrids C. Leeanum in various forms is still in the front rank. A free-flowering, easily grown one is known as C. L. Clinkaberryanum, and a suitable companion is giganteum; both will develop into noble specimens with ten to sixty fine flowers.

In the spring, the chaste Cœlogyne cristata will furnish its quota of white flowers, while for the back or central stage the cymbidiums, with their graceful foliage and arching spikes of blossoms, will continue in perfection for several weeks. The lasting qualities of cymbidiums and cypripediums cannot be equalled by any other orchids.

The Cymbidiums.

A wonderful series of hybrid cymbidiums is now available at a reasonable rate, and two suitable for the beginner are Gottianum and Alexanderi. Among the species will be found eburneum, Lowianum and Traceyanum. A house could be filled easily with varieties of Odontoglossum crispum, of which there are both white and heavily crimson spotted forms. The closely allied odontiodas supply the reddish colours, which are lacking among the odontoglossums. They produce long arching branched spikes, of well proportioned blooms, and are decidedly popular. Three for the amateur to commence with are O. Bradshawiæ, O. Cooksonæ and O. Vuylstekeæ, all more or less marked with red. Lycaste Skinneri will succeed at the warmest end of the house, and Sophronitis grandiflora will thrive in small pans suspended by wires from the roof rafters. The drooping yellow Cattleya citrina may also be tried, but it must be grown head downwards and suspended. The cradle orchids, or anguloas, require the same treatment as Lycaste, and one of the best is A. eburnea; while A. Clowesii should be included. Ærides Vandarum is a choice pure white orchid resembling the hot-house Vandas, and it would succeed if grown on a raft, with a little sphagnum moss and peat arranged between the roots. All the above are worthy of consideration by the beginner or amateur, and if we reduce the number of groups to half a dozen they will be as follows: Cypripedium insigne, cymbidium, Cœlogyne cristata, odontoglossums, odontioda and Lycaste Skinneri.

A Few Cultural Details.

Any repotting should be done when the new growths are beginning to root, and this work will be necessary at intervals owing to the different flowering periods of the plants. Ordinary flower-pots are chosen, and filled one-third of their depth with drainage material, over which is placed a thin layer of rough peat or fibre. The rooting medium consists of Osmunda fibre 3 parts, and 1 part sphagnum moss, to which is added a 5in. potful of crushed crocks to every bushel of the mixture. Annual repotting is not necessary, and over-potting must be avoided, but enough space must be allowed for two years' growth. When a plant is overhauled, the back pseudo-bulbs are reduced to three immediately behind the lead or growing point. Careful watering is essential, and rain-water ought to be used.

Shade and protect the plants from strong sunlight, avoid cold direct currents of air passing over the inmates when affording ventilation, and keep them free from thrips by vaporising the house once every three weeks. The atmosphere is kept moist by sprinkling the floors and stages twice daily during the summer months; but in winter very little damping down will be required.

Give the orchids ordinary common-sense treatment, and success is assured.

T. W. BRISCOE.

THE KITCHEN GARDEN

Practical Tips on Sowing the Seeds.

CABBAGES, curly greens and others of the brassica family should be sown on a rather poor soil if the object is to provide a supply of sturdy seedlings to plant out. If sown on too rich soil the seedlings make a rank soft growth and do not plant out so well as plants that have made a slower growth. One ounce of seed will sow a bed of five or six square yards. Sow in the open in March or April; or in a frame in February.

When sowing peas, remember that 1lb. will sow a row 60ft. long. The same quantity of broad beans will sow a 50ft. row. Kidney and runner beans will plant at the rate of 1lb. to a 70ft. row. Sow in drills 3in. deep. Onions may be sown in rows 10ins. to 12ins. apart, using 1oz. of seed for 100ft. run. Leeks and carrots are sown at a similar rate. But we would advise sowing reliable carrot seed more thinly, if trouble from fly is expected. Sow at the rate of an ounce per 125ft. to 150ft. run, not too deeply, and cover the seeds with sifted soil and sand to a depth of about ½in. Sow carrots in rows 12ins. apart.

Parsnips will require 15ins. to 18ins. between the rows. Sow 1½ins. deep, using 1oz. seed for a 125ft. to 150ft. run. Parsley needs a drill only ½in. deep, 12ins. apart, and 1oz. of seed for 100ft. to 125ft. run.

One ounce of spinach or beet seed will sow a 50ft. run. The same quantity of lettuce and turnip seeds will sow 120ft. to 150ft. run.

The rate of sowing must be governed, it will be understood, by the quality and germination of the seeds, the season, climate and the character of the soil, its preparation and fertility. In a cold district, one must necessarily use more seed, especially if the soil is of a cold and unkindly character. Seeds sown in March rarely produce so many plants as the April sowings, because a larger percentage are likely to prove unfertile or perish. Never sow on a wet and pasty soil. Make the earliest sowings on the driest borders, or on specially prepared plots. It is well to sprinkle some fine sand over the early sown beds, as this helps to prevent the soil from caking on the surface.—J. W.

Dwarf Garden Peas of Merit.

THERE seems a disposition on the part of many who grow garden peas to confine their efforts to dwarf, or, at least, those comparatively dwarf, and to leave out of their arrangements the taller varieties. Every season the requests for dwarf pea seed become more numerous, so that to-day the grower has a number of sorts to select from. When one considers the cost of pea sticks needful for the giant sorts, as compared with prices of ten years ago, it is not surprising that quite a number of gardeners prefer dwarf varieties that only need, perhaps, a few strands of twine running along the row on either side, or fish netting, to keep the haulm off the ground. Apart from this, between dwarf sorts, one may grow other crops without fear that they will be unduly shaded, and the final reason, which weighs with many growers, is that dwarfs mature more quickly, so that one may, by taking advantage of sheltered positions in a garden, be assured of baskets of peas at the end of June or early July. Further than this, by sowing in succession one can continue gathering well on into September in a mild autumn, with more certainty at the back end of the year than is the case when taller sorts are taken in hand. It goes without saying that ground for dwarf peas needs as much preparation as for taller sorts, by deeply digging and manuring, and applying lime as may be found necessary. The owner of the small garden is alive to the importance of making use of every yard of ground, and to him dwarf peas appeal more than tall ones do, which are on his hands a longer time, and do not always bear crops correspondingly heavier. Most firms have their specialities in peas, but there is quite a number of really excellent old sorts that have stood the test of years and are grown throughout the country. Appended is a small selection, most of which are as popular to-day as when they were first introduced:

First Early.—English Wonder, 1½ft.; Peter Pan, 1½ft.; Little Marvel, 1½ft.; Dobbies Early Bird, 1½ft.; Pioneer, 1½ft.; Gradus, 2ft.

Second Early.—Excelsior, 1½ft.; Stratagem, 2ft.; The Daisy, 2ft.; Dwarf Defiance, 2ft.

General Crop.—Sharpe's Queen, 2½ft.; Sutton's Peerless Marrowfat, 3ft.; Veitch's Perfection, 3ft.; Senator, 3ft.—W. L. L.

A Hot-bed: Its Construction and Uses.

TO the gardener who only possesses a frame, or frames, in which to get things moving early, a hot-bed is probably the most useful acquisition in this respect, which can be used for various subjects after the "first earlies" are dispensed with. Two essentials are necessary in making a good hot-bed, *viz.*, the right materials and the correct method to employed in making it up. Good strawy stable litter and either oak or beech leaves, or a mixture of both are undoubtedly the best materials, while careful mixing of the whole, followed by building it up to the required size, treading it very firmly throughout,

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and, until nearly completed, always keep the "wall" slightly higher than the centre, all these points go towards a really good hot-bed. Whatever size the frame may be, an extra 2ft. 6ins. must be allowed all round, and the depth, 3ft. to 4ft. Assuming early carrots, radish, lettuce, cauliflower, Brussels sprouts and various annuals have been brought along by this method, a crop of cucumbers or even melons could successfully follow, after which violets could reasonably take their place for the winter months

When the bed is not required any further for these purposes, by which time it will be in a well decomposed state, it provides useful material for mixing with potting composts, top-dressing raspberry canes, mulching in hot weather, or may be applied to heavy ground with the object of making it more workable.

These many and varied uses to which a hot-bed lends itself, more than repays the initial cost of making it.—W. F.

Obtaining Quality in Root Crops.

MANY gardeners are now turning their attention to preparing certain vegetables for showing. Whether intended for show or for ordinary use, much may be gained by careful cultivation of crops. The intention of this note is to guide the amateur in the art of obtaining good quality root crops, such as carrots, beet, parsnips and turnips, etc. In the first place the ground must not be of a heavy texture, or such roots as carrots and parsnips will grow forked, as illustrated by Fig. 1, B, such specimens being useless for show purposes. In order to obtain good, well shaped carrots or parsnips, the first digging of the soil must be done deeply. After this, holes are made about 12ins. to 14ins. deep with a heavy dibber, which is well worked about in order to make a hole of fair sized diameter. The holes should be about 6ins. apart for shorthorn carrots, and 10ins. apart for long carrots and parsnips, and long beet should be 10ins. to 12ins. apart. After the holes are thus made, fill each one with good soil, such as potting soil well mixed with fresh ashes from wood. This done, drop three or four seeds at the top of each hole, as near the centre as possible, and lightly cover with a sprinkling of fine soil. When the seedlings are large enough, take out all but the finest specimen plant from each hole. This method certainly takes time, but if quality is desired, as illustrated by Fig. 1, A, it is well worth the extra trouble. The small holes which are left after thinning out should be carefully filled in, since carrot fly often makes use of such openings for egg laying on the root of the remaining plant. A little nitrate of soda will help the plants in their early stages of growth. The same method is employed to obtain good quality turnips or round beet. In this case the holes are best made with a trowel, after which they are filled up with prepared soil, as already stated. In dealing with turnips it is a good plan to sprinkle gas lime on the ground, allowing it to remain on the surface for a week before digging in. Gas lime is good for tending towards ridding the ground of the gall weevil which accounts for the patchy knobs on turnips, resulting in forms such as that illustrated by Fig. 2, B. By employing the foregoing method of sowing—two or three turnip seeds on the tops of prepared holes and thinning out to one per hole—well shaped specimens as illustrated by A, Fig. 2, will be easily obtained.—W. S.

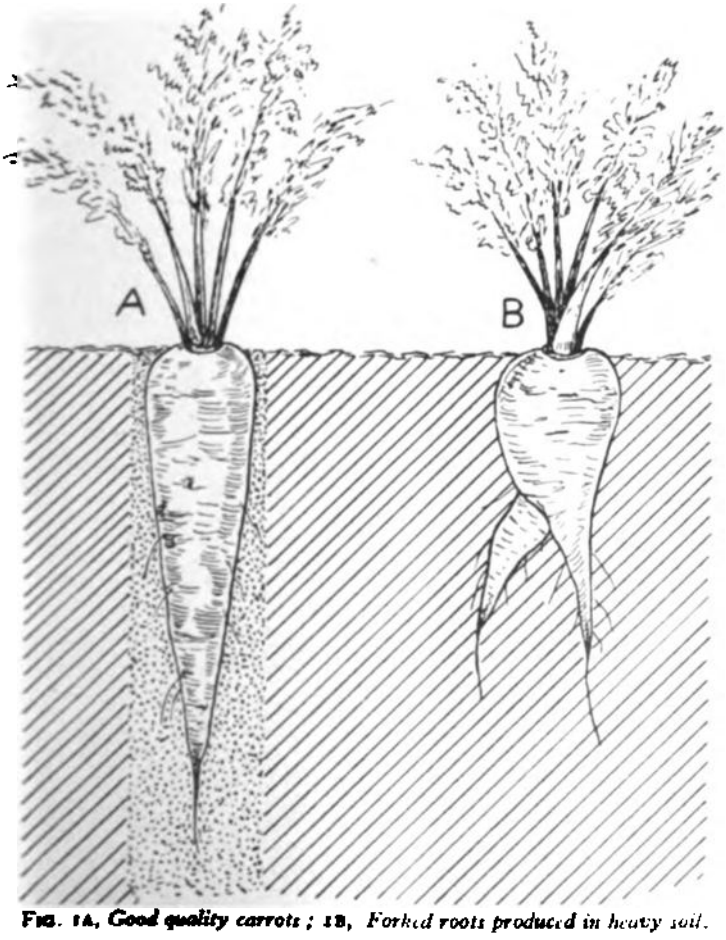

FIG. 1A, *Good quality carrots*; 1B, *Forked roots produced in heavy soil.*

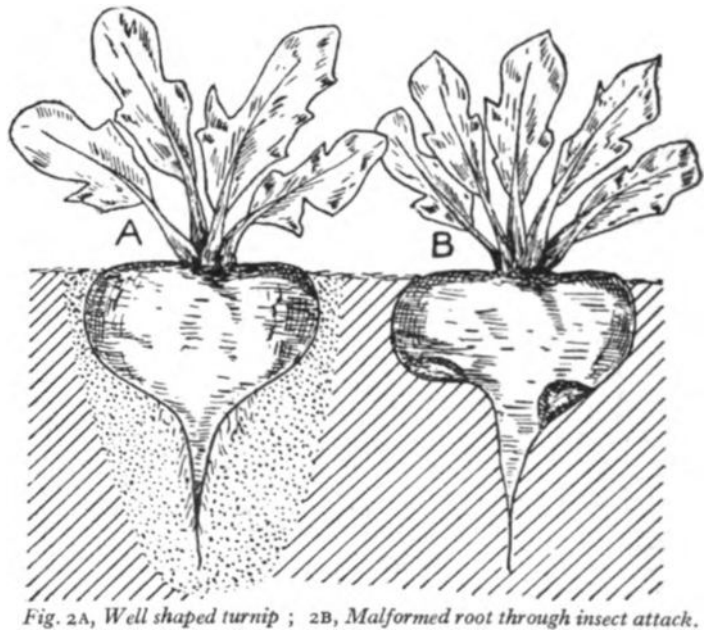

Fig. 2A, Well shaped turnip; 2B, *Malformed root through insect attack.*

Cabbages in Spring.

YOUNG cabbages possessing firm, tender hearts and deep green in colour on the outside always afford the cultivator a great deal of satisfaction. Those who grow cabbages for market do not spare the hoe. About once in ten days, when the soil is dry enough, the hand hoe or the horse hoe is used to loosen the surface soil only. It does not matter whether there are weeds or not, the hoe is used. Soil loosened in this way is warmer, and warm soil promotes early growth; the increased activity of the roots results in a similar increase of growth of the small inner leaves forming the heart of the plant. If this work is done on a large scale, it is equally advantageous to do it on a small scale, as, for the family, an increase in the size of the hearts means greater bulk of food. Nitrate of soda used at the rate of a teaspoonful to each plant twice during the spring, the first application now and the second early in March, will increase the growth of the leaves, improve their colour and the cooking qualities of the hearts. It is better to apply the nitrate in showery than in dry weather. But, in the case of a small plantation of cabbages, apply it as stated and then water it in. Keep the nitrate of soda away from the stems and sprinkle it evenly on the soil round each specimen. Do not drop it in a little heap by the side of the stem, and do not handle hearts intended for showing.—HANTS.

Plant New Shallots.

IT is an old assertion that shallots are one of the most profitable crops to grow, and it is one that will bear the test of trial, for a rod of good land should yield at least a hundredweight of bulbs, and as they have been selling lately at from 5d. to 8d. per lb., the produce from an acre would leave a very large profit.

Shallots require but a minimum of labour, for, planted in February or March on good, well worked ground, 6ins. apart, in rows sufficiently wide to admit of the occasional use of a 4in. Dutch hoe for keeping down weeds and stirring the surface, nothing further need be done until the bulbs ripen, generally about the end of June. Plenty of soot and wood ashes should be spread thickly over the surface of the soil, this will afford much protection against both rain and frost and help to prevent the latter from drawing the bulbs out of the ground.

Shallots are of much more general use than garlic, being less offensive in smell, and are used in soups, salads and other culinary preparations; while for pickling they are preferable to onions, being milder and of more delicate flavour. If, when the bulbs commence to grow, they are lifted by worms or frost, the soil around them should be pressed and made firm. After they have become fully established and well rooted, it is a good plan to draw the loose soil away with the hands, so as to leave the bulbs fully exposed, thus tending to prevent mildew and canker from setting in. When the tops turn yellow and wither, the clusters of bulbs should be lifted and spread out to dry thoroughly, after which they may be hung in nets, or stored in any airy room or loft.—R. D.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE successive "blasts of Janwar wind" which swept over Scotland in the closing days of the month left a deplorable record of havoc in their trail and forcibly postponed all early attempts at gardening to a later and more congenial season. As the ground is very wet some time must elapse before it is in a fit condition for digging, and a spell of dry weather accompanied by a few degrees of frost in the mornings would therefore meet the requirements of most amateurs. The days are stretching out quickly and by the end of February there should be sufficient daylight to permit of a little outdoor work in the evenings.

Meanwhile, there is no need to be idle, for there are several things to occupy attention and which may be accomplished in the greenhouse on a Saturday afternoon or in the cosy surroundings indoors in the evenings. Perhaps the most important work in February is the sowing of sweet peas. These indispensable annuals are sown in autumn for exhibition purposes, but the general and most satisfactory practice for ordinary garden work is to sow the varieties this month in pots or boxes and germinate them under glass. When grown on under cool conditions in a frame strong sturdy plants are available for transplanting in the open some time in April, and in a normal season the first blooms should be ready for cutting in early July. When a small collection, say up to twelve varieties, is to be raised, pots containing one to five seeds, according to the size of the pot, are most convenient; but I raise on an average thirty varieties annually and find that boxes of not less than 6ins. depth are more suitable for raising large quantities.

It is a common mistake on the part of sweet pea growers to make the soil too rich. This should be avoided, because it is neither necessary to the germination of the seed nor the growth of the seedling. All that is wanted is sufficient food to maintain it until transplanted in the open ground where the young plants will readily respond to the nourishment that has been provided for the production of foliage and flower.

Another point. As regards the necessity of chipping black or dark skinned seeds, such as the crimsons and maroons, considerable diversity of opinion exists. There is much to be said in favour of a simple operation which is undoubtedly followed with satisfactory results, but in the past five years I have obtained a total germination ranging from 91 to 96 per cent. without chipping the seeds before sowing. By germinating the seeds in gentle heat and providing an inch thick layer of sand on the top of the soil the risk of decay arising from too much moisture is reduced to a minimum, and few indeed are the losses which occur from that cause. When germination has taken place, I search each vacant space with the aid of a pocket knife until the seed is found. Generally speaking, the conditions which account for the non-appearance of the young growth on the surface are twofold—the seed has either germinated and grown downwards or it is found in as hard and sound condition as it was at the time of sowing. In the latter case a tiny portion of the skin is removed from the side opposite the "eye" and the seed put back in its place, when it germinates a little later than the others. Readers who possess means of supplying artificial heat should give the system a trial, but in the absence of warmth at this season of the year it is better to chip all dark seeds before sowing. When the seedlings have reached a height of 1in. to 1½ins., the boxes should be transferred to a cold frame and the plants grown on under cool conditions by gradually raising the sashes until they are removed altogether, only to be closed in very wet or frosty weather. On the appearance of two, or at the most three, pair of leaves pinch the top of each seedling. This will promote the growth of the lateral shoots and contribute to the production of strong bushy plants.

March is the earliest time in which culinary peas can be sown in the open ground in Scotland with reasonable prospects of success, and a simple calculation will show that the resultant produce should be ready for use about the middle of June. Cropping, however, can be accelerated to the extent of a month by sowing an early dwarf variety in boxes placed in a cold frame just now. The method of culture is very similar to that advised for sweet peas, and in small gardens with limited frame accommodation it will be found convenient to grow the two kinds together. Birds and slugs are the principal enemies, and it may be necessary to provide some form of protection from the one and a careful watch for the other.

Make firm by treading the soil surrounding the stems of rose bushes, and earth up spring cabbages, as the plants have become loosened by the forceful action of the recent gales.

ST. MUNGO.

WHAT OUR READERS SAY

WOODLICE IN GREENHOUSES.

SIR,—Some readers of THE GARDEN have been asking how to rid greenhouses of woodlice. Many gardeners also keep poultry. Where it possible to clear the greenhouse of all plants is and put a batch of young chickens in for a few days, the chicks will find and devour all the woodlice. This method of clearing the pest was tried here with great success during the spring of 1926. I found that soil fumigants had very little effect on woodlice. Another, though rather tiresome, method, but very effective in reducing their numbers, is to lay slices of potatoes or turnip down on the greenhouse beds. Examine the under sides of these each day, when many will be found, and can be crushed.—J. H. HARDSTAFF, *Northallerton, Yorks.*

THE TEMPTATION TO SOW OLD SEEDS.

SIR,—With reference to the note headed "The Temptation to Sow Old Seeds" (which appeared in your issue of January 8th), the writer enunciates three questions for consideration. To these three questions I now venture to submit three specific answers.

The questions which the writer states "naturally arise" are these:

(1) Are we ever justified in using old seeds in preference to buying new?

(2) Supposing they germinate, will they give just as good results as fresh seeds?

(3) Is it a paying proposition to make shift with old seeds?

The writer goes on to say that "These are questions which cannot be answered in the negative or affirmative without qualification, etc."

There is obviously much truth in the latter statement, but I, nevertheless, maintain, and doubtless you will yourself agree with me, that these three questions can and should be answered categorically and specifically by every really experienced gardener, somewhat as follows:

(1) Yes.

(2) Undoubtedly, where old seeds are preferable to new ones.

(3) Yes, where old seeds are preferable to new ones. In all other cases, No.

The reasons for these answers are apparent when we remember that parsnip seeds retain their full germinating powers for two years; carrots, leeks, onions, parsley, peas and salsafy for three years; beetroot, spinach beet, brassicas generally, mustard and cress, lettuces and round spinach, for five years; celery, cucumbers, endive, marrows and melons, for six years. It is, in fact, a mistake to use melon seeds of less than from three to five or even six years old, the idea being that the plants obtained from new seeds are usually so rampant in growth that they mostly fail to produce fertile blossoms, whereas the older seeds give plants of greater refinement and produce any amount of flowers of both sexes. Tomato seeds will retain their vitality for as many as nine years.

There can be little doubt as to the age of seeds obtained from any reliable seedsman, as the date of harvesting is clearly stated on the packets supplied. This, then, solves the whole matter, and automatically answers all three questions. It might be of interest to readers to know this.

Similarly, the question as to whether or not it is desirable to buy new flower seeds every year is automatically answered by knowing the length of time each particular kind of seed can be relied upon to retain is vitality, without in any way losing its germinative power. So far as I am aware, scarcely any flower seeds usually in demand are any good after their second year; in fact, the only ones for which I can vouch as being good for so long are sweet peas, balsams, wallflowers, tuberous-rooted begonias, stocks, cinetarias, gloxinias amd streptocarpus. The Persian cyclamen, however, gives best results from seeds over two years old, and home-saved seeds of Celosia plumosa have been known to germinate after eleven years. The above are the only exceptions at present known to me in the way of flower seeds which do not require renewing every year.—E. A. SAUNDERS.

SWEET PEAS AND STREAK.

SIR,—The letter from "C. H. W." in THE GARDEN for Feb. 5th, recalls a letter of my own which you published some months ago dealing with this subject. My object in writing was to collect as much information as possible dealing with this disease, to see if we cannot get down to something concrete as to its nature, cause and conditions that encourage it; and, finally, in hope that measures may be found to combat and, if not to exterminate, at least to control it and keep it down. Surely this is not an impossibility with the means that we have at our disposal to-day.

The result of my letter was not what I had hoped for, but I certainly received encouragement by a visit from a prominent gentleman in the sweet pea world, who is keenly interested in the subject, but as much in the dark about it as myself; but we mutually decided to carry on investigation, which I have already started upon.

In my letter I did not mention every detail that might possibly have bearing on the matter, because I had hopes that shoals of letters would have appeared and that other growers might have mentioned conditions similar to my own, which might form a basis on which to work. I had waited in vain until the letter of "C. H. W." appeared. His experience

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coincides with mine. On enquiry from other sources the answer is the same as that which he quotes—very little is known of the disease; we know its effects! I am afraid this will not help "C. H. W." very much, but trust that his letter may have the effect that we both desire.

It is to be hoped that those in the position to do so will seriously take the subject in hand. I will not believe it to be insurmountable, and surely it is serious enough to merit determined and definite action. I am out to do my bit towards it, but must confess to being very much in the dark at present.—C. H. H., *Twickenham.*

CORNFLOWERS AND SHIRLEY POPPIES.

SIR,—What will do in one garden—or with one gardener—will often not do in another garden—or with another gardener. Hence may I suggest that it is not wise to make such positive statements as "it is not possible to transplant Shirley poppies" (page 81, THE GARDEN, February 5th, 1927), and on page 82, "the cornflowers particularly resent transplanting."

For more than twenty years I have sown in the autumn, in a seed bed, outside, blue cornflowers and Shirley poppies. In the spring both were transplanted to the borders. The poppies had to be handled carefully, choosing a suitable day, etc., but with a little care I never had any difficulty. The cornflowers gave no trouble at all and I have often given them away to friends to plant in their gardens. Both cornflowers and poppies did well and made fine bushy plants. This is in the south-west of Scotland, inland, 300ft. up.—H. M., *Dalbeattie.*

NOVEL GARDEN PATHS.

SIR,—In your issue of the 8th ult. you have a very interesting article upon garden paths. Thinking it may interest many of your readers, I enclose illustrations of three separate paths I put down in my own garden last spring.

No. 1.—Originally this was a cinder path with the usual tile edge, but being upon the slope the ashes washed away badly after storms. This I paved with cobble stones about five years ago, the centre being across the path, but, being uncomfortable to walk upon, I pulled the centre up last spring and filled it in as shown. The bottom two oblong slabs are brown silica, the following are grey and red sandstone up to the circular stack stone.

A PATH FORMED OF SLABS OF STONE EDGED WITH COBBLE STONES.

AN OLD STACK STONE HAS BEEN INTRODUCED HERE.

No. 2.—Another path. Note the old stack stone with the yellow circular slabs surrounding it.

No. 3 is upon a slope, and coloured stones hold the narrow border up. The centre is filled with slate slabs, bricks laid in various patterns and a few tiles.

Getting the material together was very interesting work, cartage being the most expensive item. Eighty square 24in. red sandstone flags were purchased from an old manor farmhouse when they were taken up from the entrance hall and several circular stack stones at a cost of 40s. Twelve tons of "cast" blue and brindle slabs with a large number of bronze and yellow silica, several brown glazed pig spouts and sinks were purchased at 1s. 6d. per ton from a waste heap at a brick works, about the same weight of grey and red sandstone and broken concrete slabs were obtained from a closed builder's yard at 3s. per ton, and several stone and slate mantelpieces and shelves from the same source at a cost of a few shillings. Bedding the material was heavy work, but it was done with the knowledge that it would not require to be carried out a second time.—WATKIN SAMUEL, *Wrexham.*

MAKING A NEW GARDEN.

SIR,—In the examples of garden making which have been an interesting feature of recent issues the starting point seems always to have been a piece of ground rectangular in shape and of even surface (whether level or inclined) *in a condition suitable for immediate planting.* These advantages one may find if one buys land properly developed for building, or when a plot of arable or old pasture land is in question. But the business of garden making is neither straightforward nor easy when the land one buys, for want of better, is oddly—say triangularly—shaped, consists of rough grassland not free from nettles and other undesirables, slopes steeply and irregularly from end to end, and has a deep central depression from which, presumably, chalk was dug long ago.

Such is the writer's unenviable position, and he would very much like to know from any interested readers how he should set about ridding the ground of the coarse grass and rampant weeds, as presumably he must do before starting to plant shrubberies, shade trees and fruit trees—with which, in the main, he proposes to fill his acre, leaving space near the house site for rose walks and flower borders. Having had to pay a high price for the land, its conversion to a better state, before planting, must be effected as cheaply as possible.—NORTH HERTS.

THE CLIMBING GENTIAN.

(*Crawfurdia trinervis*).

SIR,—I was much interested in Mr. K. Yashiroda's letter on this plant and believe that he is correct when he says that it is practically unknown in English gardens. It may interest readers to know that this pretty plant is grown at Burford, Dorking, in the gardens of Sir William Lawrence.

I saw a few plants there last summer in small pots. They are given cool house treatment and are quite effective when bearing their purplish red fruits. I believe the plants mentioned were supplied by the Yokohama Nursery Co., Japan.

Crawfurdia trinervis is not mentioned in the Kew Hand-lists, nor can I find it offered in any seedsman's catalogue.—F. W. THORUS, *Kew.*

TRAPPING MICE AND VOLES.

SIR,—In your issue of December 11th last, you had an article on trapping mice. The methods described are doubtless effective enough to deal with the ordinary mouse. He and his family appear more or less as single spies; but the short-tailed mouse, which is, I believe, a vole, is in the other category, and comes in battalions. How is one to deal with him? Can any of your readers suggest anything more practical than encouraging owls and hawks, which I have been told to do, in the way of wholesale extermination. Poison gas does not seem workable, for these creatures appear to be up-to-date, that is, of a very restless disposition—always boring into fresh corners. My cat catches more than she can eat; I catch a few in traps, and there are owls in the vicinity. But the mice have the upper hand of all of us.

I shall be very grateful if any of your readers can give me some practical suggestions for destroying these pests, which do such harm to the crops in my garden.—W. P. PECHEY, *Brent Knoll, Somerset.*

COLOURED STONES, SLATES AND BRICKS, HAVE BEEN USED FOR THIS PATH

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Preserving Plant Labels.

It is a common experience that the action of damp soil soon makes the usual wooden plant labels quite illegible. The life of these may be considerably lengthened by following this method: Coat the labels with a good quality white paint, and before this is quite dry write the name of the plant. Put aside until thoroughly dry and then dip the entire label in shellac. The shellac when dry forms a transparent film which protects both the writing and the part of the label under the ground. A label thus treated will remain useful for two or three years.—W. A. W.

Top-Dressing Gentians.

Many fail to grow gentians, such as GG. acaulis, verna, sino-ornata, Farreri and similar species with any degree of success, and to those who have failed the following treatment is recommended: At this season the growths of G. acaulis are well above the soil and, consequently, are easily disturbed by the wind. Such patches should be cleared of weeds, the top soil lightly pricked over, and then given a top-dressing of leaf-mould and grit. Work it well between the growths, make it firm, and when the job is done the shoots will just show through the soil. In May the result will be seen in healthy, strong-flowering shoots. G. verna responds well to this treatment, and miserable specimens become a healthy mass in a few years. Both G. Farreri and G. sino-ornata are on the move, and these will benefit by a top-dressing now and another a few months hence. The chief point is to make the soil quite firm and get it well down between the growths.—S.

Increasing Choice Delphiniums.

Many amateurs are unaware that the best way to increase delphiniums is not by division, but by cuttings. These should be taken when the new shoots have made a growth of about 4ins. Fill a cold frame to a depth of about 6ins. with a compost of sifted loam 2 parts, leaf-soil 1 part, and sand 1 part. Firm down, leaving about 6ins. of head room at front. Sever the cutting near the stock and plant 2ins. deep, first dropping a little sand in the hole. Water well and shut up close for a fortnight. They will soon root, and may be allowed to flower, but not to seed. Transplant the following spring.—J. F. H.

Coltness Gem and other Choice Dahlias from Cuttings.

Cut old stem of tuber about an inch from crown, place tuber on 2ins. of leaf-mould, partly pressing them into it; have them on hot-bed, as bottom heat is essential both for starting tubers and rooting cuttings. When shoots are from 2½ins. to 3ins. long is the best time to take the cuttings. Sever the shoots as near the crown as possible, taking care to leave a small piece on crown, where others will start from. Cuttings this length are solid through; longer ones are often hollow and are useless. Compost for cuttings: 2 parts moss litter (passed through ¼in. sieve) 1 part silver sand, and layer of sand on top. Insert cuttings firmly, give a good watering, and *do not* cover with glass. Pot on, when rooted, into 3½in. pots. Fifteen plants per tuber is a small average by above method. All dahlias can be treated likewise.—G. McG.

Checking Carrot Fly.

In addition to advice given in your issue of January 29th: (1) *Never* thin or weed carrots except after rain; (2) Use the Dutch hoe once a week between the rows; (3) Scatter old soot around the young plants; (4) In prolonged dry weather spray young carrots with weak "Abol" solution.—E. M. W.

Light in Greenhouse.

After fumigation, the greenhouse glass becomes dull. It is imperative that this blueness or smoky film be removed in order that the young plants may get full benefit of all the light. If an eggcupful of methylated spirit be added to water used for cleaning the glass, it will not only expedite the work, but prevent the glass from getting into the same state for a considerable time. A trial will convince the sceptical.—T. H. H.

Trained Trees on Walls.

Possessors of new houses who decide to grow peaches, apricots, pears or other trees against the walls are strongly advised to begin by having four or five wires firmly fixed about a foot apart. The cost is small and it saves an infinite amount of time and temper afterwards. When shreds are used these soon rot and a rough wind tears the nails out, so that much time is spent replacing them, and both tree and wall are often damaged. With wires laying in new wood and keeping the tree trim and shapely is quite a simple and pleasant job.—K. B.

Raising Begonia and Gloxinia Seed.

Place some loam in a baking tin or something similar and place on the boiler fire to bake. It is an advantage to let the lower soil become burnt, as it is suitable food for seedlings. Then get some flaky *wet* leaf-mould and allow it to get very hot. I treat the sand the same. Pass loam through an ¼in. sieve and leaf-mould ¼in., then mix in equal parts, adding sand. The day before sowing place enough 48 size pots in water to soak all day, drain them off at night. Fill pots to within 2ins. of the top with crocks, place a little rough siftings over and 1½ins. of prepared soil, water with rose can to settle the soil. About an hour after, sow the seed, first mixing a pinch of sand with it to sow evenly. Two days after sowing dip the pots in warm water level with the soil *only*. Repeat this in a week, and if placed in a propagator I always look for germination in ten days, and am not disappointed. A piece of glass should be placed over pots and shaded with paper. The object is to keep the soil *very wet*, and the baking prevents the soil becoming sour—keeping good six to eight months. From a 2s. 6d. packet of Blackmore and Langdon's gloxinia seed last year I raised 300 seedlings in this way.—S. H. C.

GREENHOUSE NOTES

Pentstemons from Seed.

PENTSTEMONS make an effective display in beds and borders, and the flowers are suitable for cutting. From a good strain a variety of colours may be expected. Some may be worth preserving, and there is also the possibility of securing a form of special merit. Plants for flowering in summer and autumn may be raised from seed sown immediately and the seedlings treated in the same way as half-hardy annuals. They should be transplanted into boxes when large enough to handle, allowing room for them to develop freely till ready for planting out towards the end of May or early in June, after being hardened off in the usual way in a cold frame.—J. C.

Petunias from Seed.

PETUNIAS have always been popular plants in cold greenhouses, in cottage windows, in summer hanging baskets and, where conditions are suitable, in the open border. One reason for that popularity is that they are easily raised from seed and a note on the work is opportune, for the sooner the seed is sown the better; raised now, they will furnish bloom from June until the month of October. Fill a seed pan with good compost, consisting of loam, leaf-soil and sand, and let the surface be fine sifted stuff. Water, and after mixing the fine seed with sand or flour scatter it as thinly as possible over the surface; the smallest sifting of soil is sufficient to cover this seed, indeed some growers leave it uncovered. Treat this seed pan and subsequent seedlings like the others at present in the greenhouse, but, before the little plants become too crowded, transfer them to other boxes, if for bedding out, or into small pots if for greenhouse decoration; ventilate freely, keep near the glass and at the end of March or early in April, get them into the frame. Those in pots may, however, remain inside, being potted on in due course until they reach the 6in. size in which they will flower. Plants for outside may be kept in the frame until the beginning of June. Pinch all plants once, in the seedling stage, to promote branching. Ordinary single-flowered varieties are popular for bedding purposes and a fine range of colours is available; a compact-growing strain, which is only half the height of the former, is particularly fine for edgings and for filling pockets of the rock garden. Double varieties find more favour as pot plants, but they are equally good in the open; I might remark here that the smallest seedlings, apt to be overlooked, frequently become the finest plants eventually. A word in closing—most readers will need but a few plants and I urge the very best seed, even if it may be a trifle costly.—CLYDESDALE.

Gloxinias.

GORGEOUS greenhouse flowers, the gloxinias are usually raised from tubers or from seed. The former plan is rather expensive, for the tubers are fairly high in price, but it is a fine method of keeping up a succession; tubers are started, like begonia tubers, from the beginning of January, in successive lots and flowers can then be had early in summer and continuously. From seed, which should be sown this month, flowers are obtained later and, in this way, a long season of growth is secured. Shake out old tubers from their spent soil and place them in trays containing equal parts soil and sifted mould, the tubers merely resting on top. In the greenhouse, place this tray in a warm corner near the pipes; if a good high temperature (about 65 degrees) is not certain, put the tray in a warm propagator in which the air is kept moist; ventilate carefully to prevent the tubers from rotting. When 2ins. of growth develops, pot up singly in the same compost and still keep them in the same warm moist atmosphere. Shift them on two sizes

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and still again, when they will develop flower buds; when the first bloom expands let them stand out in the greenhouse, even where the temperature is much lower. Seedlings are raised exactly like begonia seedlings, in a warm and moist atmosphere (again about 65 degrees to 70 degrees). Great care is necessary in watering, the best plan being to dip the box into a tank of tepid water until the soil becomes damp; turn the glass over every day, to ventilate the plants. Prick out into other boxes and pot up singly when they become crowded, always keeping them in the same warm and moist atmosphere. We might add here, lest beginners be disappointed, that seedlings only flower late in the season and, then, not satisfactorily. The plan, however, is to keep the tubers throughout the winter, keeping them nearly, but not quite, dry all the time; pot up the tubers the following year as directed above and a wealth of blossom will be the result. Beginners can start with tubers just now or sow seed at once—good seed, remember.—LANARKSHIRE.

How to Grow Cannas for the Greenhouse and Garden.

THE canna is one of the most useful of all fine-foliage plants for the amateur to grow in pots in the greenhouse and also in the flower garden. In addition to the handsome leaves, the plants resultant from seeds of the newer varieties bear stately spikes of flowers, somewhat resembling those of the gladioli. Unlike the last named, cannas, when the flowers have faded, retain for a considerable time their beautiful leaves; they never are weedy or shabby in appearance in the flower garden. The seeds should be sown now in a good, loamy compost and, if possible, subjected to a mild and constant bottom heat. The seeds vary a little in shape, some being round and others almost oval. They are extremely hard and sometimes remain several weeks in the soil before germination takes place. Soaking the seeds in tepid water—

kept in the greenhouse—for two days, will soften the skin. The latter may be gently filed, as shown at *b* in the sketch *a*, the germ not being touched; this is very important. When sown quite 1in. deep and the same distance apart, in pots or pans, the soil must be maintained in a consistent state of moisture. Old roots should be started now by potting them separately in small pots. Leave the crowns, *c*, just clear of the soil *d*. When the roots, *e*, are growing and have reached the bottom of the pot, *f*, repot for greenhouse decoration, first into *g* and finally into *h*—a 7in. pot. The new growing crown *i*, must not be injured or the flower spikes may be malformed.—CHRISTCHURCH.

Raising Broad Beans Under Glass.

A REALLY early crop of broad beans is much appreciated, but the hopes of the gardener in this direction are not by any means always fulfilled. It is the usual practice for the earliest gathering to sow the beans out of doors in mid-winter, and so hardy are the plants that they rarely suffer from the effects of frost. On the other hand, snow, which may come on any day, often does a great deal of damage to the seedlings. In fact, after a fall of wet snow the young bean plants frequently die away altogether and those that remain are in such a poor condition that the crop is sure to be indifferent. It is really worth while raising the beans for the earliest cropping under glass. Here the plants will be able to grow on without any check, and by the time planting out comes they will be in an exceptionally robust condition. Quite a moderate-sized box filled with light fine mould will hold enough bean plants to occupy a good plot of ground. Fill the box to about two-thirds of its capacity with soil and then place the beans out, leaving about an inch and a half between each. Then cover with soil and, if this is moderately damp, no further watering will be needed. Broad beans in a water-logged soil rot very quickly, and this is often the cause of failure in outdoor planting. The box may be kept in a cool greenhouse or a frame, and there is no special advantage in having any heat. Of course, with a little warmth germination is more speedy, but as soon as the seedlings are up, the box should be removed to a cool place. Then a position close to the glass is essential, as it is most important to prevent the seedlings getting at all drawn. Planting out should be done from the beginning to the end of March. This is easily done by drawing a wide deep drill or setting the plants by the side of the line with a trowel. Lift each little plant with as much soil round the roots as possible, so that the removal may not impose too serious a check on growth.—S. B.

Some Hints about Seed Pans Boxes and Pots.

BEFORE we can possess satisfactory batches of plants to furnish our conservatories, greenhouses, and, in certain cases, beds in the flower garden, we must nurse them from the seedling stage onwards. This means obtaining a stock of pans and boxes suitable for the sowing of seeds and the rearing of seedlings. Pans and pots are, usually, quite safe as regards any fungus growth. Boxes are not, especially those that have been used in previous years. All vessels, therefore, should be quite clean, especially on the insides. Furthermore, the pots and pans and also all crocks used for drainage, must be dry when used. Boxes should be stored in a dry shed and the insides painted freely with hot lime-wash at the time of storing. If that was not done, then you should lime-wash them at once. Now, we will consider how these receptacles should be used, taking flower pots first. At

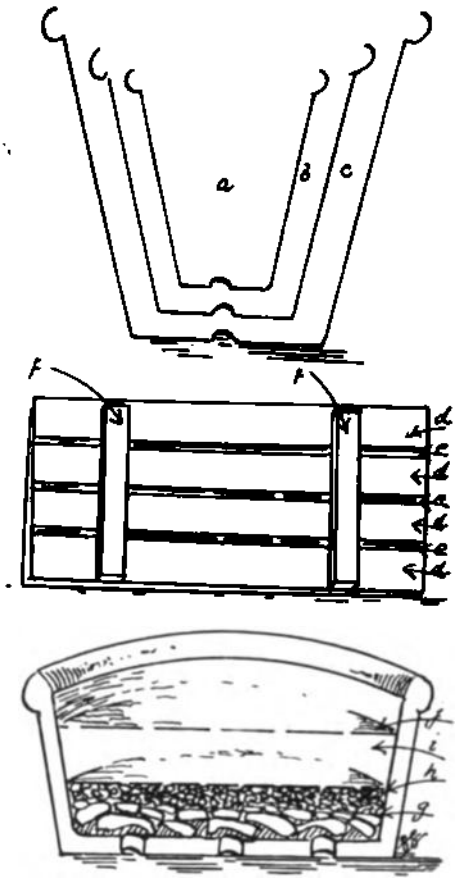

Fig. *a*, a small pot is shown. A young plant in such should be potted on into size *b* and, in due course, to size *c*. These repottings are the usual ones that an amateur does during the summer months, flowering the majority of his pot plants in size *c*—a 6in. pot. The bottom of a box is of the most importance; *d*, *d*, *d*, *d*, represent the boards with a small space, *e*, *e*, *e*, between to ensure drainage. This is a better plan than making round holes. The crossbars, *f*, *f*, bind together the boards and preserve them from a damp base. The seed pan is prepared as shown, namely: *g*, drainage material, *h*, rough compost, *i*, fine compost, and *j*, a level surface to receive small seeds and far enough from the pan's rim to allow resultant seedlings room in which to grow under any covering glass placed on temporarily.—GEORGE GARNER.

The Orchard House.

CHERRIES, apricots and plums are best grown in large pots, so that they may be removed to the open air for a time after the fruits are gathered. The house, in the meantime, can be used for something else. Of course, fruit trees in pots do take up considerable space, but an ordinary-sized house will accommodate one or two specimens of each kind. The present is a good time to purchase the trees in pots, as they have been properly wintered by the nurseryman. The trees of the kinds named above should be subjected to a mild artificial heat now. It is only necessary, at first, to keep the ventilators closed and to syringe the branches each morning when there is no frost, and on bright days at noon as well, so that the buds may be softened and the young shoots grow more kindly. When the first few leaves form on the shoots syringing should cease. The necessary atmospheric moisture can be obtained by damping the path and borders.

Peaches, nectarines, pears and apples should be placed in the orchard house now.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Plants for a Rockery in Semi-Shade.

I shall be much obliged if you could suggest some suitable plants for a small rockery situated near the north wall of my bungalow—it gets a little late afternoon sun in summer and is otherwise cool. Soil is clay, with gravel drainage below. The plants would not have to be too rampant, space being limited. Naturally, I prefer, if possible, to have varieties which will not all be in flower during the same season of the year.—L. B. F., Southend-on-Sea.

We give below a list of plants which would be suitable for a rockery such as you possess: Saxifraga umbrosa, S. ligulata speciosa, S. hypnoides, S. decipiens grandiflora, S. d. sanguinea, Campanula Portenschlagiana (Muralis), Myosotis alpestris, Primula japonica and P. Bulleyana, Anemone blanda and A. nemorosa, Aquilegia alpina, Epimedium pinnatum, Gentiana septemfida and G. asclepiadea, Polygonum vaccinifolium, Viola cornuta, Pulmonaria azurea and P. saccharata, Polygonatum latifolium, Helleborus orientalis, Corydalis lutea, Meconopsis cambrica, Anemone Hepatica, Trillium grandiflorum.

The Care of Plumbago capensis.

Three years ago I planted a young Plumbago capensis in a 5in. pot in a greenhouse from which frost is excluded. The plant has grown vigorously with three stems some 12ft. long, with side shoots both numerous and long, but it has not shown the slightest indication of bloom. Can I do anything to make it bloom.—W. F., Birmingham.

We cannot understand why your Plumbago capensis does not flower, as this plant usually flowers freely, even when quite small. The side shoots should now be pruned back to within two or three eyes of the main shoots; the subsequent growth made from them should flower this season. The main stems should be staked out to allow plenty of light and air to get to the growth. The plant would also benefit by being moved into a larger pot, say 8ins., as a 5in. pot is really too small for the size of your plant. The best time to repot it is when it has just started into fresh growth. Although fine specimens can be grown in large pots, the plant is seen at its best when it is planted out in a bed or border, and the shoots trained up under the roof glass.

A Quick Growing Climber for an Exposed Site.

I should be obliged if you would tell me of any suitable evergreen climber, quick grower, to cover a trellis about 7ft. high. The soil is heavy loam and the screen faces north-west, but is in a very open position. If possible I should like something that will grow with climbing roses, as at present there are a few planted here. Something rather close is wanted to shut out a bad view.—J. F., New Milton, Hants.

We suggest that you try Lonicera Halliana, which we think will be very suitable for the position you mention.

Shrubs and Climbers for a Small Front Garden.

Our front garden is only small, about 20ft. by 16ft. We have privet surrounding it, with a golden yew 18ins. high in the centre of a grass plot. While we do not want to overcrowd the small space available, we thought that four small evergreens at the corners would be an improvement and have considered silver euonymous for that purpose; the uneven wandering growth of the specimens obtained would not, however, fit in with our scheme. Can you suggest any slow-growing evergreens which might be suitable? We do not favour boxwood. Can you suggest a self-clinging evergreen to grow up a rough-cast wall facing north, please? A flowering evergreen would be preferred. If there is any difficulty about this, could you give the names (with colours) of any suitable variegated ivies?—A. D., Edgware.

We suggest that you plant Cupressus Fletcheri in the four corners to which you refer. There is nothing self-clinging that would grow up a wall facing north. We suggest that you try the following: Hedera Helix angularis aurea, H. H. Sheen Silver, H. H. Lee's Silver and H. H. hibernica maculata.

Compost for Maidenhair Fern.

Will you tell me how to make up a suitable compost for maidenhair ferns?—F. A., Shrewsbury.

Maidenhair ferns grow best in a compost consisting of two-thirds fibrous loam, the other third being made up of good leaf-mould and well decayed manure to which fibre and coarse sand have been added. The loam should be broken up into a lumpy condition, but should not be sifted. The leaf-mould, on the other hand, should be sifted to take out the rubbish. The compost should be pressed fairly firmly about the roots of all plants, but less tightly about those which are quick growing. They are best repotted about the month of March, when the young fronds are being produced.

Climbers for a Bungalow Wall.

I want to grow various climbing plants on each wall of my bungalow, and have already bought three white jasmine, two yellow jasmine, two Virginian creepers and one Clematis montana. The walls of the bungalow are about 20ft. long. This bungalow village is situated on an alluvial flat exposed to the south-west wind, and the south side of my bungalow is draughty at times and partly shaded by my neighbour's bungalow. Could you please let me know whether the climbers I have are too many and which plants are most suitable for the different sides? Is it true that climbers are apt to make the rooms damp? The bungalow is built of concrete.—E. C., Uxbridge.

We advise you to plant the climbers you have bought in the following positions: South.—Clematis montana, one white jasmine. North.—One yellow jasmine, one Virginian creeper. West.—One white jasmine, one yellow jasmine. East.—One white jasmine, one Virginian creeper. Being built of concrete, climbers will not make the walls of the bungalow damp, and there should be ample room for the eight climbers. You can prune accordingly.

Pampas Grass and its Needs.

Please give cultural information about this plant and say whether the flower fronds should be cut or "pulled," and, if the latter, when. Would the plants be injured by removing the flower stems as soon as the bloom is fully developed?—F. C., Flitwick.

The pampas grass thrives best in a deep, rich loam, preferably on a gentle slope facing south and sheltered from the north and east winds. While growing, plenty of water is required. The flowers—plumes—should be cut just before autumn frosts. Dried leaves, settling near the centre of the clump, should be removed, as they choke the plant if left year after year. In a prolonged spell of severe frost, wrap mats round the clump.

Pruning of Clematis.

Will you kindly tell me how to cut back the following clematis, and also the correct time to undertake the work: 1, montana; 2, rubra; 3, Jackmannii; 4, lanuginosa; 5, Lady or Beauty of Lyons; 6, Nellie Moser.—E. C. S., Bristol.

(1) C. montana should be pruned immediately after flowering in May. Var. rubra should be treated in the same way. (2) The one you call rubra may be Proteus; thin out, removing weak wood and cutting off old flowering wood on which there are no young growths after flowering, which will be about August; remove very thin ends of long shoots in February. (3) Jackmannii should be pruned hard in February, cutting back all last season's growths to within 6ins. of old wood. (4) C. lanuginosa: remove weak twigs in February and shorten the thin ends of very long growths; cut out old pieces on which there are no young growths. (5) This may be Ville de Lyon, with carmine red flowers; prune and thin fairly hard in February. (6) Nellie Moser should be treated in the same way as lanuginosa.

Perennials for a Rough Stone Wall.

I have 120ft. of stone wall 5ft. high and 2ft. thick, the sides dressed and pointed, but the top of large rough stones with many pockets. Kindly give me a list of plants suitable for this wall top. Free-flowering perennials of a hanging habit are what I have in mind, but would try any suitable subjects you recommend for this position.—J. H. W., Corstorphine.

Small rock plants as well as fairly large trailing perennials will flourish in a rough stone wall if the pockets of soil are of reasonable size. Antirrhinums, wallflowers and Cheiranthus Allionii (the Siberian wallflower) would all succeed. Other suitable plants are: Aubrietias in variety; armeria in variety; Cerastium tomentosum; Dianthus in variety; Sedum rupestre, S. spathulifolium; Alyssum saxatile; Arenaria montana; Acantholimon glumaceum; Gypsophila repens; Iberis sempervirens; Saponaria ocymoides; Thymus in variety; Phlox subulata; Lithospermum prostratum Heavenly Blue; Saxifraga hypnoides.

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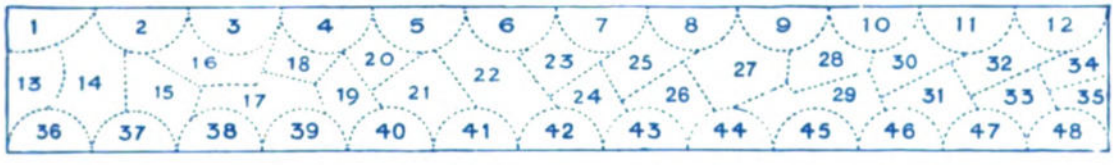

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Continued from page iii.

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THE GARDEN

VOL. XCI.—No. 2882. FEBRUARY 26, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

The Day of the Hardy Plant.

LECTURING recently before the members of the Glasgow and West of Scotland Horticultural Society, Mr. John Highgate, Dankeith, Kilmarnock, submitted a number of practical hints on the culture of herbaceous plants which will be found helpful to amateur gardeners.

There is no doubt, he said, that this is the day of the hardy plant. The infinite variety of form and colour was more appreciated than ever before and for adaptability there is no other class of plants that can compare with them. Large numbers are perfectly at home in sunny positions, others flower equally well in shade, while another class will revel in damp and moist situations. A carefully thought out and judiciously planted border with the colours arranged to harmonise will produce a picture that will give pleasure for many years and that with the least expense of all styles of gardening.

Regarding the very debatable point whether we should plant in autumn or spring, the lecturer suggested that the deciding point should be the nature of the soil and climate. More plants were lost through dampness than anything else and in a cold, adhesive soil he would defer planting till the spring, although disastrous effects resulting from a long spell of drought in that season could not be overlooked.

Reviewing the plants found in a representative collection, Mr. Highgate began with the stately delphinium, which was recommended for autumn planting. The dying off of plants during winter and early spring was due to slugs, which made a practice of eating out the dormant shoots and as a remedy he suggested that the crowns should be covered with 2ins. of finely sifted coal ashes worked well down in the hollow parts.

As regards the Caucasian scabious, it is useless to plant it in soil that is inclined to be stiff and adhesive. Half of our troubles with many choice hardy plants could be attributed to cold, wet soils and in the case of the scabious it would only flourish in a well drained light soil with full exposure to the sun.

The herbaceous phlox should not be planted in close proximity to trees or shrubs, because they do not thrive among a collection of stronger growing plants. In the earlier stages of growth thin out all weak and superfluous shoots and apply a liberal top-dressing of manure in summer so that the plants may not suffer from drought.

Montbretias require a little more attention than is usually bestowed on them. They like a light sandy soil that has been deeply worked with well rotted manure and leaf soil. Where most growers fail, particularly in cold and wet districts, is by leaving them in the ground through the winter. It is better to lift them towards the end of October and store them in boxes among sand, where they will be free from frost. In mid-February divide them up, retaining only the strongest bulbs, which should be put into ordinary cutting boxes and started gently into growth.

Herbaceous peonies are not fastidious as to soil and are perfectly hardy. As they send down their thong-like roots to a depth of 3ft. or more, the ground should be trenched to that depth and peonies being gross feeders, the soil must be heavily manured. They resent frequent disturbance, but when this becomes necessary the work should be performed not later than September.

Michaelmas daisies do not receive the attention they deserve. How often does one see large clumps about a yard through with poor miserable flowers, yet when regularly replanted and carefully staked, they form a fascinating sight. Replant almost every year, selecting only a strong shoot from the outside of the group and if the soil is in anything like good heart they will give splendid results.

Gaillardias growing in cold, wet soils will be all the better for some protection in winter, as they are inclined to damp off under these conditions. Eryngiums succeed best in the open and the torch lilies should have their own leaves bound round them as a protection in winter. Unlike most plants the more the blooms of heleniums are cut the longer they seem to flower. Helianthus should not be planted extensively among other plants as they have a nasty habit of spreading their tubers in all directions under ground and so become a nuisance.

This Week's Work

Sow seeds of Brussels sprouts thinly on a mild hot-bed, and cauliflowers on a warm border.

Sow a few rows of onions, spinach, and turnips outside.

Prepare seed beds for hardy annuals.

Start tubers of bedding begonias in a warm greenhouse.

Prick out seedlings of annuals and vegetables raised in the greenhouse.

Finish planting any herbaceous perennials and shrubs.

Prepare coverings for protecting fruit blossom from frost.

Plant some shallots.

Sow some tomatoes in pans of light soil in a greenhouse.

The New Alpine House at Wisley.

THOSE who are interested in alpine plants, and the number at the present time is numerous and seems to be increasing yearly, would be well repaid by visiting the new alpine house at the Royal Horticultural Society's Gardens at Wisley. This house, which has been recently erected on high ground near the Meterological Station, is from its position and structure admirably adapted for the cultivation of alpine plants. The house is now furnished with pots and pans of well grown plants of healthy and vigorous appearance. Among the numerous forms of Saxifraga Burseriana now in flower probably one of the most fascinating is the variety known as S. Burseriana crenata, with its cushion-like habit of growth and pure white flowers which are beautifully crenulated. It is a delightful subject for early flowering. S. B. Gloria, S. B. tridentina, S. B. major and S. B. Kestonensis are all represented by well grown plants. Others of the rockfoil family include many pans of S. lilacina from the Himalayas, which is just coming into flower. Among hybrids mention ought to be made of S. Riverslea, S. Lady B. Stanley, S. Ada and S. Perle Rose. S. Tranzi is a pretty plant just opening its yellow flowers. S. Kellereri is one of the best of the early-flowering hybrids, and is represented by a well grown pan. S. Sundermanii, a charming cross between marginata and Burseriana, is very freely flowered. That exquisite species S. Rocheliana with its dense rosettes of silvery leaves is also a charming plant for pans for early flower.

Beside the saxifrages there are many other plants of interest to the alpine enthusiast. Morisia hypogæa is one of the most desirable of alpine plants with its bright yellow flowers rising very little above the tufted foliage and should be in every alpine house; incidentally, it may be mentioned slugs are very fond of this when planted in the open. The charming Primula Winteri is represented by a few pots, but this is seen to better advantage in a nook in the rock garden facing north, where established plants are flowering most profusely. From the foregoing it will be seen that visitors to the gardens will find the early alpines a source of interest at present.

The result of our Crossword Puzzle competition will be found on page xvii.

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THE PRINCIPLES OF JUDICIOUS PLANNING

MOST garden lovers, I venture to say, are well acquainted with Miss Gertrude Jekyll as an influential writer on horticultural subjects. Has she not truly said: "Gardens may either be fashioned into a dream of beauty, a place of perfect rest and refreshment of mind and body; a series of soul-satisfying pictures, a treasure of well set jewels; or they may be so misused that everything is jarring and displeasing: to learn how to perceive the difference, is to apprehend gardening as a fine art."

How often do people walk round their garden and realise that something is wrong, in spite of all their care and attention: somehow they do not get the effect they want. Very often one hears the remark that "We must do something to get some colour and shade into it," and then forthwith proceed to make certain alterations in order to achieve their aim. Flower beds are made here and there, trees planted, lawns laid, etc., only to find in a year or two that the trees are in the wrong place, that the flower beds have to be altered, that the tennis court would have been better elsewhere. Then begins the heart-rending business of uprooting trees, moving the orchard, transplanting the flower beds, and re-laying the tennis lawn: and all, perhaps, to no purpose.

Several years have probably been wasted, a great deal of labour and money expended, and, instead of a beautiful garden growing up before our eyes, confusion alone reigns.

Haphazard design and planting may not always be obvious at once; but it will be there. And there will always be a sense of dissatisfaction that something is wrong, which will just spoil the whole effect.

The majority of amateur gardeners have, at some time, to make a new garden, and really, it is a task that gives the enthusiast endless pleasure when the job is undertaken in a systematic and prudent way. The best method to follow, undoubtedly, is carefully to plan the whole thing out on paper first, to a suitable scale. The plot of land in question must first be surveyed, all measurements being taken, with notes on any irregularities that may occur out of the square, and not forgetting to indicate clearly the north point, which is most essential.

Any undulating portions with approximate variations, should always be stated. This having been done, it is quite an interesting job for a winter's evening to plan out the garden of your dreams in the comfort of your home.

Having decided on your scheme in your mind's eye, proceed to reproduce that vision in black and white. A piece of three-ply wood about the size of your dining-table is quite suitable for the purpose, as the lines can be first chalked on as a preliminary measure; any lines that are not required can easily be wiped off with a damp cloth. When, however, the scheme is considered correct, proceed to rule in the lines with a black pencil, only more accurately this time. It must be remembered that the scale should be arranged from the measurements taken on the site, to suit the confined space of your improvised drawing board. It does not matter whether it is an ordinary villa plot or a site several acres in extent; by a little calculation one can soon make a scale rule suited to the purpose.

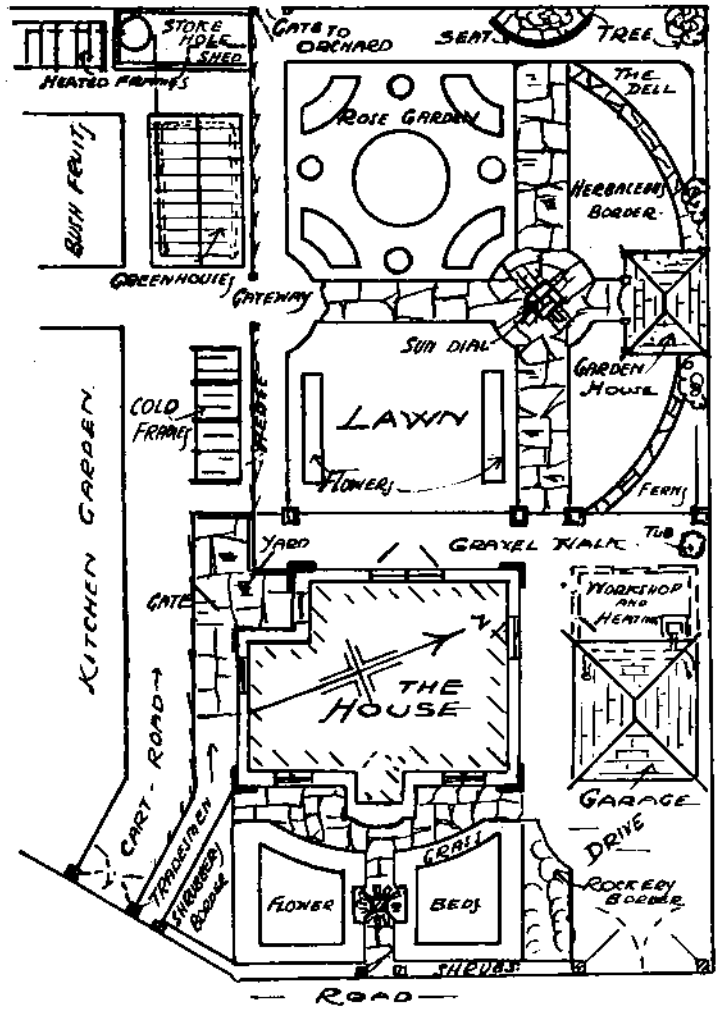
Some may prefer to cut strips of paper, to represent the various paths, lawns, borders, and so forth, and to place them in different positions on the lay-out, to get the effect of them collectively.

If the scheme is a large one it may take years to develop properly, but this does not matter; proceed to plan it as though the whole thing was to be completed in a season. Once the plan is made, whatever part is commenced first can be done thoroughly and permanently, and as, year by year, another section is completed, you have the satisfaction of knowing that you are adding to the beauty of the whole. Nothing, in my opinion, is more demoralising than to find, after a lot of hard work and expense, that we must start altering something that is in the wrong place.

There is often a tendency among amateurs to try to arrange the plan of construction as the work proceeds; but this procedure generally spells disaster and dissatisfaction.

The scheme under consideration in the accompanying plan is on an irregular site, being at the bend of a road; this, naturally, gives great scope, and many original features have been suggested therein.

Immediately opposite the front entrance of the house, a paved stone walk forms an imposing approach; ornamental flower beds are arranged on either side of the central path, with a grass verge 18ins. wide bordering them. On one side of the flower beds a triangular shrubbery border is arranged in the corner, which can be made both useful and ornamental, if a little care is exercised when planting. On the opposite side, a rockery border is constructed and should give much variety to the front drive. A garage is indicated on the plan, with a lean-to workshop or power-house suggested at the rear portion. These buildings, however, may be later additions, but should be clearly specified on the plan of the garden in order to reserve these sites; the same applies to other features in the garden that require a special location or aspect.



The kitchen garden is divided from the tradesmen's entrance by a macrocarpa or other dense hedge; a cart track leading from the road serves the utility portions of the garden, and it is quite worth the space it occupies from a labour-saving point of view.

A spacious rose garden is allotted a very prominent and sunny position, also a range of pit lights, greenhouse and cold frames. A combined stoke-hole and potting-shed is in close proximity to the scene of activities. Another 6ft. hedge separates the kitchen garden from the pleasure garden, and an archway formed in the shrubs serves as an entrance from the flagged walk which separates the lawn from the rosary.

A broad herbaceous border occupies a good space, in which is recessed a garden house. Narrow curved paths of stone bisect these borders, the smaller portions being reserved for shade-loving plants and ferns respectively. The broad walk is composed of brick and stone, with an ornament as a central feature. Large trees are indicated on the plan, as it is suggested that they shall remain standing in this case. A good deal of discretion, however, should be used in the arrangement of beds and borders in conjunction with big trees, for reasons which are obvious.

Any garden buildings or important features that are anticipated for future innovations should be clearly marked "proposed" on the plan, so that these sites can be reserved, but used temporarily as seed beds or nursery ground, etc., as circumstances arise.

Land drains, sump holes and all accessories that form the component parts of the general lay-out should be defined on the drawing, so that when the actual landscape operations are in full swing, no valuable time need be lost discussing various points; the book will be open to all concerned.

Good proportions are a predominating factor in the planning of most things, especially gardens, and simplicity of design combined with judicious planting adds greatly to the amenities of the garden beautiful.

The house may be excellently built, but if the garden is wrong the house will look wrong also, and the result will be just as bad as a beautiful picture badly framed.

GEO. W. HALL.

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PEONIES FOR THE JUNE BORDER

IT would not be easy to point to a hardy herbaceous plant which has received more attention at the hands of specialists than the peony, or one which has made such rapid advances in the estimation of garden lovers. One of the oldest of plants, it was represented for long by one or two sorts—red and white—being found mostly in country gardens. The very beautiful array of both double and single hybrids we have to-day in such glorious colourings, we owe to the painstaking, persistent work of the specialist, and in this connection we couple the name of the firm of Kelway of Langport, who were among the first in this country to appraise their worth, and to whom we are indebted for many choice varieties. I remember in earlier days that it was looked upon as a great mistake to attempt to remove or interfere with a peony, once it had become established, because of an idea then prevalent, that it took years for plants to get over the disturbance. It was only part of a truth, however, as, although when once planted it is not advisable to remove them more than is absolutely necessary, it has been proved, that given proper soil and right quarters, these plants get over their shift much more quickly than most people imagine. While it is an advantage to do any planting in autumn, it may be said that March is not too late, providing the ground has been prepared.

ONE OF THE CHOICE MODERN SINGLE VARIETIES.

Soil.

For herbaceous peonies this should be rich and deep, and the site they are to occupy ought to be trenched 2ft. deep, and good rotted stable manure, leaf mould and loam well incorporated. If the existing ground is known to be poor, then the soil should be removed, and the fresh, as suggested, substituted. They are plants which will thrive in sun, or partial shade, and in the latter position the display of bloom is of longer duration. For their advantage, it is always best to apply a good mulch of old manure on the surface some weeks before the blooming period; this tends to keep the roots cool, and is of great value supposing the season be dry.

Value of Flowers for Cutting.

Both single and double sorts include many that are possessed of charming tints, and are delightful for cutting for vase decoration. Some commence to flower in May, while others are in full beauty during June and early July, being enhanced by a wealth of foliage in bronzy green and metallic colourings setting off the superb flowers to perfection. The blossoms should be cut before they are fully developed.

Fragrance.

Those planting peonies for the first time are usually drawn to them by the exquisite beauty of the flowers, and sometimes overlook that they have another attribute, *viz.*, that of perfume. It is a subtle fragrance surely, embracing the sweetness of some roses, and the winsomeness of a violet—not easy to describe, yet there all the same.

Watering.

Peonies will take copious supplies of water and in the case of recently planted clumps, it is important that they should not be permitted to suffer from dryness. Established clumps will also benefit by applications of liquid manure once or twice a week when approaching the bud stage.

General Remarks.

It ought not to be overlooked that these hardy flowering plants, are really *very* hardy, severest winters affecting them but little; that they make a garden very gay before the bulk of summer flowers appear; that they will do well in partly shaded positions in a garden, and in the second year after planting some will begin to bloom and add grace and beauty as the years go on. So purchase some of these beautiful perennials and plant them in your garden during the next few weeks.

Varieties.

It is a task to select from so large a number of present day sorts, those for planting, when so many are lovely. No blossom is more gorgeous in the garden in late spring and the first flush of summer than the peony. No plant, once established, is easier to grow.

From the many superb sorts to-day, the after-mentioned are but a few, and there are others equally beautiful.

Singles.

The Queen, white and blush.
Lord Morley, crimson purple.
Conquest, bright rose.
Duchess of Sutherland, flesh.
Adam Bede, crimson maroon.
Pride of Langport, peach pink.
Bridesmaid, pure white.

Doubles.

Agnes Mary Kelway, light rose and yellow.
Santoin, rose self.
James Kelway, white.
Birket Foster, crimson scarlet.
Langport Triumph, lilac and white.
Duke of Devonshire, deep rose pink.
Lady Romily, flesh.

W. LINDERS LEA.

PEONIES IN FULL FLOWER IN THE EARLY SUMMER BORDER.

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SOME SCENTED HARDY ANNUALS

MOST familiar among the hardy annuals—they are not very many—that have perfume as an addition to their attractions is mignonette. Of this, many people are firmly convinced that the common sort is the sweetest; but, as a matter of fact, although some of the so-called "improved" varieties introduced some twenty or thirty year ago were rather lacking in scent, the newer ones, such as Sutton's Giant and Barr's Covent Garden Favourite, are to the full as rich in odour as the old type. The Giant Mignonette is 18ins. high, and is best grown

THE ANNUAL PINK IS ONE OF THE MOST FRAGRANT OF HARDY ANNUALS.

in a bed by itself, or in large patches in a broad border; most of the others are about 1ft. in height, but the red-flowered variety, M. Victoria perfecta, is only 8ins. tall and makes a charming edging or carpeting. Other scented annuals sufficiently dwarf to be used for either of the purposes named are sweet alyssum, all brands of which have a delicate honey scent markedly perceptible under a hot sun; the blue woodruff, Asperula azurea setosa, the perfume of which is more elusive than that of the white perennial variety but is very pleasant; and—less well known than the two just mentioned—Eucharidium Brewerii, which has very pretty rose-coloured flowers. Like all the tribe of pinks, Dianthus Heddewigii is sweet-smelling, but the strength of the perfume is more noticeable in some varieties than others.

The scent of Centaurea moschata, better known as Sweet Sultan, is to some people objectionable, heavy and cloying, but at a little distance whiffs of it are undoubtedly delicious. The seed is generally sown in mixture, but that of the different colours—white, mauve, purple and yellow—can be had separately and usually comes fairly true. Sweet Sultan, especially the giant strain, which is from 1½ft. to 2ft. high, is excellent for cutting, the flowers lasting a long time in water. The best results are got from autumn sowing in the open, preferably in soil that has a good deal of lime in it. The sweet scabious (purpurea), otherwise Mournful Widow, is now obtainable in colours that are far from being mournful—scarlet, blue and purple to wit, as well as white. It is really a biennial, but it is wisest to treat it as a half-hardy annual, raising it in slight heat and planting out the seedlings in May.

There are three plants which should always be grown near the house so that their scent may be fully enjoyed through the open windows on summer evenings. The first is Nicotiana affinis, a gawky grower, but the delightful perfume of its snowy flowers when they open at dusk makes ample amends for this defect; the second is Œnothera odorata, a yellow-flowered evening primrose about 3ft. in height, which is a hardy annual, not a biennial or perennial as are most of its relations; and the third the night-scented stock, Matthiola bicornis (otherwise tristis).

The orange-coloured flowers of that pretty cousin of the wallflowers, Erysimum Petroffskianum, are agreeably scented. It is about 15ins. in height, and it thrives best in a dry, fairly warm soil, as does Schizapetalon Walkeri, the fringed white blossoms of which smell strongly of almonds, especially after rain. It is not quite so tall as the erysimum, and should be sown where it is to bloom. All the members of the stock family are more or less scented, but the only one which can be regarded as an annual is the ten-week type, and that is only half-hardy. R. E. H.

Sweetly Scented Sweet Peas.

OF course, one cannot say with absolute certainty, but most probably sweet peas owe the first half of their name to their scent, one of the most charming qualities a flower may possess. One is often asked the question, "Do modern sweet peas possess the perfume of the old-time favourites?" To some flower lovers fragrance is an asset greater than either colour or form, while many consider it at least of equal importance.

Taking an average of all sweet pea varieties, it is a fact that the newer varieties of the Spencer or waved type are not so *strongly* scented as the old grandiflora or plain standard kinds, such as Lady Grizel Hamilton, Black Knight, King Edward VII, etc. Some would prefer the light and perhaps somewhat elusive fragrance of the present-day varieties.

There are, however, quite a number of varieties of the better class sweet peas which retain nearly, if not quite, the volume of perfume usually associated with the grandifloras. Curiously enough in similar colours, the degree of fragrance is similar, that is, the scent of all lavender varieties is of about the same strength. This peculiarity allows us to divide or classify the different colour classes into at least three sections, which for convenience I will term the highly fragrant section, the fairly fragrant section and the non-fragrant section. In each fragrant section, after naming the colour class, I will mention one or more first-class varieties of that colour.

HIGHLY FRAGRANT COLOURS.

Purples.—Royal Purple and Purple Perfection.

Maroon.—Warrior and The Sultan.

Mauve.—King Mauve and Mauve Beauty.

Lavender.—Powerscourt, Wistaria, Mermaid, Austin Frederick Improved, Wembley and R. F. Felton.

Blue.—(Light) Blue Butterfly. (Medium), Heavenly Blue, Mrs. Tom Jones and Bluebird. (Dark) Commander Godsal and Jack Cornwell V.C.

Crimson.—Sybil Henshaw, Charity and Unwin's Crimson.

Rose.—Sunset (Bolton's), Empire and Private Jack Smellie.

Carmine.—Renown and Mascott's Ingman.

Pink.—Only the pinks without orange or salmon in their composition, such as Hebe or Miss Philadelphia, would I classify in this section, the remainder are only "fairly fragrant."

FAIRLY FRAGRANT COLOURS.

This section is by far the largest.

White.—Only dark seeded varieties such as Constance Hinton and Giant White are fairly fragrant.

Blush.—As a rule the deeper the tone of colour the stronger its perfume. Elegance, Valentine, Felicity and Dainty Maid.

Pink.—Supreme, Hawlmark Pink, Hawlmark Salmon Pink, Tom Sykes, Mrs. Chas. W. J. Unwin and Pink Perfection.

Cream Pink.—(Light) Venus, Cecily and Mrs. Arnold Hitchcock. (Deep) Picture. (Salmon) W. J. Unwin, Miss California and Magnet.

Flushed (both on white and cream grounds).—Mrs. Horace Knight, Carmelita, Del Monte, Queen of Roumania and Britannia.

Picotee.—(On cream) Jean Ireland and Improved Jean Ireland. (On white) Youth and Annie Ireland.

Bicolour.—Bonfire and Mrs. Cuthbertson.

Lilac.—Lilac Queen.

Stripes.—Birdbrook, Senator, Spencer Twinkles and Lady Gay.

Cream and Ivory (all black seeded.)—Ivory Picture, Daffodil and Leslie Rundle.

Orange Pink.—Crusader, George Shawyer and Royal Pink.

Orange Cerise.—Grenadier, 2 L O, Royal Scot and Pimpernel.

Orange Scarlet.—Mammoth and May Unwin.

Orange.—Wizard, Royal Sovereign and Guinea Gold.

Cerise.—Charming, Centaur and Coralline.

Salmon.—Gold Crest and Melba.

Scent in sweet peas is most pronounced during warm weather and greater in the evening than in the early morning. As far as I have observed, culture makes little or no difference, exhibition or cordon grown flowers seem to possess as much perfume as those grown naturally.—C. H. A. S.

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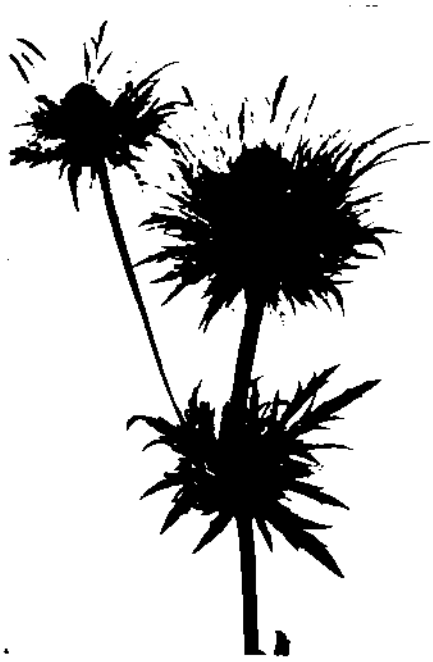


THE SEA HOLLY.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

THE EVENING PRIMROSE.

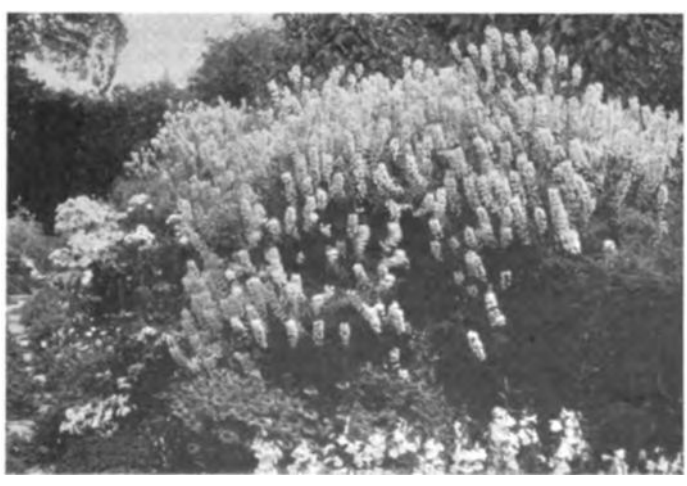
Eryngium (Sea Holly). THESE are among the hardiest of herbaceous plants for border planting and valued owing to their thistle-like flowers or bracts, which are of metallic colourings, some steely blue, that are at their best from July to September, and last for a considerable time after they have been cut. On this account they are serviceable along with other "everlastings" for winter decoration. The requirements of eryngiums are few and may be summed up in good ordinary soil, which should be well drained, and a sunny position. Heavy wet soils are fatal to the plants. Favourites as back row plants and growing 2ft. to 3ft. in height, they ought to be given sufficient room clear of other things. The stems are as beautiful as the bracts, having an attractive, glistening appearance. Eryngiums can be increased by root cuttings taken in spring and planted in a cold frame or pans of light, sandy soil, or from seeds sown in spring, but as the plant has a propensity for self sowing, the question of sowing seeds is not often considered.

Galega (Goat's Rue). THE galega is a herbaceous hardy perennial, often met with in town and suburban gardens, bearing freely numerous pea-shaped flowers in blue and lavender and white, from amid a wealth of fine foliage. It is a plant which invariably does well in the hands of an amateur and will thrive in any ordinary garden soil helped with manure occasionally. It loves a sunny position and grows into a very shapely plant in a border—suitable for a back row. It ranges from 3ft. to 4ft. in height and should be given that room between its neighbours. Propagation is by division of roots in the autumn, or spring; from cuttings of the young shoots taken when 3ins. or 4ins. long in July or August, and inserted around pots of sandy soil placed in a cold frame, or from seed sown out of doors in light soil in May. The galega grows rapidly and should be split up every two or three years.

Godetia. AN annual which has come to be looked upon as almost indispensable in a number of gardens in connection with summer arrangements. They have a wide range of colour, and yield both double and single flowers; some are dwarf, about 9ins. in height, and are being appreciated more every year for bedding purposes. Others are from 2ft. to 3ft. in height, and are good for planting on the front of the shrubbery border or at the back of mixed borders. Seed may be sown in heat in March in pans of light soil, but this is not absolutely necessary unless plants are wanted to bloom early, as sown in a cold frame in April, or even on a warm well drained border towards the end of the month, one may have a show of the blossoms from July and onwards for many weeks.

Œnothera (Evening Primrose). THE œnotheras are represented by perennial, biennial and annual forms, and though they are commonly considered as evening bloomers, some of them yield their flowers by day. Among the perennial sorts there are both white and yellow, some of quite a dwarf habit (6ins.), others rising to 2ft., useful for the rock garden and borders. A moderately rich soil, inclined to be sandy and well drained suits them. In cold, heavy soils they often die off in winter. March is planting time. Seed sowing should take place in April in the open ground, or cuttings can be taken in August or September, planted in pots of sandy loam and wintered in a cold frame. Annual sorts should be sown out of doors in April in a border having a warm and sunny position. Fragrance, rather delicate, is one of the characteristics of the evening primrose.

Aubrietia. A VERY great favourite for the rock garden for planting in niches on stone walls or for use as an edging plant is the aubrietia. It is found everywhere, as it accommodates itself to most soils so long as they are well drained. It does not like a heavy soil, but thrives best in a medium or sandy one. Few rock plants in their flowering season, which is May and June, bring a greater wealth of blossoms or are so vivid in colour. Growing only about 3ins. or 4ins. in height, they are useful for filling crevices between garden paths. Propagation is of the simplest, either from seed, which can be sown in the open ground or in pans in sandy soil in April or May; from cuttings taken near a joint with a particle of the old stem and dibbled firmly in the ground; or by division of plants. Both the latter operations can take place in July. It is important that until roots have formed shade should be afforded. In clothing a stone wall it is best to adopt sowing rather than attempt cuttings, and if a little of the compost is made ready and a few of the seeds scattered about it and then forced into the crevices, more success follows this plan than to attempt cuttings, which sometimes get dried up through lack of moisture in elevated positions. If the soil is very dry, it will be an advantage to damp it before pressing it in the wall spaces. Started on these lines, little difficulty is experienced in clothing a wall with aubrietia.



THE GOAT'S RUE (GALEGA) IS A FINE HARDY, BUSHY AND FLORIFEROUS PERENNIAL FOR BORDER PLANTING.

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THE BUSY MAN'S PAGE

Six Good Shrubs for Spring Planting.

Berberis Darwinii.—A small evergreen which bears brilliant orange flowers in April and plum-coloured fruits in the autumn.

Buddleia variabilis Veitchiana.—A fine tall-growing shrub with greyish foliage and handsome spikes of purple-violet flowers borne during the summer.

Ceanothus thyrsiflorus.—A blue-flowered evergreen shrub for the house wall. It flowers in May and June.

Deutzia scabra.—A deciduous shrub for the small garden. It bears clusters of pure white flowers in May.

Kerria japonica fl. pl.—This shrub bears masses of double orange-yellow flowers. It is suitable for planting against a north wall.

Philadelphus Lemoinei.—A neat-growing mock orange of 5ft. in height which covers itself with sweetly scented white blossoms.

Daisies on the Lawn.

IT is generally accepted that an abundance of daisies on the lawn is a sign of barrenness, of a lack of plant food and of a certain sourness demanding treatment. Nothing will improve lawns in a bad state through the above better than a dressing of lawn fertiliser, a little bone meal or a feeding mulch of sifted manure, leaf-mould or rich soil. At this time of the year top-dressing of artificials will prove best, for various reasons; apply 3oz. of lawn fertiliser per yard, selecting a good artificial brand, bone meal or guano, let the grass grow rather long and then mow for the first time with a scythe. Daisies in isolated patches, however, are a real pest of all lawns; spudding out is often a tedious job and not always effective, but light, repeated dressings of lawn sand or suplhate of ammonia or copperas (sulphate of iron) actually works wonders. Apply such on *dry* evenings; by the morning the dew will have dissolved much and the daisies will be blackened. Repeat a little later, when the effect of the chemical is disappearing (through lapse of time or rain) and the weeds will gradually disappear; 4lb. sulphate of ammonia, 1lb. copperas (both in fine powder) and 14lb. to 6lb. sand makes a very fine "daisy-destroy." which, while doing that good work, also feeds the grass. It must not be overlooked that the removal of daisies may leave bare patches; if so, tear the surface loose with a rake, scatter seed and cover with a little sifted soil, then roll. Should a starved lawn not be in use for a time, it may still be possible to scatter some horse litter manure over the daisy patches; this must be stirred with a broom weekly and the residue completely removed at the end of a month. Such treatment leads to the formation of a fine, springy "mat," and materially reduces the incidence of the pest.

If Your Ground is Very Light.

WHERE ground is of a very light, porous nature, on which crops suffer badly during dry weather, it is as well to defer the digging until after the turn of the year. Then something must be done to bring the ground into better condition, so that it will be firmer and more compact of texture and thus retain the moisture more completely. In dealing with very light ground, many gardeners concentrate too much on the upper spit. As a matter of fact this is not the one which calls for the most attention in these cases; actually the subsoil, or second spit, must be dealt with, for, if this remains extremely porous, the treatment of the top layer of the ground will not be of much avail. The top spit should be turned on one side and all energies directed towards making the subsoil firm and more impervious to water.

A very good way of dealing with very light ground is on the following lines. Dig a trench from 6ins. to 10ins. deep, according to whether shallow or deep rooting plants are to be grown. Two feet is a suitable width, and the soil which is removed should be wheeled to the other end of the border and kept for filling up the last trench. In the trench thus exposed spread a thick layer of moist cow or pig manure, soft vegetable refuse, or anything that will form a damp mass for binding the loose soil together. About a barrow load to every 6yds. or 8yds. of trench should be allowed. Dig in this material well, not merely burying it, but working it uniformly into the subsoil and finally trampling it down to consolidate the mass. Open up another trench similar to and alongside the first, putting the soil on the top of the subsoil already treated in the first trench. Repeat the operation described with the second trench and continue the process until the whole of the land has been treated.

A week or two before planting, the top spit of ground may be lightly forked over and some manure added. Good short dung can be used with good effect, or one or other of the artificial fertilisers at the rate of 2oz. to 4oz. per square yard might be employed. When dry weather comes the roots of the plants pass downwards to the more retentive subsoil, where they find the moisture that they require.

THE BLUE-FLOWERED "CALIFORNIAN LILAC," CEANOTHUS THYRSIFLORUS.

House Plants.

GREEN plants, such as ferns and foliage, respond at once to a dose of castor oil applied to the roots; a dessertspoonful for a good-sized plant. Sardine oil also is excellent, containing phosphates. Do not use the cheap sort, as that often has much salt.

Keep your bulbs watered after flowering, till the leaves dry off naturally. They store food for next year in their leaves. Then dry the bulbs and replant in September.

In winter once a week may be all the watering necessary for house plants, but in warm weather and when in flower, twice a day may not be too much. Knock the pot with the knuckle; if it sounds hollow, give water.

If the leaves turn yellow, too much water has been given, or there is a wireworm at the root.

When repotting, use only the next size in pots, and plant firmly at roots and sides.

If you put plants out of doors to water, be careful that they are sheltered; pots are porous (if clean!) and the roots easily get chilled. Put them on a board or grubs and worms will creep into the pot.

All About Pots.

WHERE flower-pots are made, a certain amount of clay is called a "cast," and the number of pots which can be made from this "cast" is the number by which the size of the pot is known. Thus 12's implies that the cast has been made into twelve pots. Generally speaking, a flower-pot measures the same in depth as in diameter across the top. The common sizes are as follows:

"Thimbles" are 2ins. in diameter across the top and 2ins. deep.
"Thumbs" (72's) are 2½ins.
Sixties (60's) are 3ins.
Forty-eights (48's) are 4½ins.
Thirty-twos (32's) are 6ins.
Twenty-fours (24's) are 8½ins.
Sixteens (16's) are 9½ins.
Twelves (12's) are 11ins.
Eights (8's) are 12ins.
Sixes (6's) are 13ins.
Fours (4's) are 15ins.
Twos (2's) are 18ins.

Bigger sizes of pots are made, and here the depth is usually a little less than the top diameter. The idea of making a pot wider at the top than at the bottom is in order to facilitate the removal of the specimen with a ball of earth round its roots. In addition, the wide top part ensures that the largest amount of soil will be where the roots are most plentiful. Glazed pots are not really so good as those of ordinary make. The only advantage is that in the non-porous pot the soil keeps moist for a longer period and so watering need not be so frequent. As against this there is a danger that the soil in such pots will become sour owing to the way in which the water tends to stagnate.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Lilies in Boxes and Pots.

I HAVE seen a pretty red lily, Lilium rubrum, flowering freely in one of London's inner boroughs, and it is frequently grown by those who have no gardens other than boxes and tubs. Nearly all the lilies will give good results grown in tubs, or large pots. The varieties usually grown in this way are: auratum (gold), speciosum (pink), longiflorum (white), and regale (golden white).

The secret of successful lily culture is good drainage. They cannot be grown in soil that is waterlogged, and borders to receive them must therefore be deeply dug. If pots are used, they should be deep, and should be well supplied at the bottom with drainage crocks, over which a potting compost of loam, flaky leaf soil and sand mixed in equal parts should be used. Sharp sand is particularly desirable, and a little of this just under the bulb when it is planted will be appreciated. The pots or tubs should remain in a cool place while the roots are forming.

Border Lilies.

A SIMILAR soil to that advised for pots should be used for lilies in the border. It should be well trodden, the bulbs then placed in position, a sprinkling of clean sand round them, and more soil filled in to the level of the rest of the border. The bulbs are best planted a foot apart, in groups of six or seven, the site being immediately marked with a stick to prevent disturbance. Most lilies enjoy shade at the roots, and are therefore quite suitable for planting among dwarf plants, such as violas, alyssum, etc. Although hardy, lilies benefit from a sifting of coal ashes round the stems in winter. This keeps them both drier and warmer and also prevents slugs from attacking the young shoots in spring. Decayed leaves put round the plants during dry weather make the soil conditions equal to those in the natural state. This is a point worth emphasis. It is always safe for those in doubt on the culture of any plant to try to reproduce the conditions which obtain in districts where it grows in a wild state. It is usually when we fail to do this that the plants do not thrive.

For a very shady garden, the Turk's Cap lily should be selected, but for a sunny garden the following varieties will give a wide range of colours: croceum (orange lily, 3ft.), tigrinum (tiger lily, 3ft.), candidum (Madonna lily, 3ft), auratum (Japanese golden rayed lily, 5ft.), speciosum rubrum (red Japanese lily, 3ft.), testaceum (Nankeen lily, 5ft.).

Starting Dahlias.

ONE of the best plants for a town garden is the dahlia, and amateurs who have kept their tubers from last year should now take them out of store and clean them. It is best to start dahlias into growth before planting, and this allows for increase of the stock of favourites. Use a wooden box, about 6ins. deep. Cover the bottom with a layer of decayed leaves 1in. thick. Stand the tubers on to this, taking care, if several sorts are together in the same box, that they are labelled. Then cover them 1in. deep with sifted leaf mould, water and protect from frost. This can be done by standing the box in a frame on a mild hot-bed or in a warm greenhouse. When the young shoots begin to grow, admit air on all favourable occasions. The shoots, when about 3ins. high, can be made into cuttings. The cut should be made horizontally, immediately below a joint. The cuttings root readily in a sandy soil if covered with a piece of glass, or a bell jar. These should be grown on carefully, with not too much forcing, and they will form sturdy plants to put out in the open border in May.

Dahlias can also be increased by dividing the tubers, taking care to retain a piece of tuber with each shoot. These can be grown in pots in a sunny window until they are ready for planting out. The worst enemy of the tubers is the slug, and these are best treated by dressing the soil occasionally with a mixture of soot and lime.

Planting and Pruning Fruit Trees.

IN planting fruit trees, use the previous soil mark as the guide of the depth at which to plant. Spread out the roots evenly, cutting away bruised and damaged portions. Fill in a little light soil over the fibrous roots, and tread it fairly firm before filling in the remainder of the soil. Do not forget that newly planted trees and shrubs *must be staked.* Otherwise they become loosened by winds. If plants arrive during frost, cover the roots with moist soil, and leave them until the frost breaks. Just before growth commences, shorten the side shoots about one half their length, *cutting to an outside bud.* Never prune fruit trees without looking for an outside bud, or the result will be shoots which cross each other and keep out the light and air from the centre of the plant.

To pick good fruit from small trees and bushes in the town garden is quite a possibility, as will be seen from the illustration of apples growing at the back of a mixed flower border. In a small garden, the selection of kinds should be made very carefully. Apples are useful, but care should be taken to plant either self-fertile varieties or those which flower at the same time and will pollinate each other, say James Grieve for dessert and Bramley's Seedling for cooking. Loganberries, black currants, raspberries and gooseberries are all profitable crops in the small garden.

Intensive Cropping.

THE French gardener has practised intensive cropping for many years. He commences this work in the springtime, and arranges for three crops. From the frames cabbage lettuce are planted out, 10ins. apart. At the end of March, cauliflowers are set between them.

As the lettuce is removed, spinach or radishes can take its place. The cauliflowers should be ready at the end of June and late carrots or celery can follow these. Such rotations can be made in endless variety and I will give a few suggestions of vegetables which can be cropped in the order given on one piece of ground, in a year.

1.—Second early potatoes (sprouted), cabbage, coleworts, lettuce, broad beans.

APPLE TREES IN A TOWN GARDEN.
The varieties which are growing are Stirling Castle and Lane's Prince Albert.

2.—Early peas, second early potatoes, Brussels sprouts, winter spinach, onions. (This would make an excellent rotation for those with a limited space given to vegetable culture.)

3.—Shallots, broad beans, broccoli, short-horn carrots. (Keep some straw or other light covering ready to protect these from frost in autumn.)

Some crops, turnips, radishes and annual spinach, like partial shade, between, say, rows of peas, or celery trenches. Keep the soil drained well in winter and moist in summer (this means deep digging), to keep the plants well supplied with food, to protect from frosts, and to exercise patience and care in planting out the crops. Sow thinly, prick out early, see that roots go down into the holes naturally and not doubled up, and plant firmly. Do not overcrowd and never waste space.

The owner of even a small garden can, by adopting the methods briefly indicated, obtain a constant supply of vegetables in a plot set apart for the purpose, without encroaching too far on space wanted for the flower garden.

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A BED OF TEN-WEEK STOCKS.

BEDDING PLA

In recent years, plants and schemes for summer
No longer must we follow the stereotyped arrange
the introduction of a few sub-tropical cannas
development of many of our annuals and biennia
extended. In the following article will be found
seed sown now and which will be found to lend c
The amateur should lose no time in making his s

THE high cost of tender bedding plants like geraniums and begonias has led to a change in the occupants of our summer beds. Gardeners are realising that there are hosts of equally beautiful flowers that may easily be raised from seed at home, and this at a fraction of the cost incurred when buying the usual bedding plants. Readers who possess a heated greenhouse will find it very fascinating to grow their own bedding plants from seed, besides having the satisfaction of knowing they are saving money at the same time. All the following plants are easily raised, and should be sown in shallow boxes in a warm greenhouse from now onwards, being, of course, hardened off in the usual way before planting out.

Verbena.—Among the most showy of all annual plants, with fragrant heads of richly coloured flowers. The trailing growths should be neatly pegged down, so that they will cover the largest possible space.

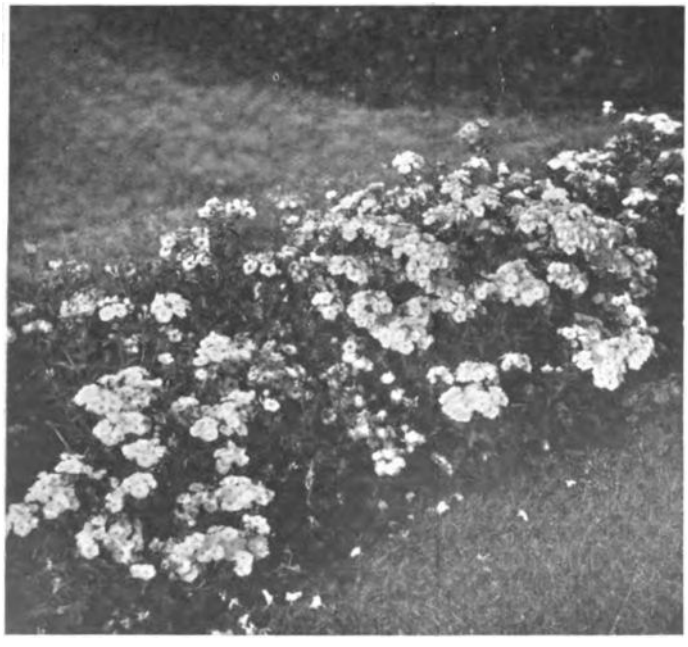
Nemesia.—Brilliant! That is the only word that can possibly describe a bed of these, either in mixture of colours or in separate shades. Orange was the original colour of the nemesia, but now almost every shade is available. N. Suttoni is the finest strain, forming fine bushy plants simply smothered with blossom and growing to a height of 12ins. to 15ins. Blue Gem is a pretty pale blue variety, and Twilight a blue and white bicolor of great charm. Nemesias should be given cool treatment, and need not be sown before the end of March.

Stocks.—There is little need to sing the praises of these fragrant and showy plants. The ten-week varieties are undoubtedly the most popular, and may be had in a number of distinct strains. All bear spikes of double flowers, the prevailing colours being rose, white, purple, pink, lilac, yellow and crimson. Early April is a good time for sowing, while they may even be sown outdoors towards the end of the month. Height varies from 1ft. to 2ft., according to strain of seed.

Salpiglossis.—For sheer gorgeousness of colouring these are hard to beat. They are of rather tall and lanky habit, but by close planting this fault will not be so noticeable. The trumpet-shaped flowers are of many rich colours, including crimson, purple, rose, scarlet and violet, while each is prettily marked with a network of veins on the inner side of the petals. Height 3 ft. to 4ft.

Mimulus.—For a moist, shaded bed these are very suitable plants, and will flower profusely over a long period. The blossoms are large, and heavily blotched and margined with red or crimson. A rich soil is necessary for the best results, and the seedlings should be planted at least 9ins. apart. Height 6ins.

THE DAINTY AND COMPACT NEMESIA IS ONE OF ANNUALS WITH ITS WID



FOR SMALL BEDS OR NARROW BORDERS THE ANNUAL PHLOX IS PARTICULARLY USEFUL. IT FLOWERS FREELY FOR MANY WEEKS AND MAKES A BRIGHT SPLASH OF COLOUR.

ANNUALS AND BIE

Name.	*Colour.*	*Height.*
Ageratum, Imperial Dwarf Blue ..	Lavender blue	9ins.
,, Blue Star	Light blue ..	6ins.
Alyssum, Carter's Snow Carpet ..	Pure white ..	4ins.
Antirrhinums, intermediate	Various ..	12–18ins.
,, tall	,, ..	2½ft.
,, dwarf	,, ..	6ins.
Asters, in variety	,, ..	14–18ins.
Celosia plumosa (Feathered Cockscomb)	Shaded crimson	2ft.
Dimorphotheca aurantiaca	Brilliant orange	12ins.
Eschscholtzia, Mikado	Orange crimson	9ins.
Godetia, Webb's Bridegroom ..	Light salmon	18ins.
,, Dwarf White	Blotched crimson	9ins.
,, Single Blush	Shaded pink ..	16ins.
,, Lady Albemarle (dwarf) ..	Bright crimson	9ins.
Larkspur, dwarf bedding varieties ..	Blue and pink	12ins.

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TS FROM SEED

g in the garden have undergone a decided change. of scarlet geraniums and blue lobelia with perhaps ionic effects. With the great improvement and choice of suitable bedding subjects has been greatly ction of plants which can all be easily raised from nd novelty to this year's summer bedding display. n from the numerous seed catalogues now to hand.

ASTERS ARE EXCELLENT FOR A BRIGHT DISPLAY.

Phlox Drummondii.—One of the best annuals for a small bed, and will thrive most in a sunny position. The large heads of gaily coloured blossoms are freely produced, and stand up well above the foliage. Growth should be pegged down in the way advised for verbenas, small hairpins being useful for the purpose if there is not a great number of plants to be dealt with. There are several strains on the market, of which we may mention cuspidata, with fringed star-like blossoms, 1ft.; grandiflora, bearing very large flower trusses, 1ft.; and nana compacta, a dwarf strain growing about 9ins. high.

Antirrhinums.—These need little introduction to the reader. Suffice it to say that they are quite indispensable in the modern garden, and that seed should be sown as soon as possible if early blossom is desired. There are many fine strains on the market of tall-growing, intermediate and dwarf Tom Thumb varieties.

Dimorphotheca.—This is rather an unusual South African annual, with starry flowers in the most vivid shade of orange. Even more beautiful are the hybrid forms, which display flowers in many pleasing colours besides orange, such as lemon yellow. They will flourish best in a sunny bed, and reach a height of about 9ins. or rather more under most favourable conditions.

Asters.—These, of course, are ideal plants for bedding purposes. There are many strains in cultivation, and each one is valuable. The three most pleasing for bedding, however, are chrysanthemum flowered, very dwarf and compact, 1ft.; Victoria, of pyramidal habit, 18ins.; and sinensis asters, with dainty single flowers of many pleasing shades.

Zinnias.—These must not be omitted, though it is true that some people find difficulty in growing them. Rich soil is an essential, and water must be supplied freely during periods of drought. Of modern strains the dahlia-flowered forms are undoubtedly the best, with tremendous flowers in many bright colours. These grow about 2ft. high, but there are also dwarf strains only reaching a height of 1ft.

Besides the plants noted above there are many more that may be used, including ageratum, in shades of blue, lavender and white (there are many fine compact varieties, such as Little Bluebird); kochia, a "dot" plant with finely cut foliage, which assumes a shade of rich crimson in the autumn; marigolds, familiar to young and old alike; lobelias, so very valuable for edging purposes; petunia, sweetly scented, and especially good for a sunny bed, and sweet alyssum, which is often sown under glass for the sake of early blooming.

MOST BRILLIANT OF OUR SUMMER FLOWERING ... OF COLOURINGS.

THE DAHLIA-FLOWERED ZINNIAS ARE NOW AMONG THE MOST POPULAR OF BEDDING PLANTS BY REASON OF THEIR VIVID COLOURINGS AND COMPACT HABIT.

ALS FOR BEDDING.

Name.	*Colour.*	*Height.*
Lobelia, compact varieties	Bright blue ..	4–6ins.
Nasturtiums, Tom Thumb varieties..	Orange and scarlet	6ins.
Nemesia, Suttoni	Various ..	8–12ins.
,, Blue Gem	Clear	12ins.
Petunia, single and double varieties	White and purple rose	10–18ins.
Phlox Drummondii	Various ..	12ins.
Salpiglossis	,, ..	2ft.
Stocks, ten-week varieties	,, ..	18ins.
,, intermediate varieties ..	,, ..	12ins.
Verbena, Monmouth	Red, purple ..	
,, dwarf compact	White, pink ..	
Zinnias, giant dahlia-flowered ..	Various ..	2ft.
,, double dwarf	,, ..	18–24ins.
,, miniature Pompone ..	,, ..	9ins.

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NOTES ON THE FLOWER GARDEN

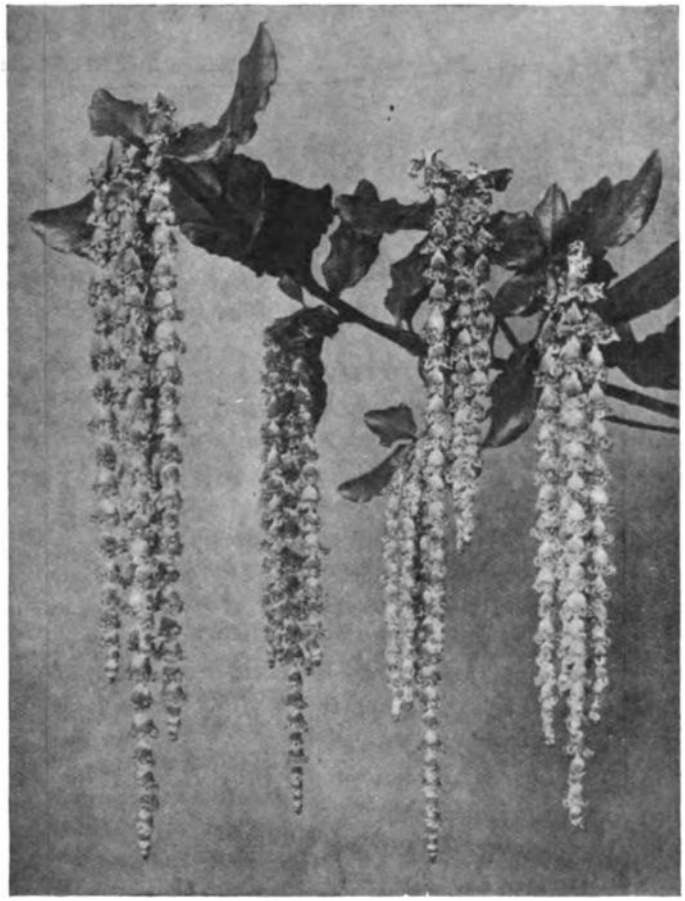
A Good Winter Flowering Evergreen Shrub.

TO lovers of rather novel and interesting shrubs, Garrya elliptica suggests itself as worth growing. As it possesses the dual quality of being evergreen and at its best in the depth of winter it is particularly useful and attractive. Although generally believed to be a shrub for southern gardens, it will grow quite well farther north if given some slight protection in the shape of a sheltering wall, against which it looks very effective.

Its native habitat is California, where it forms a small tree, but in cultivation in our gardens it rarely forms more than a bush from 8ft. to 12ft. or 14ft. in height. The conditions best suited to its requirements are a sunny position and a well drained soil that is not too rich. No pruning beyond necessary shaping is needed. The chief beauty of G. elliptica lies in the silvery grey catkins produced from December to February by the male plants; these catkins will sometimes grow to a length of 12ins., but even although they only develop to 6ins. or 8ins. they are still highly decorative; and I have occasionally seen small branches used in vases for indoor decoration.

The catkins borne by the female plants are not nearly so attractive as they rarely attain a length of 3ins. and are often hidden by the foliage. The leaves are opposite and rather leathery in texture with a very dark green upper surface and much lighter under surface.

Cuttings of G. elliptica inserted in July and August in sand in a frame where there is a gentle bottom heat, will root readily, and as the male plants are more often needed than the female, it is better to propagate by this means than by seed, which is freely produced. The plants raised should be grown on in pots until required for their permanent positions, as they transplant badly from nursery beds. —DUNHEVED.



GARRYA ELLIPTICA WITH ITS ATTRACTIVE CATKINS.

A Neat Plant for the Small Garden.

NOTWITHSTANDING their very unprepossessing name, the omphalodes are all worthy of a place in the smallest garden. Belonging to the borage family, they differ greatly in appearance one from the other, but all are pretty and interesting plants to grow.

A dainty little thing with grey-green foliage and small milk white flowers on stems about 12ins. high is Venus' navelwort (O. linifolia). It gets its English name—which, after all, is only a free translation—from the beautifully shaped nuts or seeds, which are characteristic of the family to which it belongs. The plant comes from Portugal, and from an April sowing it will flower during the months of June, July and August. More often than not it sows itself freely in the garden. A very different plant is the creeping forget-me-not (O. verna). Seen at its best in the partial shade of a thin wood, it produces its beautiful clear blue flowers with their white throats in the early spring. The leaves are broad, hairy and of a rich dark green. The plant revels in space in which it can roam about at its own sweet will. Omphalodes cappadocica or Luciliæ, as it is more often called, has large soft blue flowers in branching spikes some 6ins. long, with grey-green foliage. It is considered by many to be the best of the omphalodes, by reason of the beautiful combination of the blue flowers with the silvery foliage. It comes from Asia Minor and likes a soil rich in lime. Its great enemy, however, is the slug; but it is worth while doing all one can to protect the plant from these pests, for it amply repays one by its great charm. It seems to be happy on the moraine in a northern aspect. The flowers above their rosettes of silvery green foliage are produced in summer.

Though Robinson mentions a fourth omphalodes (O. nitida), this does not seem to be at all a well known plant, and one may search in vain for it among the nurserymen's lists.—EDWARD CAHEN.

Bulb Notes.

Protective Measures to be Taken Now.

THE recent sharp spell of frosty weather will serve to remind us that some protection against the bitter winds of March should be given to bulbs which will then be heading up for flower. Generally speaking, neither daffodils nor tulips will come to much harm unless they are exposed to high winds or heavy snow when they are actually in flower. There are, however, exceptions to this rule. Varieties of both species vary considerably in the brittleness of their stems: some will bend to the ground while others snap off "as short as a carrot." A few light twigs pushed in among the flower-stems will afford all the support necessary, but choice varieties should be given a tie when the spikes are 12ins. or 15ins. high, for it is very exasperating to lose them at the last moment of growth, and the little time necessary for the operation will be afterwards counted as well spent. Those fortunate people who grow N. triandrus calathinus should give the *bulbs* all possible protection from frost, as the constitution of these delightful little flowers—and for that matter most of their hybrids—is delicate and forms an exception to the general hardiness of the family. Early-flowering gladioli (The Bride, Peach Blossom, etc., and others of the nanus, Colvillei and Herald types) call for something more than the above if they were planted in autumn. Already their leaves are several inches high and a cutting frosty wind will sear them badly, check the flower and badly weaken the growth. Laurel, yew or other evergreen twigs should be employed to shelter them until mid-April. Irises, Dutch and Spanish, do not appear to suffer much harm from cold, although it cannot help them to have their foliage "cut" and withered by frost, and there can be no question that a few evergreen twigs stuck around them will amply repay in the quality of the subsequent bloom.

Ranunculus and montbretias, too, should be protected from frost by covering with leaves or straw, but anemones are quite hardy and may be left without protection with impunity. —HERBERT G. LONGFORD.

Replanting & Renovating Box Edgings.

THE box plant is slow-growing, and forms a splendid hiding-place for slugs, but with many lovers of gardens, especially old ones and where formal designs are in favour, the plant is much appreciated. I have had to deal with more than a mile of box edging in a vegetable garden; it was preferred to any other form of boundary to path and border, and I never found any undue robbery of adjoining crops; in fact, the ground was cropped close up to the edging. In reality, I think the box is one of the most economical of edgings to such borders, as it only requires trimming twice a year—in May and September; or, if cut once, late in February, so that the new leaves will not be seared by late frosts. Where the edgings have become ragged, unkempt or otherwise unsatisfactory, lifting, dividing, trimming and replanting are the only way to put matters right. Box edgings 1ft. to 18ins. in height are neither necessary nor desirable in any garden, and where such exist their condition is owing to neglect as regards annual cutting and replanting at an earlier stage. Such high, ragged box edgings cannot be lifted and the plants satisfactorily divided and replanted. It is where the edgings are now beginning to get out of order a little that replanting will be beneficial. In the case of old ones—real veterans—cuttings should be taken of young shoots about 6ins. in length and inserted in a mixture of leaf-soil, loam and sharp sand on the north side of a wall or fence during August and September. The first-named month in the northern and the last-named in the southern counties. The younger edging plants may be lifted during February, trimmed, divided and replanted to form a very narrow

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edging. The ground must be thoroughly clean and the box slips planted in an upright position, the soil being well firmed around their roots. The work should always be done from the border side and not from the path. —HANTS.

The Caffre Lily.

THE Caffre lily or crimson flag is a most valuable bulbous subject, either for the border or level bay in the rock garden, while it is also useful as a pot plant for the cool or cold greenhouse.

It produces strong spikes of showy globular crimson-scarlet flowers during October and November, and in addition makes a fine display outside. In 1921 a pink form, known as Mrs. Hegarty was exhibited before the Royal Horticultural Society, and gained an award.

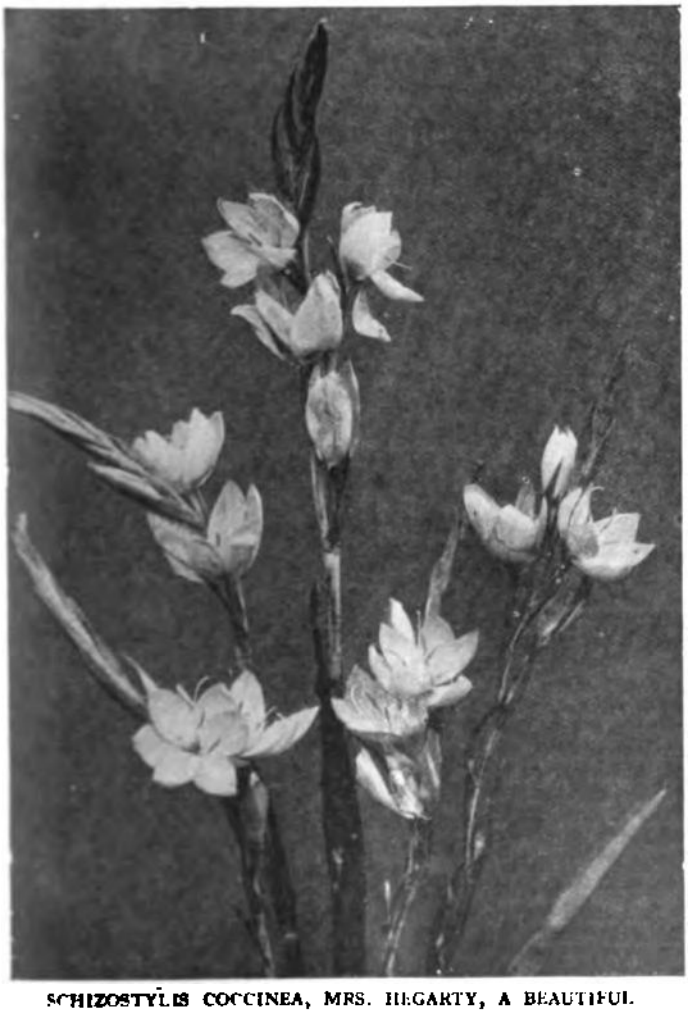
The schizostylis enjoy a good depth of soil, preferably that of a loamy nature, but any ordinary garden will suit them. After a few years the clumps will become somewhat congested, the flower spikes will be few, and the quality of the blooms poor. When this stage is reached, the roots must be lifted, divided and replanted, but owing to the fact that they are always more or less growing it is difficult for many gardeners and amateurs to decide on the best time for such work to be accomplished. After various experiments, I have found that March or very early in April is the ideal time to lift and divide. When lifted, the plants are pulled into pieces, or small clumps of three or four bulbs, and then replanted 6ins. or so apart. If the same site is utilised it ought to be dug 2ft. deep, and afforded a dressing of manure, or a liberal sprinkling of bone meal, because it will be several years before the roots are again disturbed. If we experience a dry summer, the roots should be freely supplied with water, then a wealth of spikes will be seen in the autumn. —CHEPSTOW.

A Shrub Well Adapted for the Small Garden

A FINE shrub occasionally to be seen under the name of plumbago, is Ceratostigma Willmottiæ a close relative to our old friend P. Larpentæ, a dwarf spreading plant, but C. Willmottiæ is shrubby and is capable of attaining a height of 5ft. or even 6ft., when well grown. It is a native of China, from whence it was introduced in 1908, and since then it has found considerable favour in gardens. The growth is rather wiry, and the light blue flowers resemble those of the plumbago, while the flowering period is extended over a great part of the summer and autumn. It is well adapted for the small garden, and although it will reach the height stated above, I have succeeded in keeping plants quite small on the rock garden by cutting it down nearly to the ground level each spring.

It will thrive in almost any soil, but it should be grown in full sunshine, and so far it has proved quite hardy. It can be increased by cuttings during the month of July and August.

C. Willmottiæ is a useful subject for the cool greenhouse; it makes a nice pot plant, and is rarely out of bloom. Such examples produce plenty of cuttings, which root readily in a little warmth. —T. W. B.



SCHIZOSTYLIS COCCINEA, MRS. HEGARTY, A BEAUTIFUL ROSE-PINK CAFFRE LILY.

THE YELLOW BLOOMS OF HELENIUM AUTUMNALE.

Helen's Flower.

THERE are few border flowers of greater value than the helenium (the English name of which, by the way, should be, according to Mr. W. Robinson, sneezeweed, instead of the prettier one that heads this note!) in all its varieties. It is perfectly hardy, not at all particular as to soil (although, in a very dry situation, it will not attain its proper height and its foliage will flag badly in hot weather unless regularly and thoroughly watered), while its big clusters of rich-coloured flowers are most effective.

Of the taller heleniums—that is to say, those that grow from 4½ft. to 5ft. high (all of which bloom between mid-August and early October)—H. autumnale has yellow flowers; Riverton Beauty and Gartensonne are improved varieties of the type, their colour blossoms being deeper in tone and having velvety brown centres; the new Bronze Queen is not dissimilar, but the yellow is of a tawny shade. Still more attractive, however, are the varieties that have crimson or brownish red flowers streaked or shot with gold. H. autumnale rubrum is the oldest of these, and its dark crimson is very beautiful but the colour of Riverton Gem is rather brighter and the gold streaks more marked. There is, too, a newer introduction, Mrs. Bradshaw, which has fine deep red flowers; this has the advantage of a longer flowering season than most of its kin, but it can scarcely be classed among the tall heleniums, as its height does not exceed 3ft or 3ft. 6ins.

Helenium pumilum is dwarf, seldom growing more than 2ft. to 2ft. 6ins. high; its flowers are lemon yellow. Those of H. p. aurantiacum magnificum are deeper in shade; those of H. p. cupreum are red-brown streaked with gold; and the handsome variety, Crimson Beauty, is the colour its name implies.

Heleniums in variety are particularly effective massed in front of a shrubbery. In the border they will harmonise well with the earlier Michaelmas daisies—lavender or purple-blue—or they may be combined with torch lilies and early chrysanthemums.—R. E.

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LATE FEBRUARY in the VEGETABLE GARDEN

FEBRUARY is a month of great possibilities, but they are not always realised. There is so much that might be done, but we are almost entirely dependent on the character of the weather. Especially towards the end of the month a favourable opportunity of getting seeds sown and plants set out should not be neglected in case the month of March is a bad one for the purpose. Obviously the work here advised to be done must be subject to its being in accordance with the weather.

What is Possible in February.

Seeds which may be sown outside are early peas, broad beans, spinach, radish, short-horn carrots and parsnips. All of these will, of course, be sown in the place where they are to mature. Seed beds may also be sown of cabbages (both red and white), cauliflowers, brussels sprouts, lettuces and leeks. If found necessary, parsley may be sown and it may sometimes be advisable to try to steal an early crop of turnips on a warm border. If the weather is good during the last week of the month, there need be no hesitation in getting in a few onions.

When Planting is Possible.

If the weather is favourable for sowing it surely will be so for planting, and in that case the following may be dealt with : shallots, potato onions, garlic, onion sets, chives, onions for seed, as well as parsnips, carrots and beet for the same purpose, onion plants from the autumn sowing, red and white cabbages, lettuces, Jerusalem artichokes, horseradish, rhubarb and herbs. On a specially warm border and in the event of the plants being covered from frost a few early potatoes may be tried, but too much dependence must not be put on this early planting. For practically all these crops a fairly fine tilth will be needed, though not so fine as for seeds. Be always on the look-out for a sowing and planting opportunity, because the more that can be safely planted and sown in February, the less there will be to be done in the busy month of March.

An Alternative to Outside Cropping.

Those with a greenhouse may make full use of this during this month for bringing along many of the crops already referred to. If no inside sowing was done during January, it should be done now, and there are others to be dealt with as well as successional sowings. The following may be sown in the greenhouse now : onions, cabbage, cauliflower, lettuce, Brussels sprouts, peas, broad beans, parsley, celery, leeks, and at the end of the month, some tomato seeds may be sown for growing outside in due course. Early potatoes may also be placed in the greenhouse to bring them along, if necessary, while those who wish for some early autumn broccoli or savoys may sow a pinch of seeds.

Other Work in the Greenhouse.

In a greenhouse partly devoted to the vegetable part of gardening, this month will be a busy one, for many of the seedlings from last months' sowings will need to be transplanted into boxes. This is work which cannot be delayed without jeopardising the success of the venture. A sprinkling of lime in this soil will be an advantage. Cucumbers, tomatoes and melons for fruiting in greenhouse may still be sown and the plants from an earlier sowing potted along. Those who can wait for results from seeds may now sow rhubarb, seakale and asparagus in the greenhouse for planting outside during April, while those who wish to experiment with real seeds of potatoes may also sow these.

Soil Tillage and Kindred Matters.

The work of soil cultivation may still be pushed forward. If sufficient trenching has not been done, this should be remedied, it being better to trench a fixed portion of the garden each year. When this has been done the remainder of the soil may be dug to a depth of a foot. It is late now for ridging, but not too late for the preparation of the trenches for celery, leeks and stations for runner beans and peas. This work may be done when it is not possible to get on with any cropping. When cropping is possible that should have the precedence, and no opportunity should be lost of getting the surface to a fine tilth for immediate cropping. There is no advantage in reducing to a fine tilth any soil which is not due for early cropping.

It will in many cases be an advantage to fork over the soil which was treated in the autumn, but this should only be done shallowly so as not to disturb the manure or bring sticky soil to the surface. Soil which has been ridged may be levelled with the fork and will usually be in fine form for cropping. The work of reducing a soil to a fine tilth is done with the hoe, fork, or drag, according to the character of the soil, and finally with the rake. Where manuring was not done in the autumn it must be attended to now, but at this time only very well decayed manure should be used for all general purposes. Where there is need for lime in the garden the work of spreading it after the digging must not be longer delayed so that the cropping will not follow too closely on this work. The use of soil fumigants should be done a little in advance of cropping.

Attention to the Root Crops.

All roots in store should be looked over so as to prevent too much loss by rotting or by the roots starting into growth. Remove all bad roots and rub off or cut away any growth from them, setting these aside for use as early as possible. Any roots which are still in the ground, such as parsnips, Jerusalem artichokes, etc., may now be lifted and stored as it is probable that the soil will be needed for cultivation. If the rows of celery and leeks are also in the way of soil cultivation, they also may be lifted and be heeled in some odd part of the garden. If not already done, the sets of potatoes, shallots, etc., should be picked out for planting, though this should really have been done in the autumn, and in the case of potatoes, when they were lifted. A look-over of any seeds which were saved, is also due, and it should not now be necessary to emphasise the need of sending without any delay the order for seeds and sundries needed for the whole year.

Care of the Frames.

Give abundance of ventilation to vegetable plants in the cold frames, drawing off the lights whenever possible so as to harden them thoroughly. Watering must still be done only on the morning of a sunny day, and it will help the plants immensely if the soil is loosened between them. Cover when necessary from frost, but do not leave these covers on a moment longer than is absolutely necessary. Remember always that dampness rather than frost is the real enemy of these plants and often takes a great many off. Remove any plants which have damped and sprinkle the station with lime.

Miscellaneous Matters.

Already I have given a full programme of work, but if time can be spared there are several items which might be attended to. Among them I might briefly mention cutting and trimming pea and bean sticks, the preparation of labels, sifting soil for seed sowing, making and repairing seed boxes, cleaning and repairing tools, turning the rubbish heap, burning that portion which is not suitable for rotting and digging into the garden, wheeling manure, etc., on to the soil, repairing paths, planting box edges, trimming hedges, removing and burying all dead leaves on growing plants, and giving the garden generally a more neat appearance. W. F. R.

Salsafy.

THIS vegetable is often referred to as vegetable oyster when served at the dinner-table. The plant is one which can be grown to perfection in a naturally light soil ; but in a heavy loam the roots are often found to be forked where little attention has been given to the preparation of the soil previous to the sowing of the seeds. The object of the cultivator is to procure straight, not forked, roots, long and clean. Very deep digging or trenching is essential, especially where the soil, as stated above, is of a heavy, retentive nature. All soils for this crop are the better for being autumn trenched and manured then ; and even in the autumn strawy manure should not be used, and the lighter the soil the more the manure is rotted the better. If manure is to be applied now, in spring, it should be buried deeply, thoroughly mixed with the soil quite 1ft. below the surface, then the roots of the plants go down deeply. Rather than mix manure generally with the top soil I would grow the plants without any manure and pay extra attention to the deep tillage of the soil, whether it be light or heavy. Sow seeds early in March, at the end of April and the third week in May. A few rows well treated will be much better than many rows of plants given very ordinary treatment. Bury the seeds 1in. deep or so, thin out the resultant plants to 1ft. apart for extra fine produce, and refrain from disturbing the soil deeply during the summer months so as to avoid interference with the downward course of the now rapidly growing roots. The latter should be ready for lifting in batches at the end of October and storing in sand. But the soil for the reception of the seeds cannot be prepared too early now, if it is in a suitable condition.—G. G.

How to Grow Good Parsnips.

IT is customary to sow parsnips early. Some gardeners sow in February, but from my own experience, I think that better quality roots are obtainable from April sowings. It depends a good deal of course upon the climate and the season. The soil is also an important factor.

If parsnips are overgrown they are coarse and deficient in flavour. In any case they are always best flavoured after they have got a slight touch of frost.

Needless to say, the soil must be deep, somewhat moist and moderately well manured to grow parsnips to perfection. No rank manure should be given just before sowing. Preferably, a plot that was heavily manured the previous season should be used. A suitable fertiliser to apply at time of sowing, and which should be well forked into the soil and evenly distributed, is 2½oz. superphosphate, ½oz. muriate of potash, and ½oz. sulphate of ammonia, per square yard.

If basic slag is used instead of superphosphate, a suitable mixture for application at time of sowing would be 3oz. or 4oz. slag, ½oz. nitrate of soda, and 2oz. potash salts. The nitrate of soda would generally produce better results if applied in separate and small dressings during the growing season. These quantities are for one square yard.

Parsnips require plenty of room, say 14ins. to 16ins. between the rows. To obtain very fine roots of a great length, make holes at regular distances of 8ins. to 10ins. apart,

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in the rows, with a crowbar, or a sharp-pointed stake about 2ins. to 2½ins. in diameter, and from 2½ft. to 3ft. deep. Fill the holes with a mixture of fine leaf-mould, sand (fine) and a little of the artificial manure. Put a sprinkling of sifted garden soil over these materials and within an inch of the surface level, place two or three seeds in each hole. Cover with sifted soil.

When the seedlings are large enough to handle, pull out the two weaker ones, and leave the best plant in each place.

Parsnips may be grown in any kind of light soil, provided it is of sufficient depth, especially if this plan be adopted. It is of no use trying to grow parsnips on shallow soils that have not been dug to a greater depth than one spit.—J. W.

Sow Onions in Heat in February, Plant Out April—May.

WHERE spring-sown onions usually fall a prey to grub or "fly," autumn sown plants may be planted in March or April, with every prospect of success. Instead of autumn plants, we may use seedlings sown under a little heat in February. For exhibition purposes the seeds must be sown early in February, if not in January; but for utility purposes, February sowings will be early enough. The most important point about these sowings is that the seedlings must be kept growing all the time. They must not be checked in any way, as that tends to make for "thick necks" and bolting. It is well not to sow in soil that is too rich, nor to have the frame too hot.

The seeds may be sown in boxes, and the seedlings, when large enough to lift with a ball of soil at their roots, may be transplanted into larger boxes, or into a frame in rows two or three inches apart.

The open ground in which they are to be planted at the end of April or early in May, should be well prepared in advance.

The seedlings must be well hardened off before planting out, and this circumstance and the nature of the weather will to some extent determine the time to plant out.

Onions like a fairly firm soil, and the bed or plot should be made moderately firm. The plants must not be planted too deeply; but care must be taken to make a hole just deep enough and wide enough to take the fibrous roots in their full spread, but with the soil still adhering to them.

In order to facilitate the work of lifting and transplanting, let the seedlings be well watered the previous day. Use a small hand fork, or a flat trowel, and take care not to injure the rootlets.

The newly planted seedlings may be shaded for a day or two, if the weather is not soft and mild, but once they take root in their new surroundings, this should be removed.

It is useless to give stimulating manures before the plants take root and grow. Dressings of nitrate of soda may be given at intervals during the growing season, and well watered in, if there is a spell of drought in June, for instance. Onions can be grown up to 2lb. in weight this way.—W.

Staking Newly-Planted Fruit Trees.

FEW trees will be planted after this date. Where everything is convenient, wise cultivators plant their fruit trees in late autumn. It is never wise to stake them securely at planting time. A temporary support is necessary to keep them from being loosened in the soil, but such support must not "hang-up," as it were, the roots in the soil. Many young trees are crippled in this way, through a little want of thought, when they are newly planted near to walls and their branches forthwith nailed in position or tied to the wires where walls are wired. The roots do not sink down with the freshly moved soil. Permanent stakes may be fixed at the time of planting, and now is the time to cut away those temporary strands and replace them with more permanent ones. Due regard should be given to the way in which the strong string is used. It must not be fastened tightly, or the bark of the young stems will be bruised. A few twists of the twine made between the stem of the tree and the stake will effectively prevent any rubbing of the stem and stake together. In open orchards, where the young trees are exposed to strong winds, half-standards and standards should be supported with three stakes fixed tripod fashion, then the tree will have a chance to grow upright, the support being ample whichever way the wind may blow.—CHRISTCHURCH.

WHAT OUR READERS SAY

A TRUE BLUE ACHIMENES.

SIR,—Can any of your readers give the name of a *real blue* achimenes whose blossoms are the colour of a deep blue delphinium, without any trace of red in the colour. I know the white, the scarlet and the bluish purple varieties, but cannot trace the *true blue* I had in quantities on the Continent many years ago. If still obtainable, what firm lists it?—A. BULWER, *Dalling*.

REMEDY FOR WOOLLY APHIS.

SIR,—With reference to the correspondence regarding remedies for woolly aphis, when some newly planted standard apple trees were badly infested with this pest I was advised to paint the affected portions with ordinary paraffin, using a fairly hard brush. This was done early in the summer, and proved immediately effective in completely eradicating the trouble. Although this was twelve years ago, there has never been a sign of the pest in the garden since.—ARTHUR E. FARRELL, *Berks*.

ROSE MISS WILLMOTT.

SIR,—I was very pleased to see, in THE GARDEN of February 12th, that Mr. Easlea included in his list of eighteen really reliable roses the variety Miss Willmott.

In my opinion, it is the finest of all roses, for the following reasons: (1) it is vigorous and resists mildew; (2) it flowers very freely; (3) the blooms are of good size and substance and always of perfect shape; (4) its colour, cream, is very pleasing; (5) the blooms never "egg" in wet weather, as many do; and (6) it is slightly fragrant.

I cannot understand why this excellent rose is so seldom seen—at any rate, in our northern counties.—W. V. PERCIVAL, *Chelford, Cheshire*.

THE CHRISTMAS DAISY.

SIR,—In reply to your correspondent, Mr. E. A. Saunders (THE GARDEN, February 12th), I think I obtained my Aster grandiflorus from either Messrs. Barr and Sons or Messrs. Amos Perry, but as it was a good many years ago I am not certain which it was, and it does not appear in their latest catalogues. I find it, however, in lists of Messrs. Veitch and Sons (Exeter) and Messrs. Thompson and Morgan (Ipswich), but I have not got the most recent editions of these catalogues. No doubt, any one of the firms named would procure the aster, as it is not really scarce, but simply rather out of fashion.—R. E. H., *Bath*.

PEAT IN THE GARDEN.

SIR,—I read with great interest the article on Shrubs for the Small Garden, by "Dunheved," in your issue of February 12th. His selection of shrubs and general advice is excellent, but why does the author insist so much on the use of peat in the planting of hamamelis, olearia and magnolia? I have various species of all these genera growing in soil that varies from heavy loam to light loam without the addition of any peat. Peat, in fact, has become a fetish with some planters. On all sides its incorporation with the soil is advised with rhododendrons and other ericaceous plants, and many alpines, such as Gentiana sino-ornata. It is said that its use is to add humus to a soil that lacks it; but leaf-mould is far more easily obtained in most gardens than peat, and its feeding properties are certainly greater. There is only one plant for which I have found peat essential, and that is Andromeda polifolia, a very charming but difficult shrublet, particularly on the East Coast.

Peat makes an ideal mulch, for it is light and porous and does not disintegrate so quickly as leaves or leaf-mould; but the insistence on its incorporation with the soil is a mistake. It only increases the difficulties of the gardener who has to buy a great deal of his gardening material. Careful tilling of the soil with the addition of leaves, leaf-mould, and a little grit in heavy soils, are all that are necessary for the successful cultivation of almost all shrubs.—R. H., *Edinburgh*.

SWEET PEAS AND STREAK.

SIR,—In your issue dated February 5th, "C. H. W.," writing in "What Our Readers Say," raises a question which, although impossible to answer in a definite manner, is important to every sweet pea grower. He says, referring to a previous article of mine, "before you can obtain those beautiful blooms, one has to find a cure for the *streak* which is present in *nine out of every ten gardens*." If "C. H. W." means that nine out of ten growers are seriously troubled by streak, I cannot agree with him. If streak or any other disease was even fairly common, it is reasonable to surmise that sweet peas would not be nearly so popular as they are; indeed, exhibitors, both "trade" and amateur, could not be so consistently successful year after year if streak was so prevalent as "C. H. W.'s" note would lead one to believe. Far too much prominence has been given to streak in the columns of the horticultural Press in the past; in my opinion, out of all proportion to the frequency with which it occurs. Very probably in nine out of every ten cases where streak is blamed as the cause of failure, the real cause is something quite different. It is convenient to have a kind of "mystery" disease about which little is known and which may be blamed in nearly every instance when the plants succumb. The more I see and hear about streak the greater my conviction grows that it is *not a disease at all*. With almost any disease in the plant or animal world we associate infection in some form or other, yet I have never had positive proof that this so-called disease can be "carried" or transmitted from one plant to another in the seeds, in the air or soil, by actual contact, or that it can infect plants grown in soil which has contained "streaky" specimens the previous year. If it is a disease, surely proof of infection would be forthcoming, and why should greenhouse-grown plants be immune? I have yet to hear of a genuine case of streak among indoor sweet peas. Further than this, expert plant pathologists have examined under the microscope plants which were apparently very badly diseased, and in all

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instances were unable to find any diseased tissue.

If it is not a disease, then what can it be? My own answer is that it is probably the usual manner (apart from old age) in which sweet pea plants die off, and that it may be due to not one, but many causes. The symptoms usually associated with streak are the changing of the colour of haulm and foliage from green to a streaky mottled greenish yellow, then to brown, accompanied by deformed and stunted growth and the gradual (or sometimes rapid) collapse of the plants. Many conditions will cause the plants to die in this manner, such as a very bad attack of green fly, waterlogged soil, acidity, sourness, too much fertiliser in the soil (either artificial or natural manures), soil pests, and last, but by no means least, sudden weather changes. Broadly speaking, streak may be nothing more or less than a form of "acute indigestion," probably connected in some way or other with the colonies of beneficent bacteria present in the whitish swellings called nodules, found on the roots of all members of the pea or legume family. I feel confident that this streak problem will be solved by someone approaching it scientifically from the standpoint of the health of these bacteria rather than the assumption that streak is a disease.

One may find occasional "streaky" plants among sweet peas grown on ploughed land with no manure, a larger percentage among cordon or exhibition-grown plants, and even among culinary peas. Sometimes, but not often, a whole batch will die off, or part of a row, while usually only a stray plant here and there is affected. I do assure readers that after many years' experience my own losses in this way have been negligible, not 1 per cent., and I believe this to be a true guide to the percentage of losses when a general average is taken.

What we know about the disease, or so-called disease, seems all too contradictory, and while I know of no cure for affected plants, I can tender preventive measures which I have found effective.

Do not hesitate to plant sweet peas again on ground where streak has appeared the previous season, but find out first if the soil is sour, lacking in lime or waterlogged, and correct it. Dig deeply (trench if possible) early in the autumn, incorporating good well rotted manure, not in layers, but well mixing it in. Do not bring animal manure nearer than 9ins. of the surface. If the soil is cold and wet and inclined to become waterlogged, provide effective drainage by throwing into the bottom of the trenches crocks, stones, hedge clippings, garden refuse or anything similar. It will be all to the good if the plot can be moved all over. Later on, fork in a fair dressing of lime in the surface layer if the soil needs lime. Make a point of always transplanting robust, healthy seedlings, preferably autumn sown, and do not "feed" them in any way until flower-buds appear. A plant with a strong, hardy constitution and a good and extensive root system when firmly transplanted will "take some killing." Support the seedlings early, do not let them blow about, and keep the hoe going round them until about the end of May, when a surface mulch of loose decayed horse litter or spent hops should be applied round their bases to keep the roots cool and conserve the moisture. Disbud the first flower-buds for a week or ten days, and at intervals later on, to impart additional strength to the plants.

Endeavour to provide all the nutriment necessary when preparing the soil rather than rely on applications of fertilisers during the growing and flowering period. The surface mulch will in an average season make watering unnecessary except during very dry spells. Use soft water always, never well water or cold water straight from the tap, and most carefully avoid overfeeding and over-watering. Keep a sharp look-out for green fly, especially when the plants commence to show flower-buds. Do not let them obtain a hold on the plants or the whole batch may be spoilt.

One factor cannot be foreseen or guarded against, and it is usually the chief cause of the plants becoming "unbalanced," this is sudden changes of the weather from cold to hot and *vice versa*. Sweet peas are not natives of these islands, and although they have been grown here for over 200 years, apparently they have never quite become used to our peculiar climate.—C. H. A. S.

PERGOLAS OF SIMPLE CONSTRUCTION

ALTHOUGH the construction of a pergola should be of a substantial character, there is no reason why it should not be easily made, and also made in such a way that a maximum of effect can be gained with a minimum of labour. The simplest form of construction does away with a multitude of joints and provides for a number of easily made units which are quickly assembled together. The two forms of pergola illustrated at Figs. 1 and 2, are made in a similar manner, although they give a totally different effect, the units of construction being shown at Fig. 3.

To begin with the pergola at Fig. 1, it will be necessary to provide the uprights as at Fig. 4, the connecting lengths as at Fig. 5, and the top lengths as at Fig. 6. It will be seen that the uprights are made up with two outer posts, A, two rails, B and C, and are filled in with square trellis, D and E. All the material can be obtained machine planed to the required dimensions, so that the various parts only need fitting together. For the posts, provide two 8ft. 10in. lengths of 2in. by 2in. wood, and for the rails two 20in. lengths of the same material. The rails are tenoned into the uprights as shown in the separate detail at Fig. 7, suitable mortises being cut in the posts as shown in the side view marked A. The marking should be done with the posts and rails placed side by side, the measurements being shown in Fig. 4. The tenons should be approximately a third of the thickness of the wood, ½in. wide will suit for the present purpose. Gauge these marks off on the ends of the rails and on the posts and then proceed with the cutting as shown in stages at Figs. 8 and 9. The easiest method of cutting the mortises is to use a chisel of the same width as the thickness of the tenon; it is therefore as well to set the marking gauge to the chisel in case it is a trifle larger or smaller than the measurement required. First of all make a V-shaped cut, working from the centre of the mortise each side, as at 1, Fig. 8, and continue with the straight side of the chisel towards the centre of the cut until the outside limits of the mortise are reached, leaving about ½in. to be trimmed off later, this stage is shown at 2. The wood is now turned over on the other side and the method repeated as 3, and this leaves the trimming down, as shown at 4, the chisel being held with the straight side on the outside, as indicated.

The method of cutting the tenons as shown at Fig. 9, consists of accurate marking, as at 1, then sawing on the waste side of the line, as at 2, first from each corner down to the shoulder, and then the shoulder, as at 3, leaving the complete tenon, as at 4. The tenons of the rail C are not left full width, but are sawn across the diagonal as at Fig. 7, to allow for the tenons on the ends of the connecting lengths. The rails are now ready to glue up, but in order to pull the joints up close, and secure them at the same time, holes, ½in. diameter, should be bored through the tenon and sides of mortise for the insertion of pegs, as at Fig. 10. The pegs are 3ins. long, tapered from five-sixteenths diameter to ½in., and the hole in the tenon slightly

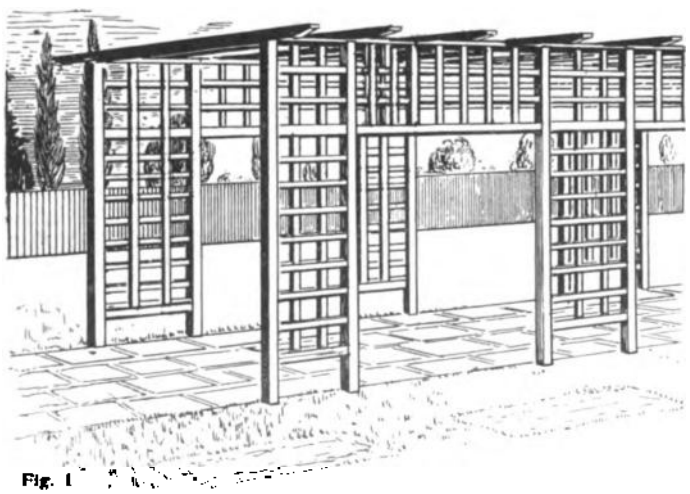

Fig. 1

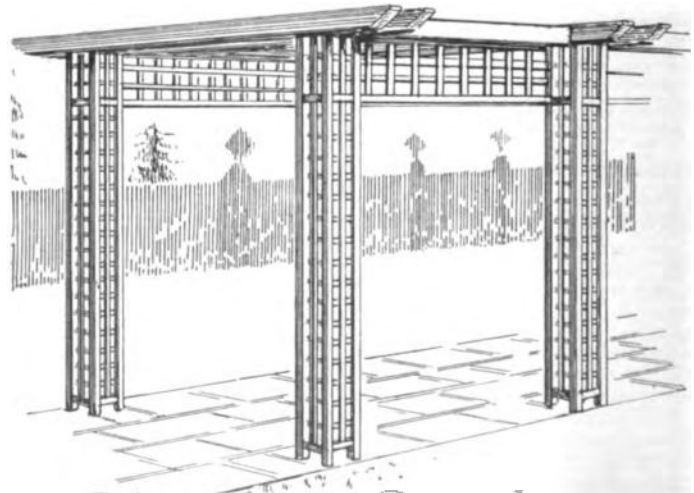

Fig. 2

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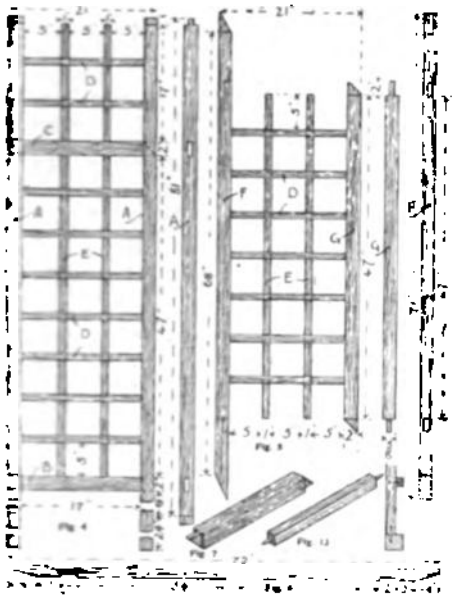
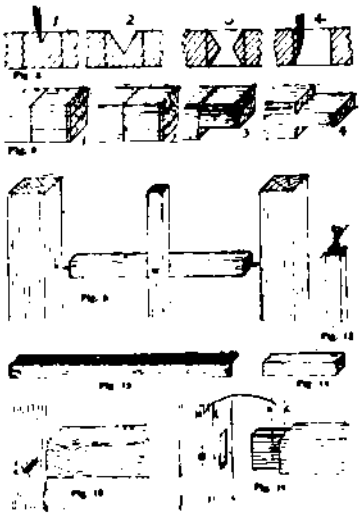


nearer the shoulder than the hole in the mortice; this is shown at Fig. 11, and has the effect of pulling the joint up quite close.

The horizontal lengths of the square trellis are cut from wood 1in. square, to the exact width between the uprights and are attached to the uprights with nails, these being driven in the ends as at Fig. 12, and the ends cut off with a pair of cutting pliers to leave points as at Fig. 13. The space between the trellis lengths is 5ins., this, with a thickness of 1in. between will give a distance of 6ins. between the nails, and although these spaces may be marked off with a rule, or wood template, as at Fig. 14, it is more satisfactory to use a length of tinned iron sheet as a template, this is shown at Fig. 15. When all the holes have been bored in the posts, fit the upright lengths of the trellis between the rails and then place the parts together, first glueing the ends of the tenons. Use a mallet to drive the two posts together and then insert the pegs, first dipping them in glue and afterwards driving them in.

The same procedure is followed with the connecting lengths at Fig. 5, but the top lengths F are intended to connect up together on the top of the upright frames, hence the ends are mitred. The mortises only go half way through. The lower lengths, G, are tenoned into the upright posts, the ends of the tenons being cut off along the diagonal to fit in the space left for them. The rest of the work is the same. There is no difficulty with the top pieces as shown at Fig. 6, the notches are 2ins. wide and ½in. deep, and they are nailed to the top pieces, F, of the connecting lengths.

The wood should be coated with creosote or some other wood preservative, and it is advisable either to char the lower 2ft., which goes into the ground before applying the creosote, or to coat it with pitch. When erecting the pergola, mark out the ground and



cut the holes for the uprights, place in position and support with suitable lengths of wood placed diagonally, and true each pair of posts before filling in the holes.

The pergola shown at Fig. 2, is composed of upright columns made as at Fig. 3, the construction is just the same as the other, but the tops of the columns are joined by pairs of lengths in both directions. Wood 2ins. by 2ins. can be used, but 3ins. by 2ins. material would look better.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Propagating Begonia Gloire de Lorraine and its Type.

In addition to propagating these plants by the usual method of cuttings taken from the base of the plants, they may also be increased by leaf cuttings. During February and March, select good healthy leaves that possess a growth eye, or bud, in the axils; remove with a heel and insert about ½in. deep in pots, in a mixture of equal parts of coconut fibre and silver sand, and plunge in brisk bottom heat, not necessarily in a close case. These readily root and in a short time throw up a number of growths. Plants raised in this way grow much stronger, are better furnished and produce finer flowers than those propagated in the usual way. Old plants after flowering should be rested in a slightly lower temperature—not dried off—previous to growing on another season.—C. N.

Propagating Tradescantia.

This very old but useful hanging plant still holds its place in many greenhouses. A sure and successful way to root cuttings—much quicker than in the ordinary flower-pots—is to dress each cutting with a clean cut to a leaf joint, then insert them into a jam jar or similar vessel half full of water, place on the shelf near the glass. Be sure that the water is kept up to half the vessel, as the cuttings take up a lot when rooting. In about ten days all have thrown out roots, and can then be potted off into 4in. pots. Three in a pot make a fine show and are a great improvement to any greenhouse when hanging down from the shelf among other plants in bloom.—T. S.

Checking Carrot Fly.

As the season approaches we must be prepared for the attack of such pests, and "prevention is always better than a cure." Get a pailful of sand, moisten with paraffin, and as soon as the seeds germinate sprinkle between the rows. Continue to do this weekly during May, June and July. Following this I am able to grow carrots which before were always victims of the carrot fly.—W. T.

Control of Woodlice in Glasshouses.

Woodlice are very destructive at this season of the year, when glasshouses are being filled with young seedlings and particularly so with tomatoes. An excellent control for this destructive pest is to mix 1lb. of commercial Paris green with 28lb. of dry bran. Broadcast this bait over the whole soil surface at the rate of about ½oz. to the square yard; in addition, sprinkle some on the staging, care being taken that it is not deposited on the plants. It is very important to broadcast after damping. Paris green being poisonous, a glove should always be used when handling the bait, which can be obtained ready made. It is also poisonous to live stock, so great care should be taken when being used in gardens, etc. For this purpose a light dressing of a fine flake pure commercial naphtalene is recommended.—H. S. P.

Onions Running to Seed.

Within the next few weeks autumn-sown onions should be planted out into beds previously prepared, advantage being taken of open weather when the soil is in good working order. The best varieties for autumn sowing are undoubtedly white Spaniah, Tripoli and Giant Rocca. In transplanting, care should be taken in lifting the young plants and in making them firm in their new position. Many growers, particularly on light soils in the south, are troubled by many of the plants running to seed in late summer, but this can be remedied to a large extent by planting only the medium size plants, leaving the strongest in the seed bed for drawing young. In this way the "bolter" can be practically eliminated from the crop.—W. M. C.

Hyacinths After Flowering.

It may not be generally known by those who grow the specially prepared hyacinths for flowering at Christmas that if the bulbs are slowly and carefully dried off they will flower again equally as early the next season if potted in August, and although the blooms are, of course, smaller than the first season, they are very useful for vases as cut flowers.—F. W. W.

How to Sow Shirley Poppies.

When sowing seeds of Shirley poppies and other annuals that are difficult to transplant, it is a good plan to space the ground as follows: Lines are scored on the soil, so that the surface is cut up into large squares; where the lines intersect, a pinch of seed is sown, and the resultant seedlings thinned out till one strong plant is left at each point of intersection. In this way the plants will be perfectly spaced without any trouble of transplanting. For poppies, the lines should be drawn about 1ft. apart; while, of course, for other annuals the distance apart will vary according to the variety concerned. Another advantage of this method of sowing is that the ground may be hoed and otherwise cultivated in a way that is impossible if the seeds are sown broadcast, with the result that the seedlings will be correspondingly more vigorous and healthy.—B. D.

GARDEN ODDMENTS

When and How to Apply Wood Ashes.

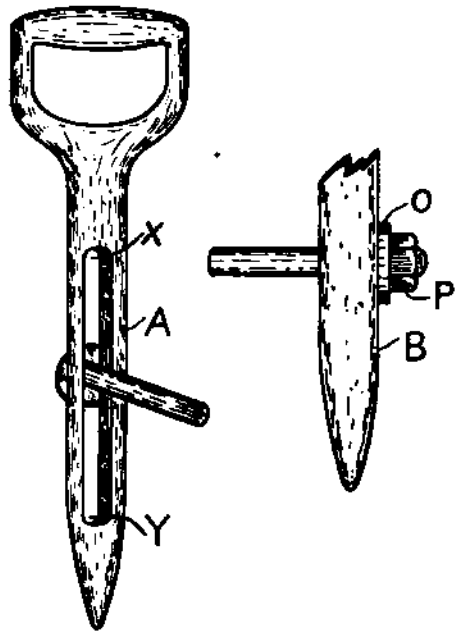
WOOD ashes or vegetable ash contains nearly one-tenth of its mass in the form of potash, and that potash is present in a highly soluble state; in other words, the potash in wood ashes is immediately dissolved in the presence of water, and it becomes available for plants practically at once. In addition to potash, which, note, is the fine powder of the ashes, there is in potash a varying amount of charcoal; this charcoal is one of the finest natural "soil sweeteners," and it absorbs ammonia which might otherwise be lost into the air, yielding it up later on to the rootlets of plants which twine round the lumps. It will be obvious from the above that wood ashes are likely to tell best if applied at cropping time or, later, to plants in growth. Separated into its two components charcoal and ash, the ideal plan would be to dress the former on the ground and fork it in lightly some weeks before, and the latter may be hoed in round the plants when growth is going ahead. The ashes may be mixed with all manures except ammonia salts, allowance being made for the fact that the potash is only one-tenth of the weight as a rule. We should apply ½lb. of wood ashes where 1 oz. sulphate of potash is usually given, and this is a very fair equivalent, taking all things into consideration. With ammonia manures wood ashes cause a loss of ammonia, and the applications should be made at not less than a fortnight's interval. Wood ashes are strongly caustic, hence they must not touch plants. Apply as a top-dressing round them and hoe in, or apply a few days in advance so that they become mellow in the soil. Wood ashes, applied alone or in mixture, should invariably be raked, hoed or forked into the ground, never left on top.—CLYDESDALE.

Manuring the Lawn in Spring.

GARDEN lawns, and particularly those in hard use during summer, may with every advantage receive manurial treatment this month. Growth is just commencing and the grass can take advantage of the help given. First of all I would point out that grass is a crop and that manures ought to be looked upon as a necessity. Poor, weedy, starved lawns are not a pleasure and are a reflection on the common sense of the gardener. Should the lawn not be required until May, there is still time to scatter over it a thin, a very thin, mulch of good sifted soil, sifted mould or sifted manure. Note that it must be *sifted* stuff, which gets washed down to the roots quickly. A very good plan also is to scatter peat moss litter broadcast, the rough and ready plan of the farmer, but which, I emphatically say, is a good one. A good dressing may be given. Five to seven days later it is swept roughly so that grass may not be rotted, and this is repeated. The stuff may lie a month, but, if the weather is rainy, less will do. Finally, the undissolved residue is swept up and added to the compost heap. I guarantee this to give new life to a jaded lawn, and it obviates the tedious work of sifting manure or leaf-mould. The above methods do not appeal to many who rely on the concentrated artificials. Of these, bone meal, a coarse purchase preferably, is fine for present application at some 3 oz. per yard or some 5–6lb. per rod. Fish guano is also very good, but not quite so lasting applied at the same rate. Where the lawn is one of very fine grasses one cannot give a better dressing than potassic-super or a mixture of superphosphates and sulphate of potash in the proportion 7 to 1, or 1 stone to 2lb. at 3–4 oz. per square yard. Of course, a lawn manure may be obtained and applied. Where daisies and other broad-leaved small weeds abound add to any dressing given ½ oz. to ¾ oz. crushed crude sulphate of iron and ½ oz. sulphate of ammonia (up to 1 oz.) per square yard. Manures which should not, as a general rule, be applied now are lime, soot, nitrogenous manures, basic slag or kainit. Bone manures, phosphates and super encourage clover. If clover abounds, use a mixture of fish guano and sulphate of ammonia in small dressings, applied monthly until May.—H. A.

A Useful Adjustable Dibber.

WHEN sowing such seeds as broad or kidney beans, peas, etc., by means of a dibber, the adjustable depth dibber indicated by A of the accompanying illustrations will be found most useful. The original straight dibber may easily be converted or, if it is undesirable to alter this, the dibber may be made



A USEFUL DIBBER.

from a broken spade or fork handle. First of all, drill a half-inch hole at points X and Y, and cut out the slot by means of a keyhole saw. Obtain a piece of ⅜-in. rod about 5ins. long, and screwed for about 2ins. one end to take a ⅜-in. nut. The rod is held in the slot by means of the washer O and nut P, as indicated by view B. The rod is fixed in any desired position along the slot, and set by means of the nut, so that all the seeds will be planted at a uniform depth. The nut need not be tightened up by a spanner, since the rod will keep in position by screwing up firmly with the thumb and finger.—W. J. SAUNDERS.

Formalin Spraying for Rose Diseases.

THE control of several diseases which infest the garden rose is very difficult, but during late years some success has attended the use of formaldehyde or, as it can easily be purchased almost anywhere, formalin. This liquid is a powerful disinfectant. It must be diluted with water first, of course, but as it mixes readily with the water there is not the slightest difficulty attending its use. At the present time, when rose bushes are dormant, it can be used at a higher concentration. I generally apply the liquid to all roses at the rate of ¼ pint in a large can (about 2 gallons) of water. A month later I use it again at half the above rate, roughly two tablespoonfuls to a gallon, and immediately after pruning early in April I give a third and last dose. In all cases the fungicide is applied as a coarse spray in such a way as thoroughly to wet the whole of the bush and the ground under it. It is essential, note, that the ground be treated at the same time. Certain growers continue the formalin treatment right on into the summer, but I do not advocate this, except in very bad cases where the rose must be saved, even at the expense of foliage and blossom. Should the disease reappear—I do not give formalin as a "cure-all," though it is a first-class "preventive"—I urge two further sprayings in September and October, at least one of them being given before the leaves fall. Careful and thorough treatment in spring, nevertheless, is a long step towards immunity for the season.—A.

Seedling Protection.

ALL kinds of things menace the well being of the tiny seedling from the moment it appears above the ground. Heavy rain will often do a lot of harm to the little plants, dashing them to the ground, so that even if they are not destroyed they receive a serious check. Protection for the seedlings may be found in arching them over with a few twigs or protecting them with wire netting. Serious damage by frost is often prevented by the use of small branches of fir, gorse or broom. These may usefully be laid over the seedlings at night in such a way that the plants are not actually pressed down. Inverted boxes or sheets of newspaper pegged at the corners may also be employed with advantage. No covering should be left too long over the plants or permitted to press them down. Often in the early spring more damage arises to the seedlings from the effects of cold winds than from actual frost. Here a 6in. board held on edge by means of pegs and placed on the windward side will check the rush of biting air. If a board cannot be obtained, soil may be heaped up to serve a like purpose. Out of doors strong sunshine does little harm to seedlings, but inside a glass structure it may do a lot of damage in a short while. Sheets of paper or pieces of cloth over the plants may be used to provide shade, although it is better if possible to have blinds or some material to cover the glass during the sunny hours. Sparrows and some other birds seem to take much delight in pecking at seedlings, and they will often do a lot of damage. A network of black thread over the plants will keep the birds away almost as well as anything. Wire netting is also good, although here the mesh should be small, otherwise the birds will pass right through the openings. The ravages of slugs, insects and other pests are often considerable where seedlings are concerned. Here there is nothing better to use than soot which has been allowed to weather for a few weeks. This may be scattered freely over the little plants, but it is most important to remember that soot should never be used straight from the chimney, as it then has a burning action which will prove very harmful to young leaves. The writer has found that where slugs are concerned it really pays to provide a counter attraction to the plants in the form of orange peel. Slugs seem to have a perfect passion for the white inner portion of the rind, and if a number of pieces of fresh peel are placed near seedlings the plants will be severely left alone.—E.

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THE

GARDEN

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Vol. XCI.—No. 2883 Saturday, March 5th, 1927 Price TWOPENCE

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Continued from page 10.

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THE GARDEN

VOL. XCI.—No. 2883. · MARCH 5, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

The Annual Border.

SPACES in herbaceous borders, odd corners and bare patches are all filled with annuals, but the full glory of an annual border is seldom seen. Given the desire to make much of annuals, certain requirements must be fulfilled. A sunny position should be chosen for the border, which must be neither too wide nor too long; excessive width leads to thin effects, while too much length may produce monotony. The soil should be light, rich and well prepared; a good manuring every other year gives the right degree of richness. The final requirement is a plan. Because the colours of annuals are bright and sometimes crude, arrangement is all-important. The grouping of each variety should be bold, and hard lines should be avoided. It is always best to grow a limited number of different kinds of annuals in fairly large quantities.

Many considerations must govern the choice of seeds. Colour, height, manner of growth and flowering-time are all important points. Height is particularly important, sudden jumps from dwarf plants 4ins. high to plants of 2ft. or more being ugly and unnecessary. If a brief but glorious blaze of colour is wanted, annuals which flower simultaneously must be chosen, but it is more usual to plan for as long a flowering season as possible. In the nature of things, annuals are essentially summer flowers, and there can be but little colour in the annual border until the middle of June.

A list of the flowers suitable for this border is given below: Ageratum mexicanum, half-hardy; Calendula officinalis (marigold), hardy; clarkias, hardy; Coreopsis tinctoria, hardy; Cosmea bipinnatus, half-hardy; Delphinium Ajacis (larkspur), hardy; godetias, hardy; Helichrysum bracteatum (everlasting flower), half-hardy; Limnanthes Douglasii, hardy; Nicotiana affinis (tobacco plant), hardy; Nigella Damascena (love-in-a-mist), hardy; stocks ten-week, half-hardy; night-flowering stock, hardy; Papaver Somniferum (opium poppy), hardy; mignonette, hardy.

The Gardens at Olympia.

VISITORS to the Ideal Home Exhibition, which opened at Olympia on Tuesday last, should not fail to inspect the gardens laid out in the Annexe. Every year there is much to interest the keen amateur gardener in these exhibits, and on this occasion the gardens are particularly bright and attractive with many new features. More and more every year the wealth of spring-flowering subjects which exist for spring decoration of the garden is brought home to one by a look round these exhibits. There is no need for the garden to look bare in these early months if a few early flowering shrubs and bulbous plants are grown. In addition, the amateur will obtain many fresh ideas on the designing of a garden with due regard to small space and the production of a fine floral display over the greater part of the year. The many formal and rock gardens hold many educational features as well as being full of beauty. A full description of the exhibits will appear in one of our near issues. Meantime, we would urge all who can to visit the exhibition and see the gardens for themselves.

New Plant Introductions.

AT the last meeting of the Botanical Society of Edinburgh, Mr. George Forrest gave a lecture on his recent botanical exploration in Yunnan during 1924–25. Owing to the disturbed state of the country, the exploration was more or less confined to the areas adjoining the north-eastern Burma frontier. The district had been previously visited by the lecturer and also by Cox and Farrer, but the lecturer's recent exploration has added very considerably to our knowledge of the rich flora of the district, particularly in the genera of magnolia and rhododendron. The area, although politically included in China, belongs geographically to Burma and the basin of the Irrawaddy. The hills are covered with dense coniferous forests, but hardwoods such as castanopsis, quercus, litsea and lindera are also abundant. One of the special features of these forests is the large number of representatives of the genera magnolia, manglietia and michelia. Of manglietia several new and little-known species were discovered, prominent among them being one, provisionally referred to as M. Hookeri, and another, for which the name M. Forrestii is proposed, both magnificent, wide-spread forest trees with abundant large foliage and beautiful magnolia-like flowers. Of rhododendron many dwarf species were found, the most striking being Rh. aperantum in its many coloured forms. This is a dwarf, semi-prostrate plant from 6–18ins. in height, forming mats as much as 12ft. in diameter, and clothing rocky alpine slopes in acres. In foliage there is little variation, but the flowers range from pure white through yellow and pink to the deepest shade of crimson. The large flowers, six to ten together, form compact trusses. In the lecturer's opinion, this is one of the best of the genus for rockwork from the horticultural standpoint. Among many of the larger tree rhododendrons were numerous species belonging to the Irroratum series, symmetrically formed shrubs from 6ft. to 20ft. high, with handsome light-coloured foliage and great variety in flower.

Of herbaceous plants of undoubted horticultural value many species were secured. Among these was a new species of nomocharis, N. Georgei, with large purple-blue flowers, a plant of the open Alps found growing on grassy slopes on a granite soil with good drainage. Mention should be made also of four new species of primula, two belonging to the Davidii section, one of the petiolaris section—all three having deep purplish flowers—and one of the candelabra section, with flowers yellow, flushed rose at the margins, a specially fine plant. These primulas are woodland plants of deep humus soil.

The lecturer also gave an outline of the peculiar flora of the mountain region in the early spring or dry season, referring to such species as Primula alta, a beautiful plant of the denticulata section; Osbeckia yunnanensis, a handsome half-shrubby plant with rose-coloured flowers, belonging to the melastomaceæ. Mention was made also of fine species of iris and gentian, several of the latter genus being novelties.

This Week's Work

Sow hardy annuals.

Prick off seedlings of annuals and vegetables now growing in pots or boxes in the greenhouse.

Sow spinach, cabbages, turnips, carrots, peas and broad beans in the kitchen garden.

Transplant autumn-sown onions and sow thinly the main crop of onions on a firm bed of light soil.

Plant out sprouted potatoes.

Apply worm-killer to your lawn.

Make a sowing of celery in boxes placed in a warm greenhouse.

Lightly fork over your herbaceous border.

The result and solution of our Crossword Puzzle competition will be found on page xvii.

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TRANSFORMING A GARDEN

With Suggested Innovations

MANY people are inclined to believe that their particular garden is everything that can be desired, and are quite content to work it year after year in the same old style. Somehow they get accustomed to the various formal beds and borders with invariably the same quantity and variety of plants each successive season. The straight, uninteresting paths are regravelled at regular periods and, apart from the inclemency of our English summers, each season repeats itself. These contented folk have no incentive to further their gardening propensities in any way.

Others there are, however, who believe with Cowper that "Variety is the very spice of life" and are never happier than when making or planning alterations. The ever-increasing popularity of gardening as a hobby affords such a wide range for originality that the resourceful garden lover need never have an idle moment at any period of the year.

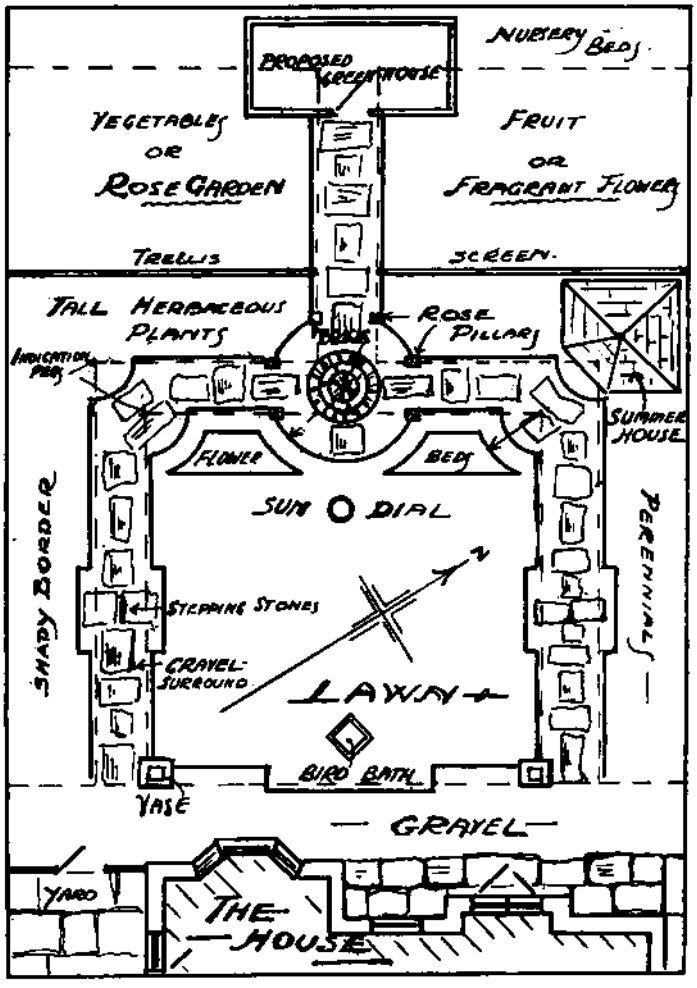
The accompanying scheme now under consideration deals with various suggestions for innovations in a garden already in existence. Certain alterations have been suggested for the improvement of the original plan, the old scheme being indicated by dotted lines, the thick black lines representing the altered scheme. It will readily be seen at a glance that the arrangement is greatly enhanced by the various changes, while the general constructive principles have not been unduly altered.

The straight gravel path, just wide enough for our friends to walk in single file to inspect our newest rose trees, gets very monotonous, but introduce a brick or stone portion enlarged somewhat about the centre where half a dozen people can stand to discuss the various merits of a certain new introduction, this little suggestion alone adds variety in several ways, not only in the area of the walking space alone, but also in the adjacent borders, which are recessed in consequence, giving a far better opportunity for the arrangement of a colour scheme than hitherto. Should the owner wish to improve still further, a summer-house could be erected where seclusion is most needed. On the scheme in question one having five sides would perhaps be the most suitable for the sunny corner site, the two largest sides acting as a wind screen. Whatever the situation or design, a garden house is bound to find favour with both old and young alike. Additional comfort can readily be secured by providing wind shutters of glass or a substitute for all the apertures at the sides. It only remains now to enclose the doorway and the summer-house is converted into a roomy store for garden chairs and other equipment not required during the winter months.

Even a niche made in an existing hedge or a recess in the herbaceous border for the reception of an arbour where roses, clematis or honeysuckle will make a shady bower under which a white garden seat can be placed. A break made in the path as previously suggested with a few stone slabs laid down in the vicinity of the seat will entice the book lover and those in need of rest to this favourable little retreat.

The square lawn may be very beautiful and the restfulness of the green sward may be to some all that is desired, while others are anxious to get more colour and tone into its surroundings. There is, however, a wide range for such innovations in conjunction with the lawn. A homely bird bath is suggested near to the house, and all bird lovers will be sure to derive much pleasure from this feature alone when they see dozens of birds using it daily for a free bath and refreshment. A sundial is also indicated at the opposite side of the lawn, the introduction of which adds both charm and beauty to the setting. Two ornamental flower-beds have been inserted on either side of the sundial, the curves of which should be symmetrical with the proposed new scheme for the paths. An indication mark in the form of a piece of small iron barrel should be inserted as a permanent centre for striking the curves; this facilitates matters wonderfully when trimming the edges of these curved portions. A peg is pushed into the barrel and by using the knife fixed to the garden line accuracy is assured for all time.

Rose pillars are suggested at the crossways, and if something really permanent is desired, one cannot do better than to purchase ready made some reinforced concrete pillars. These require no protective coating, the natural colour of the material, combined with a touch from Nature's hand, blends well with the green foliage of the ramblers which will very soon clothe them. The initial cost of such pillars is the only one, and they are worthy of consideration. In the centre of the pillar walk some unique design in brick would be very appropriate, and could be bordered on either side by the gravel which previously existed. The same idea could be used for the other paths if a change is needed, excepting that perhaps concrete slabs or rectangular paving could be used as the centre walk, utilising the original gravel as before mentioned for the surrounds. This method of path making is quite novel, and it reduces the laborious weeding to a minimum and ensures a dry walk at all times. Brick or other suitable vases could be introduced at the corners to accentuate the design. The wide herbaceous borders which run across the garden on either side are shown considerably farther back than before, and a trellis screen is indicated as a dividing line. But one will be well compensated by being able to introduce into those borders many of the taller perennials, and here comes a splendid chance for a colour scheme, which, if well arranged, should look exceedingly picturesque from the house.



If the garden is of moderate dimensions and a change is desired where fruit trees and vegetables are now planted, a piece could be reserved and suitably enclosed for some special purpose, such as a rose garden or an iris garden. It is best, however, to keep the characteristic features quite distinct. If all the characteristic points of a garden are seen at a first glance, it is quite obvious that there will be no cause for anticipation, and there is bound to be loss of interest in consequence.

It will be seen that the vista from the principal rooms of the house is in no way impeded by obstacles, but it would be incomplete without a central feature of some kind at the extreme end. It is suggested here as a small greenhouse with the door facing the central path, but this must depend on the tastes and requirements of the owner in question. The tea house could well be placed here or even a comfortable seat if the surroundings were considered as ideal. For instance, a seat or tea house in the vicinity of a rose garden or a fragrant garden would be very charming, but if the same plot were devoted to vegetable growing one could not be expected to recline in a deck chair or hammock among decaying cabbage leaves or a smouldering rubbish fire. So it is essential first to decide on the nature of these surroundings before such features are installed.

In making innovations of any kind in a garden already in existence, it is a wise precaution to study the whole thing carefully from various aspects and points of view.

A garden is intended as a place of rest and recreation, and it is only by creating these beauty spots that welds the home and garden into one.

GEO. W. HALL.

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NOTES ON THE FLOWER GARDEN

Herbaceous Phloxes.

INCREASED interest has been shown in recent years in phloxes, which bring colour into, and make our gardens gay in the autumn. Given right conditions of soil, one may plant clumps in March and be rewarded with flowers in September. Herbaceous phloxes delight in a deep, rich soil, as for example, loam to which has been added good rotted stable dung. If the soil where it is proposed to plant phloxes is very heavy, then it should be lightened by incorporating road grit and leaves along with the manure. In planting clumps in March, let the ground be well dug, and if it is possible to chose the position, avoid a south aspect and plant on a north or west border, where they can have the benefit of partial shade. Should the season prove a dry one, it will help the plants very considerably if they can be given a mulch of old manure as the warmer weather approaches. Staking may be found needful in exposed localities, and abundance of water must be given in a time of drought.

Propagation.—Phloxes are sometimes increased by a rough and ready method of division, by running a spade through the clumps in late autumn or spring. It is not to be recommended, as it is not only wasteful, but often injures the clumps. The better plan is to lift the clumps, then with a blunt knife work carefully between the shoots until the roots are severed.

Another method of propagation is to take a few of the many cuttings which show at the base of the plants in July. Cut them at a joint about 3ins. or so long, insert them in pots of sandy soil and place them in a cold frame, where it will be necessary to afford shade until rooting has taken place.

It is never a good plan to allow phloxes to continue undisturbed for years, but every three years they should be taken up and divided. It is only by these means that one is able to keep up the quality of the flowers. Huge clumps mean that the centre shoots cannot possibly get the nutriment they need, and consequently in a dry period, they wilt away, or, if they do flower, the panicles are insignificant. It is the clump with about a dozen healthy shoots that yields the finest display, and beyond this there is always risk. Let no one who omitted to procure phloxes last autumn think it is too late to trouble with them, as, given attention in the manner suggested, next autumn will bring the flowering spikes.

There is a wonderful array of colour in present day selections, from purest white to rosy pink, from lilac to deep purple, with rich salmon and carmine, and softer shades.—F. W.

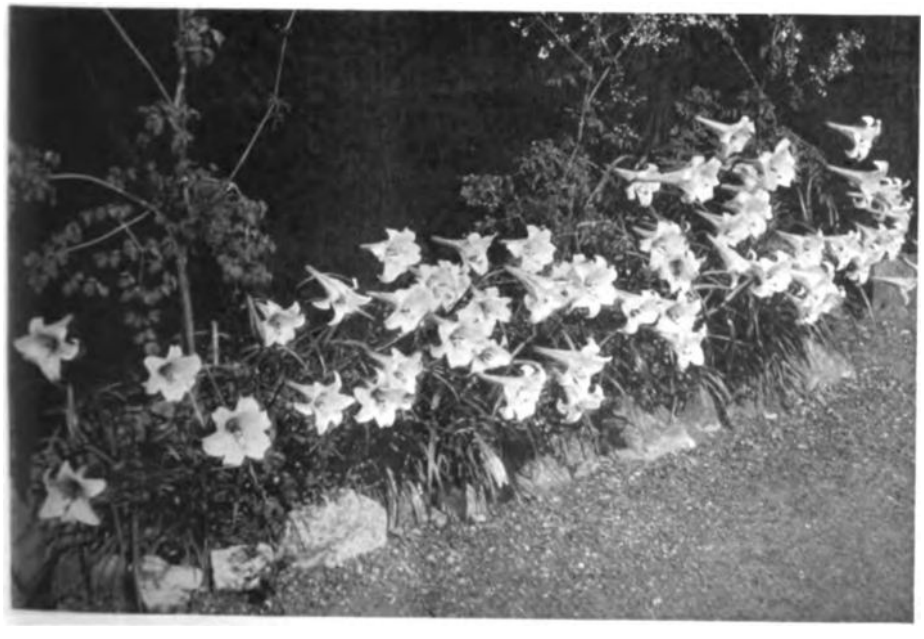
Lilium philippinense formosanum Price's Variety.

THIS beautiful lily was introduced to cultivation by Mr. W. R. Price of Pen Moel, Chepstow, Mon., in 1912, being collected by him on the Morrison Mountain, Formosa. Although it is admitted to be one of the finest of trumpet lilies, it is still very rare in gardens in this country, especially out in the open, and is looked upon by a few cultivators as being only fit for pot work. I am certain that the chief cause of their failures out of doors is the choice of the wrong position and soil. Cutting north and east winds do a lot of damage to the young growth, and often cause disease in course of time. To ensure success choose the position to avoid these evils. Interspersing the lilies with a few low-growing shrubs will give the necessary shelter and more natural effect out in the open.

If the natural soil is of a heavy nature, take it out to a depth of 2½ft. at least, placing a foot or so of stones or clinkers to ensure thorough drainage, and then add two parts of turfy loam, one of leaf-soil and one of coarse sand thoroughly mixed.

This charming lily is best propagated from seed, which can easily be flowered in about twelve months. Sow the seed in the spring in light soil in pans or boxes and place in a gentle heat. Germination will then take place in a few weeks, or seed may be sown in a bed of prepared soil in a cold frame. When seedlings are from four to six months old plant out into prepared beds in small clumps; this is much better than trying to divide them singly.

The flowers are white flushed with pink outside and have a refined appearance. The trumpet is about 6ins. in length, tapering off very narrow at the base on wiry stems 1ft. to 2ft. in height, and the narrow grass-like foliage is one of the distinct characters of this most desirable lily.—J. ADAMSON, *Moniaive.*



A BORDER OF LILIUM PHILIPPINENSE FORMOSANUM PRICE'S VARIETY, ONE OF THE FINEST OF TRUMPET LILIES.

A First-Rate Shrub.

ALTHOUGH our gardens have been enriched by so many fine introductions during the last quarter of a century, the subject of this note must always claim a prominent place among the choicest of them. In a sense, O. Delavayi is unique, for it is quite unlike the rest of its genus and "streets ahead" of all of them in garden merit. In its native Yunnan it is said to reach a height of 6ft., but the specimens one sees in this country are more often under 3ft. with rather a spreading, lateral habit. The branches are rigid and few, and the leathery, dark green, glossy leaves are oval, or ovate, in shape, minutely toothed, and not more than an inch long and half as wide. The flowers appear in spring in the shape of waxen white trumpets in small axillary and terminal clusters. Their superficial resemblance to the blossom of a daphne is enhanced by their delicious perfume. These blooms are said to be followed by sloe black fruits, but these have not yet been yielded by my specimen, though it blossoms with commendable regularity every year.

OSMANTHUS DELAVAYI WITH ITS WHITE TRUMPET FLOWERS.

A fine shrub for present planting.

O. Delavayi, which is evergreen, is quite hardy and not at all difficult. It seems to flourish in an average warm loam with full exposure, but as it blooms in April or May some little shelter from the morning sun may often be helpful in the event of late frosts. I have O. Delavayi in an open part of the woodland among other dwarf shrubs, but it makes a good rock garden subject. Though I have not attempted propagation, it is said to strike readily from cuttings made in late July and provided with gentle bottom heat.—A. T. JOHNSON.

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VIOLAS FOR BEDDING

No matter what they are called, violas rank high among the favourite flowers for bedding. They are of easy culture and give a pleasant variety of colour to any bedding scheme. They are especially suitable for edgings to rose beds.

HERE is a list of up-to-date varieties, easily grown, hardy, very free flowering and having a tufty habit. They are readily propagated from cuttings, and old plants may be divided after the second season. They like a semi-shaded situation, but they can be grown in almost any position if the roots can find plenty of moisture and plant food. All faded flowers and seed vessels should be removed during the flowering period and a continuous display of bloom is then assured.

There is a wide selection of varieties, but the following should give general satisfaction.

Whites.—The best white is undoubtedly Swan. This has an excellent habit and it is very free-flowering. The flowers are pure white in dry, sunny weather and they are perfectly rayless. The eye is a rich orange and is very neat. Another popular white is Seagull, but the eye is a little paler and not so conspicuous. A newer introduction is Lady Tennyson, that bears a slightly larger flower than Swan or Seagull, but it is not so free flowering.

Creams.—Lady Knox is one of the best creams. It bears a well sized bloom of good form. Cream King and the larger flowered Master Bankes are both good varieties, although the latter is nearer a lemon yellow.

Yellows.—Here we have a wide choice. The well known Moseley Perfection is one of the best of the deep yellows. It gives a large bloom, but on account of its free-flowering characteristics it makes a bold display. This variety is very good when grown as a two year old, and it winters well in most districts. Smaller flowered varieties in this section are Kingcup, Klondyke, Bullion, Walter Welsh, Redbraes Yellow, Mrs. C. B. Douglas, George Palmer and Tangerine. All these have a dwarf, tufty habit and are very floriferous.

Purples.—Royal Purple is the best in this colour, being an improvement on the old variety, Councillor Waters. A new purple self of good habit is Purple Queen, but this is not very well known yet. Jubilee is a splendid bedder.

Mauve and Lavender Shades.—Maggie Mott is a popular soft mauve. It is a good grower and free flowering. The colour varies a little with the weather, but when seen at its best it is very pretty. A soft mauve with a slight touch of rose in its composition is John Quarton. The early boooms of this variety are very well coloured, but it pales a little as the season advances. Mauve Queen is a distinct mauve self, and Mauve Radiance has a silky finish. Fred Williams is a bluish mauve of strong growth and good habit and Bridal Morn is somewhat similar.

Blues.—The best pale blue is W. H. Woodgate. It is not a very vigorous grower and in some districts it needs good cultivation to make strong plants. A deep blue can be chosen from either Royal Scot or Admiral of the Blues. Archie Grant is an indigo-blue.

The Picotee-Edged Varieties.—These are very pretty and include several choice varieties. Mrs. J. Scalley, white with a pale blue edge; Mrs. J. Terris, white with deep blue edge; and Waverley, white, edged with medium blue, are all capable of giving well sized blooms and the plants have a good habit. James Pilling, white edged with heliotrope, is a very free-flowering kind, with a short, cobby habit; and A. S. Frater, creamy white edged with bluish lavender, also makes a capital bedder. Mrs. Chichester is a well known kind, with an edge of purplish mauve and a suffusion of the same colour over the petal, especially in wet weather. It is a very useful bedder and quite hardy. Dunbryan, white, edged and suffused with soft heliotrope, is a very dainty variety, and the bolder coloured Pride of Darras, white with a deep band of purple, is an improved form of the old favourite, Gladys Finlay.

Bronzes and Other Shades.—The bronzes need a shaded position to be seen at their best, as they lose their colour in full sunshine. Redbraes Bronze, Bronze Kintore and Bronze King are three good varieties. Cyril Bell has a rich golden centre with a broad band of mahogany. It is a very distinct sort. Mrs. Marrison is a dark mahogany striped with pink and rose, and the flower has a rich velvety texture.

NORMAN LAMBERT.

AN ATTRACTIVE BED OF VIOLAS MADE WITH VARIETIES MAGGIE MOTT AND WHITE SWAN.

Both are good sorts for growing in the small garden.

ASTILBES FOR MOIST BORDERS

SOME gardens are noted for their well drained light sandy soils, while in others conditions are just the reverse. Here the ground is heavy, and inclined to be moist the year round. In such a garden it is hopeless to try to grow many plants which enjoy plenty of drainage, but in such districts the astilbes would thrive, and be a joy to the owner from July to September. To some these desirable subjects may be better known under the name spiræa, and the general habit is somewhat similar to the old Spiræa japonica, a species largely employed for forcing purposes some years ago.

For the damp or moist border the astilbes are ideal; while for the bog by the rock garden, or near the edges of streams, they would revel either in full sunshine or shade.

Two noteworthy plants were introduced from China some years ago, *viz.*, A. Davidii and A. grandis. The former produces tall slender spikes of rosy purple flowers, and is superseded to a great extent by its progeny. The latter, A. grandis, is a noble plant 4ft. to 5ft. high when well grown, with spikes of pure white flowers, and I have seen examples growing in the bog with upwards of twenty-five scapes. This is rather large for the ordinary border, but the same complaint cannot be levied against the hybrids, a few of which are enumerated below. They are known as A. Arendsii hybrids, and constitute a race of which any raiser might feel proud.

First and foremost is Venus, a fine deep pink, its lovely plumes, often 3ft. high, being most attractive. Salmon Queen is sometimes slightly taller than Venus, and somewhat resembles A. Davidii, but the spikes are looser and more elegant, while the colour is a charming salmon pink. Pink Pearl is a warm delicate pink, and is noteworthy for the elegant arrangement of the flowers and the spike as a whole. Ceres is remarkable for the soft feathery panicles of rosy lilac flowers; and Queen Alexandra is a deep pink. This is one of the earlier varieties, and its delightful inflorescence still warrants it a place in the first half-dozen.

Amethyst is a deep violet purple, and Gloria is a very fine deep rose pink, quite a superb variety. All are of easy culture, and, when we remember that they are all showy and beautiful flowers, they can only be included under the heading of capital garden plants. They make excellent pot subjects for the cool greenhouse, where they can be had in bloom during April and afterwards utilised for the border or bog garden. Now is a good time to purchase plants, and they should be planted directly they are received. It has been stated above that a damp situation is preferable, but an enthusiastic amateur will overcome the difficulty of drier surroundings by affording the plants a mulch of partly decayed manure, and an occasional watering during the growing period. The hybrids and varieties quoted above vary in height from 3ft. to 4ft. when in bloom, and when once planted are best left alone for three or four years. Old clumps which have exhausted the soil should now be lifted, divided, and either replanted on a fresh site, or the old rooting medium enriched with a liberal dressing of decayed cow manure. Hop manure is a good substitute, while a sprinkling of bone-meal is always beneficial.

T. W. B.

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PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

THE SUN ROSES.

Helianthemum (Sun Rose). THIS is a very charming and indispensable plant for the rock garden or for positions in the garden where it can trail and its blossoms be seen to full advantage. It is a low, prostrate, shrubby perennial that loves a sandy soil and the sunniest place which can be assigned it. It commences to bloom in May, and continues for weeks, the output of flowers being very numerous in the course of a season. Blossoms are both single and double and in a variety of colour. Propagation is by cuttings dibbled in pots of sandy soil in July. These should be placed in a shady frame.

Funkias (Plantain Lilies). HARDY, herbaceous Japanese plants, noted for their lily-like flowers, but valued more for the beauty of foliage, which is striped and margined in white and yellow in some of the varieties, while others are conspicuous for broad noble leaves. They are plants so little affected by severe winters that one may leave the question of protection almost out of account. Funkias are among the very best subjects one can take in hand for planting in a shady or half-shady position in the garden—as, for instance, under trees, or where the sun falls but little. They will grow in almost any soil provided it is deep and well drained; but to see them at their happiest, a generous soil in which old manure and leaves have been worked is best for them. Their time of beauty is in May and June, when foliage is freshest, though flowers continue most of the summer. Flowers are fragrant. Planting time is autumn or spring, and the latter should see any dividing taken in hand—the best way to increase the stock. In planting, 2ft. apart should be the minimum.

PLANTAIN LILIES ARE EXCELLENT FOR A HALF SHADY BORDER.

THE CONEFLOWERS.

Rudbeckia (Coneflower). ALMOST like small sunflowers are the blossoms of rudbeckias, making them of service to the grower of flowers for cutting. They are hardy perennials, doing well on sunny or partially shaded borders, and will thrive in a loamy soil of moderate richness. They should be planted in autumn if possible, though March planting will serve, provided they are helped with mulchings of old manure and copious supplies of water in a dry period. Rudbeckias are among the first plants to feel ill effects of drought. They need not be taken up and divided every two or three years, and can be raised from seed sown out of doors in any light soil in April or May, or from division of roots in autumn. They bloom mostly in August and September, have greenish or black zones, and are effective for table decoration if the stems are first bruised to allow the water to percolate, varying in height from 3ft. to 7ft. Plants should have plenty of room between others if located in back rows.

The Herbaceous Peony. FEW hardy plants in our time have made greater strides in favour than the herbaceous peony. Some of the old ideas concerning its culture—like old varieties—are discarded, as for example, the shifting of plants, about which it used to be told that "it took years to get over it." To-day we know this is a fallacy, and that if clumps are planted in good time in October, some few at least will throw up flowers the following summer and all the succeeding year. Blooming for the most part in May and June, they give glorious blossoms in both single and double forms, in a variety of colour, that are acknowledged to be superb for cutting and for home decoration. Averaging about 3ft. in height, peonies should be planted where they will not be hampered for room and where it will be unnecessary to disturb them too frequently. Soil for them should be made up of loam, or good garden soil, cow or horse dung, vegetable refuse which has decayed and plenty of grit or sand worked in. The place should be prepared for the plants some time in advance by well trenching the ground, as upon this, much of their after success depends. Should a dry season follow the first planting, it is essential that they should be well supplied with water. A partially shaded position is very suitable for them. Propagation is by division of the roots in October or spring, an operation that needs care in sorting out the eyes for transplanting—but, speaking generally, peonies should not be often divided, if they are doing well. Of recent years they have come into prominence as plants in suburban gardens.

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THE BUSY MAN'S PAGE

March Reminders.

ASPARAGUS may be planted; if produce is wanted at the end of the first year, three or four year old sets must be secured.

The main crop of broad beans may now be sown.

Make a sowing of cabbages for late summer use.

Carrots may be sown for a general crop.

Transplant the seedling cauliflowers in boxes to 3ins. apart when they have made their second pair of leaves. Give plenty of air, but avoid over-watering.

Cucumbers can be sown in heat, one seed being placed in the centre of each pot.

Celery can be transplanted in the same manner as cauliflowers.

Leeks can be sown either in a box or in the open ground.

Onion seedlings that are growing under glass should be thinned or transplanted to prevent their being drawn.

Parsnips can be sown in rows, but this crop must never be grown on freshly manured land.

Peas may be sown for succession.

Potatoes may be planted, the late sorts being put in from the middle of the month.

In warm spots sow all kinds of salads.

Spinach may be sown, and any previous sowings should be carefully thinned out.

Seedling tomatoes must be watched to see that they do not become overcrowded. When the first pair of rough leaves is formed, transplant.

Sowings of early turnips may be made.

Sow seeds of vegetable marrows, putting just one in the centre of a 3in. pot. Place in a greenhouse or hot-bed.

Do not forget that winter greens, like broccoli, Brussels sprouts, kale and savoys will be required next autumn, winter and spring, and, to secure these, sowings must now be made.

How to Treat Border Chrysanthemums

MANY border varieties have been killed or damaged during the winter, and in numerous instances the surviving roots with their suckers will, if left in the border, be very late in making new growths. As time is valuable and amateurs wish to have a good display of flowers as early as possible and for a lengthened period, no time should be lost now in getting up all the old roots carefully dividing them and then planting the separate parts in good compost in a cold frame or in boxes in one. The ideal compost is one made up of loam and leaf-soil in equal proportions, with a free addition of coarse sand. All old border soil should be shaken off the roots and the latter then neatly planted, rather close together, in the new soil. Apply water at once through a rose watering-can, close the frame and, with the exception of ventilation a little each fine morning, keep the frame closed for a fortnight or so. Afterwards admit air, at first a little, then in abundance. Splendid little clumps will be available for replanting late in May. In the meantime, dig and manure the border soil.

Sweet Peas in Tubs.

READERS who have small gardens and others who wish to decorate porches or to beautify corners near the front door, may easily grow sweet peas in tubs or deep boxes. Such receptacles may be obtained now; the grocer may be able to supply suitable ones cheaply, but care must be taken to see that they are firmly nailed up; thereafter give them two coats of green paint outside and at least round the rim inside. They should be a foot in diameter at the top and a like depth, at least. At this time sow sweet pea seeds in small pots, say four in a 4in. pot and grow the plants on in a frame until May; readers who have no garden at all may, of course, purchase plants in May. In April bore a few drainage holes in the bottom of the tub or box, fill in a layer of ashes or stones, lay a piece of turf upside down on top and fill in with loam, to which has been added, if possible, a little manure and leaf-mould—not too much, however. In May knock out the plants with ball of soil intact and plant in the tub; put in three plants in a large pot, or twelve plants in a tub

SWEET PEAS IN TUBS ARE EASILY GROWN AND MOST DECORATIVE.

a foot across. Erect a framework of canes, branches or netting, tie in any straggling shoots, water daily and feed when blooms begin to come out plentifully. Sweet peas are easily grown in this way and they make a lovely show.—LANARKSHIRE.

The Value of Catch Cropping.

THE amount of produce secured from a garden may be very much increased by a system of inter-cropping. When setting out maincrops enough space is allowed between them so that the plants may fully expand. In this way, at the start, the crop occupies far more space than is really justified on land that has naturally been brought up to a high state of efficiency. By adopting a proper system of catch-cropping, it is easy to raise some quick-growing vegetable which can be cleared before the space is required by the main crop.

Here are a few helpful suggestions in the matter of intercropping:

As a rule, the space allowed between the rows of peas is from 3ft. to 6ft. Here there will be plenty of room for such plants as spinach, lettuce, radish and turnip. In a space of 6ft. it would be easy to grow three rows of turnips at a foot apart, the outer ones being 2ft. from the peas. Between the peas and the turnips, radishes might well be sown. Spinach might also be sown in between runner beans where the seeds were set in pairs about 12ins. apart. Lettuce and spinach can be grown down the centre of the ridge between the celery trenches or lines of leeks. Brussels sprouts are a long time in occupation of the ground, and, while the plants are still young, lettuce, spinach, etc., might well be used as catch crops.

Top Dressing Alpines.

A VERY common cause of loss among alpine plants is owing to the height at which they grow out of the ground or because the soil about them has been washed away by rain. It will be found of great assistance to go over the plants regularly and to top-dress any which may stand in need of it. This should be done once a year at least, in the spring, and if the same practice is carried out in the fall so much the better. As a general rule, it may be said that all plants forming a kind of neck or stem which rises above the soil in course of time should be top-dressed so as to bring the earth to a level with the base of the lower leaves. When the plants have grown too high to be treated satisfactorily by the simple adding of soil, they should be lifted and planted more deeply. Many cushion-like plants will be all the better for having some fresh soil worked in among the rosettes of the leaves. A suitable top-dressing for alpines is a mixture of loam, leaf-soil (or peat) and sand. After the application it is a good plan to water the plants once or twice.

Soil and Seed Sowing.

MANY gardeners, and especially those to be classed as beginners, are apt to follow too implicitly the instructions which are printed on the packets of seeds. This they do without giving a thought to special circumstances, and, as a result, they not infrequently suffer disappointment. For instance, the seed packet says that certain seeds should be sown in March, and the novice, accepting this as a rule, gives no thought to the conditions of soil and weather. It cannot be too emphatically stated that to sow seeds in cold, wet soil, especially in the case of the smaller sorts, is a certain way of courting failure. It is far more important that the sowing should be done when the ground is dry and friable, rather than on any particular week or even month.

How Crops are Sown or Planted.

QUITE a lot of vegetables are sown or planted in the positions where they are to mature. The most important of these are beans of all kinds, beetroot, carrot, onions (sometimes transplanted), parsnip, peas, potatoes, shallots and spinach.

Other vegetables are sown in drills for transplanting at a later date, and these include the following: Cabbages, cauliflower, celery (in boxes), cucumber (in pots), greens, leeks, onions (when specially fine bulbs are required) and vegetable marrows (in pots).

Broadcast sowing is commonly adopted in the case of cabbage and winter greens, cress, endive, lettuce, mustard, radish and turnip.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Where Smoke Prevails.

DECIDUOUS flowering shrubs are generally the most appropriate for town gardens, as these usually succeed under smoky conditions better than the evergreen varieties, owing to the fact that the former cast the whole of their foliage in the autumn and early winter, and the new leaves (the breathing organs of the plants) are produced in the spring, while the latter are handicapped by retaining their leaves through the winter and gradually casting through the spring and summer. The foliage is thus subjected to the most dense period of smoke during the autumn and winter. Under these conditions evergreen plants, while they may exist, seldom thrive where much smoke prevails.

They, however, possess an advantage over coniferous shrubs such as the cedar, cypress, yew, etc. This class of plant is impatient of a smoky atmosphere and is seldom seen in a flourishing condition in town gardens. Much can be done, however, by the use of the hose-pipe or syringe and clear water in maintaining healthy plants in the town garden.

Selection of Shrubs.

The choice of deciduous and sub-evergreen shrubs for the town garden may be made from the following: Syringas (lilac in variety), viburnum (snowball tree), Forsythia suspensa (Japanese golden bell tree), philadelphus (mock orange), Spiræa ariæfolia, weigelas, hypericums (St. John's wort, Rose of Sharon), ribes (flowering currant), Colutea arborescens (bladder senna), the red and white Daphne Mezereum, Olearia Haastii, Osmanthus illicifolius, the barberry (of sorts), skimmias, pyracantha, cotoneasters, laurustinus, etc.

If space is available, several of the deciduous flowering semi-shrubs or trees should be planted; their beauty of foliage and inflorescence presenting a delightful feature in the town garden.

Among these are the prunus and pyrus family, including the almond, acacias, laburnums, white beam, thorns and the maples.

The general cultivation of these shrubs and trees is principally the cutting out of old flowering wood and dead wood and the occasional shortening back of straggling branches to keep the bush in shape and bounds, and, last but not least, syringing the foliage periodically through the growing season with clear water to wash off sooty particles and impurities, and so help to maintain healthy conditions.

Simple Colour Outlines.

Coloured Edgings.

VIVID yellow or mauve violas make bold outlines which are ideal for the small front garden. In this position neatness is often specially desirable, and nothing could be neater than a well kept edging of violas. To ensure success in the cultivation of these plants, it is advisable to dig the soil very deeply during the winter months, incorporating some kind of soil fumigant as the digging is done. This prevents many losses due to the attacks of soil pests. Heavy soil should be lightened by the addition of road grit and strawy manure, and light soil benefits from a dressing of cow manure if this can be obtained.

A selection of violas suitable for those who wish to grow for exhibition purposes would be Mrs. Andrew Stevenson, John Adamson, Milton Jumbo, Chrissie Littlejohn, Mabel Spencer, Malcolm Milner, Wm. Barr, Mrs. H. J. Milner, Mrs. W. R. Milligan, Drummer Wilson, Admiral Jellicoe and John Wood.

The best position for viola culture is in a bed which is open and sunny, but which receives some shade in the hottest part of the day. This, of course, is the ideal, but violas can be grown very successfully in many a garden where the conditions are less suitable. They do not like to be under the drip of trees, but apart from this there are few places where a reasonable measure of success is unattainable.

THE SPRING-FLOWERING DAPHNE MEZEREUM.
A good shrub for the smoky town garden.

Care of the Lawn.

THE lawn now begins to assume a brighter colour with the lengthening days. No feature in the garden gives so much pleasure throughout the year, but a patchy and weedy grass plot detracts from the appearance of the garden no matter how well it may be planted or cared for. The most important thing about the small lawn is that there should be a constant supply of food available to feed the roots. Many amateurs are under the impression that grass, if it is only rolled and mown regularly, will look after itself, but this is far from the truth. In fact, the lawn needs feeding just as we feed our flowers, fruit and vegetables. Each plant, of course, has roots, and forms an abundance of foliage which, to be maintained, must be fed. A neglected lawn should be treated to a thorough overhauling at this season. If there are only a few perennial weeds, such as dandelions, daisies, self-heal, etc., these can be removed by hand, but if the lawn is very weedy it might mean resowing or a drastic dressing of lawn sand, and then subsequent sowing of seeds over the bare patches. Where a lawn has become practically all weeds it is advisable to dig it over and to sow again with fresh grass seed. A useful top-dressing for an impoverished lawn is made by mixing decayed leaves, loam or good garden soil and sand together in equal parts. To this add 1lb. of sulphate of ammonia, 3lb. of superphosphate of lime and 1lb. of potassium sulphate to each barrowload. Thoroughly mix the whole and apply this quantity to 30 sq. yds. of lawn, and sweep the mixture into the grass with a broom, or work in with the reversed side of a rake. The rain will wash it in, and the effect of this dressing will be to stimulate the finer grasses and so improve the texture of the lawn. A suitable quantity of grass seed for sowing a new lawn is 2 oz. to the square yard in the towns and suburbs.

A WELL KEPT LAWN IS ALWAYS AN ATTRACTIVE FEATURE IN THE SMALL GARDEN.
Here is an example of what may be accomplished in small space.

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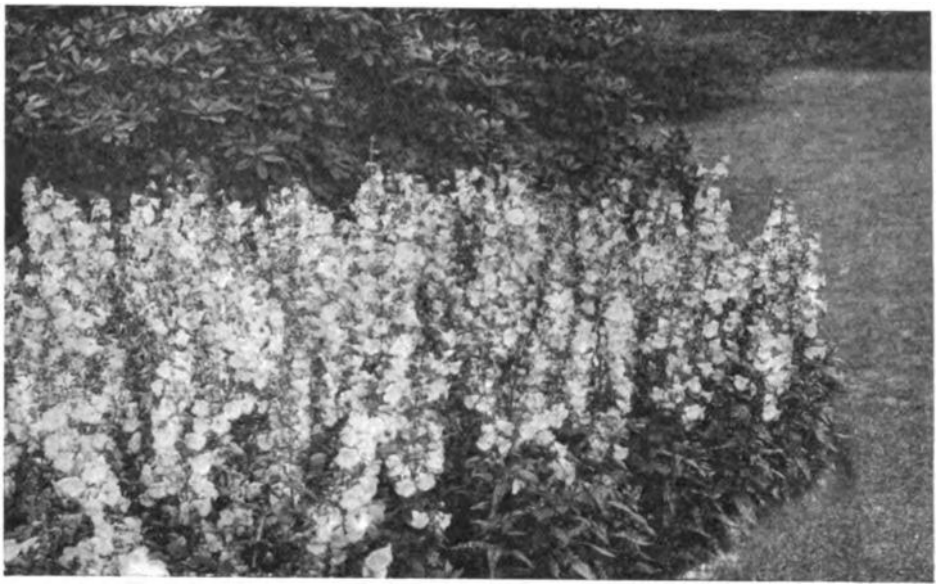
THE PINK AND MAUVE BORDER

PERHAPS the most charming and restful of all colour harmonies is that of pink and mauve. Flowers of these two tones really do blend in the most charming way, as the many delightful groupings in our borders will testify. But why only have odd groups here and there? If there is space to spare in the garden, even for only a small border, it could never be more beautiful than when planted out with perennials and annuals of these two colours. Such a border would necessarily start flowering rather late, for of spring-flowering bulbs very few are of the colour we require. Tulips, of course, have representatives of each shade, and bold clumps of these might be planted. Otherwise, there are few suitable bulbs, unless one includes the tuberous-rooted anemones and ranunculuses.

Early in April, the aubrietias will start blossoming, and carry on till June. There are many dainty varieties, including Lilac Queen, soft mauve; deltoidea, deep mauve; Bridesmaid, soft blush; and Moerheimi, pink. These should be planted towards the front of the border, as they only reach a height of 4ins.

In May will come the pyrethrums, dwarf phlox, violas, saponaria and May-flowering irises. Of the first named, Niobe, blush rose; Celia, bright pink; Agnes Mary Kelway, bright rose; and Hamlet, pink. Among the dwarf phlox are some of our most precious shades of lavender. Subulata pallida, pilosa and procumbens are good in this shade, while there are others with bright pink flowers. Violas embrace many shades of mauve and should be chosen according to taste. Personally, we prefer the beautiful mauve varieties of cornuta and gracilis to the big-flowered bedding sorts. Saponaria ocymoides is a perennial soapwort with masses of lovely pink blossoms, and is another low-growing plant. Bridesmaid, John Bull, Mrs. Reuthe and Sympathy are all meritorious lavender coloured irises.

When June arrives, we are rich indeed in the wealth of blossom available. Nepeta Mussini shall open the list, for it is one of the indispensable plants for our border. It is a toss up whether we edge the border with this or with the dainty single-flowered pinks. Perhaps we shall compromise in the end by alternating the two varieties, and so have fragrance as well as beauty in our border. Besides the single flowered pinks, there are fine double sorts worthy of inclusion, such as Bridal Morn, pink with maroon centre; Clove Pink, with daintily fringed petals; and Floral Beauty, a fascinating shade of silver rose. Other dianthus species are, deltoides (Maiden Pink) and cæsius, the native Cheddar Pink, both suitable for border cultivation. The sweet william is another representative of this family, and the variety Pink Beauty is of a lovely soft shade of pink. Erigerons will also commence to flower now, and their sheaves of daisy blossoms make a great show in the border: philadelphicus, rose; speciosus, deep mauve; and Villarsii, soft lilac, are excellent sorts. The lovely soft lavender blue Quakeress is rather later flowering than most, and will not open its first blossoms until well on in July.



A FINE MASS OF THE SOFT PINK PENTSTEMON DAYDREAM.

Of pentstemons, campanulata and glaber are two good pink species of moderate height, and Scoulerii is exquisite in cool lilac blue. The hybrid forms are less hardy than the true species and more inclined to red, scarlet and crimson shades. Daydream, pink with white throat; Janie Brown, lilac; and Pink Newbury Gem, are the best for our purpose.

Scabiosa caucasica should on no account be missed. The long-stemmed lilac blue flowers are produced freely from the end of June until October and are of exquisite colour and formation. Mr. I. House's new strain contains many charming shades of mauve and lilac and in a number of cases the blossoms are of giant size.

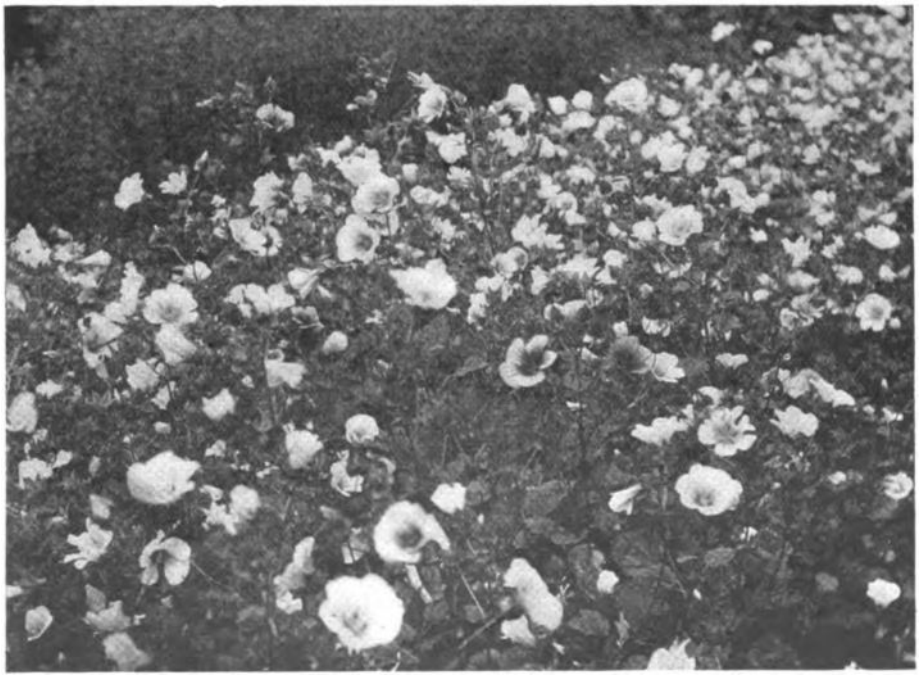
Other flowers of June include armeria (thrift or sea pink), in varying shades of pink; Lupinus polyphyllus rosea, soft pink; and such heucheras as brizoides carnea, rose, 1ft.; sanguinea, Edge Hall variety, rose, 2ft.; rosamundæ, delicate pink, 3ft.; and Rose Queen, 18ins.

With the arrival of July there is even a greater wealth of blossom. Many of the June flowers are still in bloom and many more sorts just coming into blossom. Antirrhinums should be at their best during this month; the favourite, Nelrose, is still one of the foremost pink varieties.

The astilbes (false spireas) and the true spireas will begin to unfurl their feathery plumes about the middle of the month. Both of these should be planted in a moist, shady position, if good results are to be obtained. There are many pleasing pink forms in each section, ranging in height from 24ins. to 7ft. A specialist's catalogue will give much fuller descriptions than can be attempted here, so we will leave the matter at this.

Other flowers that will commence to blossom in July are Malva moschata, glistening pink, 2½ft.; galega (goat's rue), of which officinalis carnea fl. pl. is a double-flowered pink variety; and sidalcea, Rosy Gem being a good form.

From August until November fogs we can have blossom in our border, the very last



THE GLISTENING PINK MALLOWS SHOULD ON NO ACCOUNT BE OMITTED FROM EVEN THE SMALLEST BORDER.

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to go being the Michaelmas daisies. These will be found in the catalogues under the heading of perennial aster and a whole border could be filled with their mauve and pink varieties alone. However, to restrict ourselves to half a dozen, we should grow Elsie Perry, rose pink, 3½ft.; Perry's Favourite, pink, very large flowers, 2ft.; St. Egwin, soft, pink, 4ft.; cordifolius, Edwin Beckett, myriads of tiny mauve flowers, 4ft.; Thompsoni, pale lavender 2ft.; and Beauty of Colwall, pale lavender, 4ft.

A PLEASANT ASSOCIATION OF MAUVE PHLOXES AND PINK HOLLYHOCKS (PALLING BELLE).

Another border could be filled with varieties of the herbaceous phlox and once again careful discrimination is needful. Three good pinks would be Mrs. Miller, Rijnstroom and Frau Buchner. Some of the best mauves include Lady Dolly, Violetta, Le Mahdi and Crepuscule.

Japanese anemones are very showy perennials, and there are some good rose-coloured forms. They will flourish quite well in a half shady part of the border and are specially valuable for the north border. Mont Rose, semi-double; Rosea superba; Alice crispa and Queen Charlotte, are all pink-flowered kind.

Perhaps the most stately plants in the whole border will be the hollyhocks, either double or single. Palling Belle is one of the most beautiful double forms, with large silvery pink blossoms.

Lavender should be planted, not only for the sake of its blossoms, but also for the beauty of its foliage, which tones so admirably with pink or mauve. Another shrub which might be included for its foliage is Santolina incana, with lovely soft silvery white leaves.

Sedums will close the list, and they are more showy plants than is usually imagined. S. spectabile is undoubtedly the finest form, with broad flat heads of bright pink flowers and pretty glaucous green leaves. Ewersii is another meritorious kind bearing pink flowers, but scarcely so pleasing as the preceding.

Besides the perennials, there are vast numbers of annuals that might be grown. Pink flowered sorts are cosmos, asters, larkspur, lavatera, calandrinia, candytuft, clarkia, godetia and Shirley poppy; to mention but a few. Mauve flowered annuals are not quite so common, but we could plant collinsia, echium, ageratum, aster, stocks, candytuft, clarkia (Mauve Queen), Salvia Horminum and double godetia.

These annuals may be sown outdoors during April, and perennial species during the month of March. The border must be dug at least two spits deep, and enriched with rotted manure, leaf mould, etc., as the digging proceeds. It is not advisable to plant the perennials immediately after the border is dug, so this work should be got in hand as soon as possible now. It is also advisable to order now all seeds and plants required from our advertisers. B. D. S.

NEPETA IS AN INDISPENSABLE PLANT FOR A PINK AND MAUVE BORDER. IT MAKES AN EXCELLENT EDGING.

ERIGERONS WITH THEIR SHEAVES OF DAINTY DAISY-LIKE BLOSSOMS MAKE A BOLD DISPLAY IN THE EARLY SUMMER BORDER.

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HOW TO PRUNE YOUR ROSES

Now is the time to prune the rose bushes in the garden if these are to flower well during the summer and autumn months. The instructions given in this article by an acknowledged authority should be followed closely. They are based on the methods followed at the Royal Botanic Gardens, Kew, where every year the rose beds form one of the most attractive parts of the Gardens.

WHAT to the experienced rosarian is a comparatively simple operation, is regarded by the beginner as a very difficult and mysterious affair. I shall, however, try to explain as simply as possible the methods of pruning various classes of roses.

Dwarf-growing Roses.—Hybrid Teas and Teas.

If, for example, we start at the beginning, and take a rose that was planted last autumn, it, in common with nearly all newly planted roses, should invariably be pruned hard back to within three or four buds of the base. In some cases there is very little choice, for if the wood is soft and unripened, as sometimes happens, it may be necessary to prune back to one or two buds, always remembering that one must prune back to hard, firm wood. This applies to tea roses and also the old hybrid perpetuals, as well as to ramblers, unless they have been pot-grown, then a portion of the shoots may be retained nearly full length.

Here, however, we must note an exception to the rule, and that is when dealing with the climbing varieties of well known dwarf hybrid teas and tea roses, of which Mme. Abel Chatenay, Lady Hillingdon and La France are well known examples. They must not be pruned hard back the first season after planting, as, for some reason, this has a tendency to stop their climbing habit. Where it is necessary to plant roses during the spring, they should be pruned hard back at the time of planting.

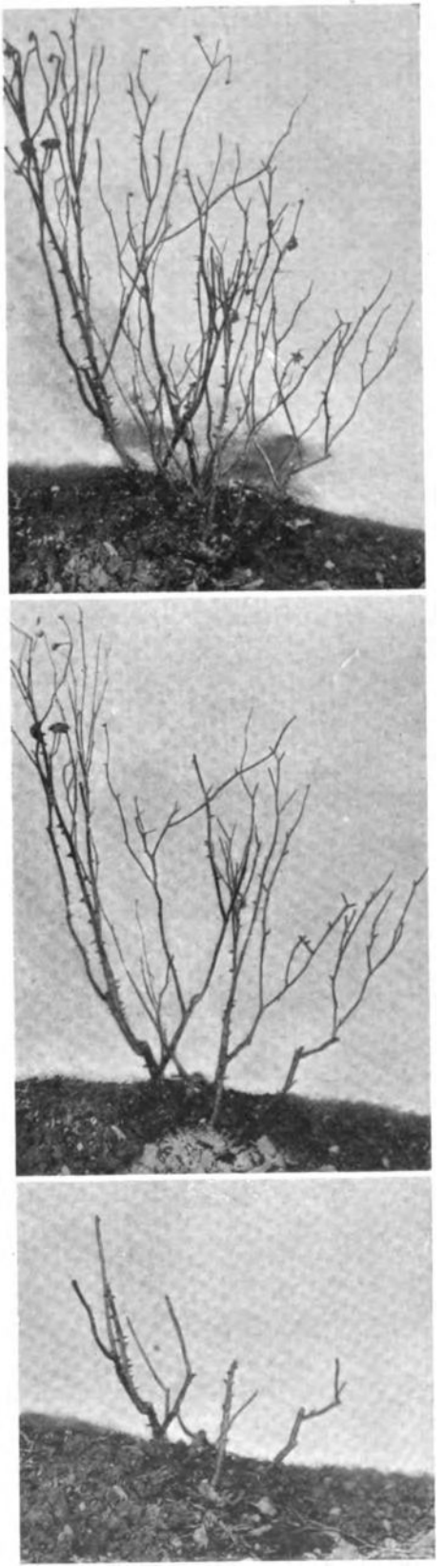
We will now consider the pruning of the same class of roses, *i.e.*, the dwarf types, in their second and subsequent years. Fig. A shows an unpruned bush. The first part of the operation is the removal of all dead, weak and unripe wood, which should be cut right down to the base. Fig. B shows the same plant after the preliminary thinning out; while Fig. C shows the completed operation. In this case it is assumed that the plant is being grown for decorative or garden purposes. When pruning for the production of exhibition blooms, the same plant would have more shoots removed and be pruned harder back.

When pruning, branches that cross one another should, if possible, be removed. The shape of the bush must also be considered, keeping it open in the centre; to ensure this, always prune back to an eye pointing outwards; or, if the centre or any portion of the plant is too open and unfurnished, prune back to an eye pointing in the direction it is desired to close up. In the case of some varieties of sprawling growth it may be necessary to prune to an eye looking inwards or upwards. Another important point in pruning is the position of the cut; it must not be too far beyond the eye, thus leaving a snag which dies back and, in so doing, may involve the eye. On the other hand, it must not start too low down, but just slightly above the eye, starting the cut from behind the eye and sloping it slightly upwards.

While no hard and fast rule can be laid down for pruning, a good general rule is to prune weak-growing varieties hard and the strong-growing ones lightly; while some of the very strong-growing varieties are only seen at their best when pegged down, which operation I shall describe later on.

Hybrid Perpetuals.

The illustrations on the opposite page show an unpruned plant, the same plant after the first thinning, and, in the inset, pruned hard back for exhibition purposes. If grown for decorative work, the shoots would be left somewhat longer.



A.—A HYBRID TEA UNPRUNED.
B.—OLD WOOD AND WEAK SHOOTS REMOVED.
C.—PRUNING COMPLETED.

Standard and half-standard roses are greatly favoured by amateurs, and in their cases the same general principles apply. An unpruned half-standard and the same plant with the pruning for decorative work completed are also illustrated. If grown for exhibition work the pruning would, of course, be more severe.

Pegging Down Roses.

There are a number of strong-growing roses which can only be seen at their best when the long shoots are left almost full length and pegged down to within a foot or 18ins. of the ground. They may make annual growth of from 6ft. to 8ft. in length. This may be pegged down full length with the exception of shortening the end of the shoot, which may be soft and sappy. Also, the buds on the top portion, at the time of pruning, generally have started into growth; then it is necessary to prune back to a dormant eye: this is essential in pruning all types of roses.

The pegging down of the long shoots causes every bud to start and produce short lateral shoots, each one of which is terminated with flower. Next year the pegged down shoots should be cut out, and the young shoots made the previous year pegged down in their place. If it is necessary to retain any of the old shoots for filling in the space, the lateral growths made the previous season should be pruned back to within two eyes of the base. Varieties that are well suited for pegging down are Hugh Dickson, Lady Waterlow, Gustave Regis, Frau Karl Druschki, J. B. Clark, Mme. Isaac Pereire and Grüss an Teplitz, or, in fact, any rose that makes shoots sufficiently long to peg down.

Tea Roses.

The dwarf varieties should be pruned in much the same way as the weaker-growing hybrid teas. Often there is very little choice in the matter, after the dead, weak and soft unripened shoots are cut away there is often very little left, and that may have to be cut down to the ground line. The stronger-growing varieties should be pruned on much the same lines as the weaker-growing hybrid teas.

China Roses

usually require the same treatment as the teas, although some of the stronger-growing and hardier varieties make large bushes: they, of course, must be more lightly pruned.

Dwarf Polyanthas.

It is often advised in the books to prune this class very lightly. My experience of them, over a long term of years, is that they give the best results for bedding purposes when they are pruned fairly hard. As it is important to keep plenty of young wood in them—and with all roses that means cutting at least one shoot, or shoots, hard back each year.

Rambling Roses,

as represented by the multiflora and Wichuraiana varieties, should, as a rule, be cut hard back the spring after planting, although, if planted early the previous autumn, some of the shoots may be left fairly long. When all the shoots are cut back, no flowers are produced the first season, as this class generally flower on wood made the previous season. Once established, the pruning of this class of rose should be done as soon as possible after they have finished flowering, in most cases cutting the old flowering shoots right out, thus making room for the young

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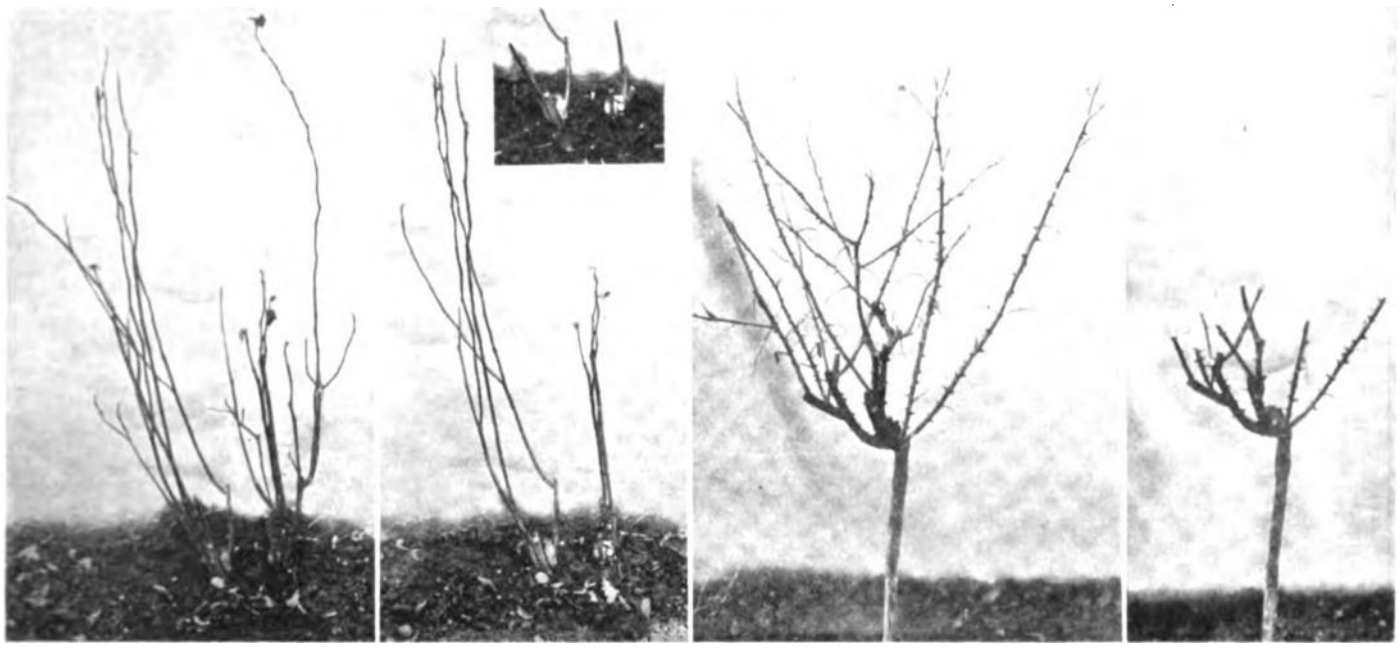

From left to right: A HYBRID PERPETUAL UNPRUNED; AFTER FIRST THINNING; (*inset*) PRUNED FOR EXHIBITION BLOOMS; A HALF STANDARD UNPRUNED; PRUNING COMPLETED.

growing shoots, which, in their turn, will flower the following season: remembering always that it sometimes may be necessary to retain a few old shoots, as the first object is to get the desired space, whether it be a trellis, archway or pergola, fully furnished as soon as possible.

Time to Prune.

One is often asked what time one can safely commence pruning. This, of course will vary in different parts of the country, but generally one can start with the hybrid perpetuals about the beginning of March, following on with the hybrid teas and pernetiana varieties; while teas and noisettes should be pruned during April. The danger of pruning too early is the fact that the buds start and growth may be too advanced before all danger of spring frosts is past.

Pruning Tools.

Very few are really necessary, but they should be of the best quality, and should consist of a moderate-sized pruning knife and a hone for sharpening the same; also a small pruning saw with a straight, narrow blade; a pair of good secateurs; and easy-fitting pruning gloves. In pruning dwarf roses a kneeling pad adds greatly to the comfort and convenience of the operation, although some affect to despise this as a luxury. It is very important that the cutting tools should be kept in perfect condition. J. COUTTS.

WHAT OUR READERS SAY

THE SENSITIVE PLANT.

SIR,—A very interesting and easy plant to grow is Mimosa pudica, although the true sensitive plant is Mimosa sensitiva, M. pudica is more sensitive to touch.

It may be propagated by seeds sown during the spring in a hot-bed, or by cuttings, which should be of the firm young shoots inserted in a sandy soil in heat. From the seedling or cutting stage, plants should be on in a compost consisting of equal parts potted of loam and peat, with a small portion of sand added.

This is usually treated as an annual, and has a herbaceous stem with stalks with stiff hairs at the apex. But under stove conditions it assumes a perennial character.—C. J.

CARROT FLY.

SIR,—I have read with interest your issue for February 12th, and I find, in the page relating to the kitchen garden, a note on the carrot fly. May I give your readers a good remedy to do away with the grub that spoils the carrot bed, and which I find successful?

In my own case, the carrot bed, which I get ready in autumn, is prepared in the following way. I dig out a trench, the same as for celery, to a fair depth for long carrots, then riddle all the soil, which will leave stones, etc., in the riddle, which can be used for a footpath.

Make up the trench with the fine soil to within 3ins. from the top. Now procure about half a sack of sawdust and steep it in about two gallons of paraffin — more if the sawdust will soak it up. Now spread this on top of the soil in the trench about 1in. thick, and rake it in the soil in the trench.

Put in the remainder of the soil to fill up the trench and let all settle awhile—which is important, as carrots do not like too loose a soil.

I find this method a good one for turning out a decent crop of clean carrots. I have tried the sand method, but find that the smell of paraffin does not keep a long while.

As there is yet time for soil preparation, I thought it would be suitable for other readers who are troubled with carrot fly.

I like your paper, and hope you will have much success.—BENJAMIN HALSTEAD, *Dewsbury, Yorkshire.*

MAKING A NEW GARDEN.

SIR,—A brief account of how we dealt with our own awkwardly sloped land may possibly suggest ideas to "North Herts."

In the first place, we employed a "garden architect" to make a plan, but his suggested "lay-out" was altogether too elaborate. We were very definite on two points: First, the ultimate garden must be such that we could run it with one man and ourselves; secondly, the "lay-out" must be such that it could be carried out by our knowledgable handy-man and ourselves. We, therefore, set to work on a scheme of our own planning.

From the north, east and south boundaries the land rose steadily, but unevenly, to an eminence situated roughly about the middle of the plot. On this eminence the house was built. From the road a short winding drive ascends to the front door on the north front. At the gate the sloping banks of the drive (planted with Cotoneaster microphylla) are close on 5ft. deep, but they graduate till they are lost in the artificially made plateau which forms the forecourt. Somewhat steep banks of shrubs flank this plateau—on the north towards the tennis court and wild garden, on the east to a lower level where lie the herbaceous, and further shrub borders.

Though the entrance door faces the road, the south or garden elevation is, in fact, the front of the house. From this point the gradient originally was fairly steep. The ground now falls away in a flight of three terraces. Terrace No. 1, 10ft. wide, we use a good deal as a sitting-out place. Wide semicircular steps lead down to terrace No. 2 (1ft. 8ins. lower); this terrace is laid out as a formal rose garden, with paved paths and turf surround. It is 23ft. wide and 64ft. long. At either end a clipped Cupressus macrocarpa hedge breaks the wind from east and west. The wide central path across the terrace is bifurcated by a semicircular bed, and two flights of steps lead on to the last terrace—the drop is only 15ins. Terrace No. 3 is a lawn 23ft. at the widest part. The edges of the two upper terraces are straight, in this case the edge is serpentine and is skirted by a winding path which lies 2½ft. below, reached by a final flight of steps.

Terrace No. 1 is carried round the east end of the house and leads on to the forecourt. Terrace No. 2 (of grass) is reached by steps, and stepping-stones set in the grass form an introduction to the rock garden, whence they lead. The rock garden is in two bold irregular terraces. We increased the natural

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decline of the land here by excavating a path at the bottom.

Throughout the garden the terraces are supported by "dry walls." The rock garden paved paths, steps, walls and edgings are of Bargate (Godalming) stone in varying sizes and thicknesses. The same material, broken, has been used instead of gravel on the upper terrace and on all the paths and the drive. Bargate sand was washed in among the broken stone and well rolled, and the resultant surface is almost like concrete. With the exception of the tennis court and the drive, my husband and I and our handy-man carried out the scheme, the latter doing the lion's share.

The preliminary outlay was, of course, somewhat costly, but I particularly wish to emphasise the subsequent saving of labour. The hard close surface of the drive and paths does not encourage the free growth of weeds, and only requires weeding once every eight months. After the first year the "dry walls" have required no weeding to speak of, and, furnished with suitable plants, are beautiful at every season. The effect of a terraced garden, such as I have described, is to add in a most deceptive manner to its apparent size.

To level the tennis court, it was necessary to remove 6ft. from one end and build it up to a similar amount at the other. I would suggest that "North Herts" should begin by "skinning" the rough turf off the entire surface of his plot, removing, where possible, the roots of nettle, dock, etc. The turves should then be stacked, wrong side up, to rot. A year hence "North Herts" will congratulate himself on a most valuable asset in a goodly stock of fibrous loam.

Without seeing the ground and the shape of the depression it is difficult to advise, but would not this depression lend itself to the formation of a natural and very charming rock garden?—GWENDOLYN ANLEY, *Woking*.

WOODLICE IN THE GARDEN.

SIR,—There has been some correspondence recently about Woodlice in the Greenhouse, one reader advocating their extermination by chickens and various baits. To empty a house, or houses, is a costly business, especially during so busy a season.

I can thoroughly recommend, from experience, a preparation called "Woodlice Bait," made up by Messrs. George Monro, Limited, Covent Garden. It is simply dusted on the stages, heavily towards the back and front, and the pots re-staged back over it. I found, one heavy dusting sufficient to rid my houses, which were literally swarming with the pests. Care must be taken not to dust over the foliage of plants.

It may be of interest to add that this mixture succeeded where various soil fumigants and insecticides had failed, and it was equally effective with millipedes.—B. G. M., *Dublin*.

WHITE FLY IN THE GREENHOUSE.

SIR,—I am much troubled with white fly in my greenhouse—some 36ft. by 12ft. The house is full of every sort of plant, both tender and hardy, and is heated. It first appeared on tomatoes last summer and has persisted ever since, and I am dreading its increase in the spring. I find tender plants will not stand fumigation by the advertised remedies; I have tried this in a small way. Can any reader assist me?—SIGMA, *Cobham*.

NEW POTATOES WORTH GROWING

In this article, the report of an interview with Mr. Donald Mackelvie, the well known raiser of potatoes, our correspondent describes a few new varieties and also gives hints on how successful results may be obtained.

WHEN I found Mr. Mackelvie he was hard at work in his potato shed, sorting out his latest seedlings. Behind him were stacked, tier upon tier, boxes containing some thousands of unnamed seedling tubers. Each year, it is said, he grows about 3,000 varieties in his trial ground at Lamlash. Although a man chiefly concerned with the science of hybridising and introducing new varieties for growing on a large scale, I found him to be keenly interested in the small-holder and gardener.

The first question I put to him was with regard to the most suitable variety of his "Arran" potatoes now in commerce for garden cultivation. His answer was "Arran Consul," and he proceeded to point out its advantages as a potato for small growers. The first thing was, he said, that it had regular sized tubers—a boon to the housewife—and then that it produced very little—in fact, the minimum—of seed and chats. It could be grown closely, and so was better suited than some of his other varieties to the system of "inter-cropping" adopted by some amateurs. The haulms were never unduly large, and thus would not overshadow neighbouring crops. The tubers did not spread themselves out at the root, and when digging the "crop" was always to be found in close proximity to the main stem of the haulm. The most important point of all that he mentioned was that Arran Consul strongly resisted ordinary blight, which is such a scourge to the small grower, especially when he attempts close planting. Arran Consul is, of course, immune to wart disease, as we see upon reference to catalogues. When Mr. Mackelvie first started potato growing, his aim was threefold, namely, to produce in potatoes, crop, quality, and resistance to blight. He has certainly achieved his aim in Arran Consul, with the addition of the immunity to wart disease. I also asked him about Arran Comrade, which is also a well known "immune" variety, but he thought that Arran Consul would be preferable for the small grower.

Arran Victory, he said, was another variety which he could recommend, but it had a coloured skin. In Northern Ireland, however, 50,000 acres, a third of the total acreage, had been planted with Arran Victory, which speaks little for the supposed prejudice against dark-skinned potatoes in some marketing circles. At any rate, the cook will forgive the "red skin" when she finds that the flesh of the potato is white, and that it has an excellent flavour when cooked. Mr. Mackelvie believes that the time is coming when all prejudice against dark-coloured potatoes will be removed.

I pointed out to him that the cropping of both these varieties was, perhaps, on the late side, particularly the latter one, and suggested that he should recommend a first early one as well, that would only occupy the ground for a short time. He said that he had some fine early seedlings coming on, but they were not in commerce yet. He had been specialising in heavy-cropping maincrop varieties. Arran Consul, of course, should be classed as an "early" maincrop; it crops just after Majestic and before Arran Chief.

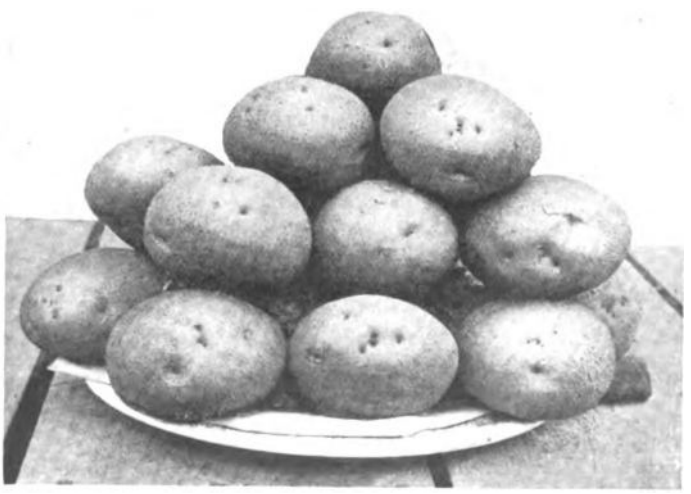
Asking him the distance he plants his strong-growing maincrop varieties, he said that the practice with him has been 9ins. to 10ins. between the sets and 27ins. between the rows. But that is in the fields, and in a garden he might plant a blight-resisting potato such as Arran Consul rather closer.

As to manuring, he thinks that good farmyard manure is always the best. Bone-meal, also, when planting, is beneficial. The chief ingredients in artificial manure should be ammonia and potash, and he gave me his formula: When using farmyard manure — ¼cwt. sulphate of ammonia, ¼cwt. super-phosphates and ¼cwt. sulphate of potash per acre; when not using farmyard manure — ¾cwt. sulphate of ammonia, 1cwt. superphosphates and ¾cwt. sulphate of potash per ¼ acre.

The above is what he uses in his Arran potato fields, and it is easy to reduce it down to the proportions of a smaller plot. The soil that best suits the potato, he said, is a medium loam, and it should be well worked before planting. The planting season with him is from March 15th to April 15th.

His advice about the general cultivation is short and to the point, namely, "keep on hoeing." Of course, there are times when the soil is too sticky to be touched, but, to quote Mr. Mackelvie at a recent lecture, "If only potato growers in general 'cultivated' their potatoes by using the hoe freely, the crops would be substantially bigger and cleaner."

E. W. TATTERSALL.



ARRAN CONSUL, A GOOD EARLY MAINCROP VARIETY FOR THE AMATEUR GROWER.

Especially suited for growing in small areas.

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PROPAGATION OF BEDDING PLANTS

IT frequently happens that one is not able to take and root the required number of cuttings during the autumn months, owing to lack of growth of old plants during the summer months. There are instances, too, where there is a great reluctance on the part of the gardener to mutilate the plants when, perhaps, they are at their best as regards flowering. If there is a deficiency of plants now, spring propagation should be undertaken to increase the stock. If care be taken in the selection,

trimming and rooting of the young slips, the spring-struck stock will be a very useful one. In the autumn nearly all cuttings inserted are cool rooted, that is, they are not subjected to any bottom heat. But in the spring roots must be formed quickly and a little bottom heat will be helpful. There is, in addition, more sun heat, so that the work of propagation is facilitated. Owing to the dark days of winter, and the necessity for crowding the stock close together, many plants are drawn up and become lanky. Such are not very suitable for bedding out without being first topped. The tops should not be thrown away as useless, for they are very useful and can be soon turned into a young stock of well rooted plants.

Even such plants as lobelias can be treated in this way. Shoots similar to those shown at *a*, *a*, *a*, may be cut off and inserted in a mixture of sand and leaf-soil, when they will, with the aid of slight bottom heat, become rooted, as shown at *b*, *b*. The old plants of fuchsias, when judiciously pruned back, soon emit young shoots suitable for cuttings, similar to the one shown at *c*. In this case six cuttings can be inserted round the sides of a 3½in. pot. The earliest rooted should be potted off separately, the later ones retained in their cutting pots, hardened and planted out direct from the pots. Zonal pelargoniums that become drawn are represented by the one in the accompanying sketch. First, pinch off all flower stems shown at *d*, then sever the stem at the point *e*, remove the lowest leaf and the cutting is ready for insertion in a sandy compost. Soon after the top has been cut off, young side shoots will grow from the axils of the lower leaves, *f*, *f*, *f*, and they will soon form a good bushy specimen.

It is absolutely essential to success that the main stem be cut off just below a joint. If severed mid-way between these long joints in drawn-up stems, the base of the latter, *g*, will rot and not emit roots. The lowest leaf, *h*, should also be cut off as shown. Now, these principles should be applied, as far as possible, when taking, making and inserting all kinds of cuttings. Then there are tubers to be dealt with. Although tuberous begonias can be raised wholesale from seeds sown in heat now, there may be some varieties of which more are required to fill certain beds. In a case such as this, division of old tubers will give good results. The tubers are first started gently in heat and when the young shoots are approximately 2ins. high, sever the tuber, as shown, from *i* to *j*. Rub powdered charcoal on the cut part of each section, as shown at *k*, and then pot or box each section as a distinct plant. It is only necessary to be extra careful not to apply too much water, then roots will grow normally. All tiny young shoots of such plants as coleus, iresine, alternanthera, sweet-scented verbena and lobelias should be inserted rather closely together in a light, sandy compost in boxes in heat and be kept consistently moist at the base. G. GARNER.

FRUIT AND KITCHEN GARDEN

Preparing Materials for Protecting Fruit Trees.

LATE frosts often do a lot of damage to fruit blossom, late in spring where it is not in some way protected. The frosts come suddenly, as a rule; there is not much warning—sometimes none. At night the weather may seem to be quite settled; the following morning the ground is white with frost; but the sun suddenly shines very brightly, and the unprotected flowers are soon blackened, the pistil of every exposed flower shrivels, and the fruits are lost—a blank for another year. Begin in good time to make the preparations. Hunt up old sacks, rip them up, doubling their size; roughly sew several together, and you have, at once, a sound protecting sheet for a large plum, apricot, peach or nectarine tree on a wall. Many fine, sturdy apple and pear trees are now grown bush-shaped in our gardens. If five tall stakes are driven into the ground, one in the centre and the others to form a square, it will only be necessary hastily to throw over them the sheet of old sacks or the piece of tiffany, or an old herring net doubled, and to fasten it down at each corner, to ensure, perhaps, a fine lot of blossom on a specimen tree. Espaliers may be protected in a similar way; also gooseberries. Bush fruits, grown under wire cages, are readily protected by larger sheets of tiffany or sacking fixed to long slender poles, to be rolled up when not in use and unrolled instantly when needed. Strawberry borders must be protected to ensure a good set of berries. String nets are used to exclude birds, and they may also be fixed on wires or strong laths to protect the blossom; but it is advisable to fix small-meshed wire netting round the bed, to save the string nets, which are then kept entirely free of the soil. The wire netting and the horizontal supports for the nets can be placed in position now. There is always a lot of urgent work to be done at the time when fruit trees are in flower.—X.

Fig Trees on Walls.

THE fig tree grows very strongly in a suitable rooting medium. Trees are sometimes planted in positions where there is not sufficient space on the walls for the due training of the branches without overcrowding them and thus losing the crops of fruits, or the severe character of the annual cutting necessary to keep them within bounds also causes loss of the crop. Frequently one finds such trees growing bush-form away from and above the wall. Judicious manipulation of the shoots, in a case of this kind, will result in really good crops of figs. All fig trees should be finally examined now for the removal of superfluous branches. These are the weakly ones, which are quite useless and should be cut out close up to the bark of the larger stem. The stronger branches retained should be trained to the wall, provided there is room without undue crowding, their full length. In due time very strong shoots will grow and they can be reduced in numbers by pinching the very sappy ones out while they are small. Where the fig tree forms a bush very similar treatment will be suitable. The object should be the growth of branches which will ripen and a good crop of figs. The stopping of young shoots bearing embryo fruits will be a work to be attended to later.—A.

The Uses of Spreaders in Spraying.

SPRAYING of our fruit trees must soon be carried out, and it is advisable to pay attention to the use of these materials to render the various sprays more effective in their use. If one sprays a plant with water and after spraying, examines it with a magnifying glass or even with the naked eye, one will see that the water is distributed unevenly over the surface of the plant in little globules or drops. The same thing occurs when spraying with most insecticides and fungicides. Thus parts of the plants sprayed are left untouched and the efficacy of the spray is greatly impaired.

To obviate this, and to secure an even distribution of the spray fluid over the plant in the form of a film, certain chemical compounds are added to the spray. These compounds are known as spreaders. In reality they lower the surface tension of the spray fluid so that it assumes a flattish shape rather than a globular one.

The most efficient spreader in general use is soft soap, others are flour paste and calcium caseinate. Unfortunately, soft soap cannot always be used, because of the hardness of some of the waters in certain places. Hard water contains mineral salts, mainly bicarbonates and sulphates of magnesia and lime, to which its hardness is due and on adding soft soap to these waters the fatty constituent of the soap combines with these mineral salts, forming an insoluble curd. It would be necessary to add sufficient soft soap to remove these mineral salts and then more to act as a spreading agency. In many cases this is far too expensive a procedure.

An alternative method is to use rain-water, but this is only possible on a small scale. Soft soap cannot be used as a spreader with lime sulphur as a chemical action occurs which decomposes the lime sulphur.

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Fortunately, in calcium caseinate we have a substance upon which the hardness of the water has no effect and although it is not as efficient as soft soap, it can be used to advantage with lime sulphur and other sprays or with very hard water. For spreading purposes, use about one quarter of one per cent., or 2½lb. per 100 gallons of lime sulphur spray and mix well with the spray.

Flour paste is also recommended, but it is not so good, as it is sticky and is liable to block up the stomata of the plant. Skim milk may be substituted for calcium caseinate where only a small quantity of spray material is required.—H. D. BENNETT.

Runner Beans in Boxes.

YOUNG runner bean plants are very tender and are soon killed by frost. If the seeds are sown in a cold, wet soil, they will rot instead of germinating. Plants raised under glass and, in due course, planted out and afforded ample protection for a time, will begin to flower at an early date, and the long tender pods resulting will be ready to gather several weeks before those borne on plants raised in the open border. If the boxes used are about 6ins. deep, they may be of any size as regards width and length. In the bottom of each box, which must be adequately drained, place some well rotted manure, quite 1in. deep, then rather lumpy fibrous loam in which all grass roots are dead, almost to the top of the box. Sow the seeds by dibbling them in 4ins. apart and 2ins. deep. The compost should be on the dry side and made moderately firm, before the seeds are sown. Do not apply water too soon; the moist compost will cause the seeds to begin to swell the first week, then a good watering will result in extra swelling and the first growth. Afterwards allow the soil to get moderately dry each time before applying more clear water. Any shelf or stage in a greenhouse will do for the boxes and their contents, if not shaded, until the first rough leaf appears; then more air must be admitted and frame accommodation found for the plants until the first week in June, when it will be safe to transplant them 1ft. apart in the prepared trenches. I always draw up a high ridge of soil to both sides and place small branching sticks to the plants directly they are planted out, as I find that such treatment is sufficient to protect the plants from cold winds and to support the young runners which are, at this date, growing freely. The final sticking should be done about a fortnight after the planting. Runner beans root very deeply into the soil, and it is advisable to open deep trenches, quite 30ins. deep, and to mix rotted manure liberally with the soil as it is returned to the trench up to within 6ins. of the top.—HANTS.

The Globe Artichoke.

THIS vegetable is not so often seen in amateur's gardens as its merits deserve. The edible part of the plant, which is the head, is produced from July to October. To ensure heads of the finest quality a deep rich loam is the best, but heads of a good size can be produced on any garden soil that has been well dug and had a liberal dressing of manure well incorporated with it. As the fleshy roots penetrate to a good depth, deep working is necessary. If the soil is heavy and retentive, road scrapings and coal ashes may, with advantage, be added to it.

Propagation is effected by off-sets or suckers, taken from around the base of the old stools in April. These should be about 10ins. in length, with some fibrous roots attached. Remove the rough outer leaves and plant out the young plants about 3ft. apart, with 4ft. between the rows, making the soil firm around them.

After planting, place 3ins. or 4ins. of very sandy soil or coal ashes around them, mulching the intervening space with long strawy manure. If the weather is dry, give water to ensure the young plants starting into growth quickly. The periodical use of the hoe is necessary to keep the soil free from weeds, and through the summer there must be heavy waterings in hot, dry weather.

Failing a stock of stools, seed may be sown in drills 18ins. apart in March or April. Thin the plants to the same distance, which will be sufficient space for the first year. Seed may also be sown in gentle warmth in March, the young plants placed singly into small pots and transferred to larger ones when necessary. Gradually harden off before planting out in May. A bed will remain profitable for about three years, after which the heads become too small to be useful.

Plants that are to remain another season should have all decayed leaves and old flower stems removed, and the ground lightly forked over and 5ins. or 6ins. of coal ashes placed around the stools.

If severe weather sets in, additional protection should be given by surrounding with bracken, leaves or strawy litter; it is also well to cover the tops of the plants lightly with bracken in the event of snow, which is frequently the cause of the loss of plants when it gets into their crowns. Remove the bracken in March, fork in a dressing of well decayed manure, as well as the ashes. Green Globe and Purple Globe are good sorts, but the best variety, especially for exhibition, is the Large Green Globe.—F. M. H.

Early Autumn Broccoli.

EVEN without a garden frame a few early plants can be raised that will fill a gap, perhaps, between the late autumn cauliflowers and the earliest broccoli. A large wooden box should be treated as if it were a garden frame by placing a few sheets of glass on it. Either frame or box, whichever is used, should be placed on a mild hotbed, if the materials for it are available. No attempt should be made to force the growth, but simply exclude frosts. Sow the seeds in boxes quite 5ins. deep and fill them with new loam, if such can be procured, in preference to old garden soil. With the new loam mix a small quantity of builder's old mortar rubble. When the seedlings are showing the second rough leaf, carefully transplant them into other boxes filled with a similar compost. Press the soil gently to the roots, but do not press the tiny dibber against the stems of the seedlings. Harden off the young plants gradually and then transplant them 6ins. apart in a nursery bed outside prior to planting them in their permanent quarters in June. If the whole of the soil cannot be manured, take out soil 1ft. deep and of the same width, forming a trench, put in well rotted manure, replace the soil and plant the broccoli 2ft. apart, treading down the soil firmly directly it has dried a little. In this way strong plants can be grown. Michaelmas White, Grange's Autumn White and Veitch's Self-protecting are very fine varieties.—G.

Some Hints on the Arrangement of the Crops.

BEFORE any seed sowing or planting is done on a large scale, the cultivator should carefully plan the various main crops, decide where they are to be grown. The winter greens must occupy a considerable space, eventually, in the garden, but it would not be economical to leave that particular plot of ground vacant until the winter greens are available for planting. Every square yard of ground should, if possible, be cropped all the year round and, furthermore, take two and three crops off some of the plots. If you plant early potatoes, early peas, lettuce, radishes, and so on, the crops will mature for clearing off the ground in good time for the planting of the winter greens. Therefore you should select the warm positions for these early crops. Such quarters will be the best ones for the winter greens; planted there the crops will grow sturdily through the late summer months and, being of firm growth the plants will withstand any severe frosts that may come. Contrast such sturdy plants with those grown in a very cold quarter of the garden, perhaps in partial shade, too. The growth will be more luxuriant, but it will not withstand frost as well as the firmer growth. Again, it is well to grow late summer or early autumn maturing crops in those naturally cool or partially shaded plots—if such exist in a garden. The row of runner beans should always be where the sunshine can reach both sides, if possible. Where this arrangement is practicable and the roots of the plants can penetrate into a naturally moist soil to a great depth, then those long, straight pods, so much coveted, will be obtained in abundance. The roots of the runner bean plant will penetrate a rich, well tilled soil to a depth of 30ins., and if such a soil can be used, it should be, even if the runner beans shade, heavily, some other crops. The isolated north to south rows of peas in the potato plot are, nearly always, the most heavily laden of all rows, with well filled pods. The long-rooted beets and carrots should occupy a naturally deep soil; the stump-rooted carrots and the round beets the most shallow soils, for preference. In this way all the garden space will be economically cropped. The celery rows should be formed where there is ample space for soil earthing up. Odd borders can always be occupied profitably with odd crops.—G. GARNER.

How to Grow Fine Parsnips in Heavy Soils.

I HAVE not used the word *big* as it is a comparatively easy matter to grow such and have them rough and coarse. I use the word *fine*, as such are most desirable and the most difficult to grow in a heavy, clayey soil. Big parsnips with cankered, rotted crowns I think are the most objectionable of all vegetables. In the first place, the staple soil must be deeply dug or trenched and well broken up. In the meantime some finely sifted soil should be obtained and stored in a dry place. If the ground has been trenched last autumn, so much the better for the work of sowing and, also, for the resultant crop of roots. When the weather is dry enough rake the surface of the soil lightly early in the morning. By midday it will be dry enough to tread upon without adhering to the boots. Make holes with an iron rod or a pointed stake 30ins. deep and about the size and shape of a good specimen root. Partly fill the holes, which should be 1ft. apart, in rows 18ins. asunder, with the sifted soil in which some bone meal has been mixed. Gently prod the dry soil with the round handle of the rake to firm it in the hole; then fill up with more sifted soil and firm it. Wood ashes may be mixed with the whole of the sifted soil, but bone meal with the lower portion the lower two-thirds—then the roots will go down after it and the seeds will not come into direct contact with it nor the crown portion of the root. Cover the few seeds sown in each hole about 1in. deep, also with the dry sifted soil and press it down firmly with the fingers. Do not water; the dry soil will gradually become moist, the seeds will germinate and not decay, and the resultant roots will be fine ones, not coarse, if the ground is well hoed during the summer and kept free from weeds. In such soil it is better to sow now for exhibition roots than early in January and have stunted plants as a result.—CHRISTCHURCH.

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GARDENING UNDER GLASS

Red Spider.

THESE tiny mites are difficult to see, but exceedingly destructive when allowed to become numerous. They may infest any plant and the most obvious signs of their presence are flabby leaves, leaves spotted, blotched and limp, and a woebegone appearance of the host attacked. Hot, dry, forcing conditions cause them to increase at an astounding rate, so that they may become a menace just now under glass, in frames, on trees against warm walls and in similar places. The first step in eradication, the best preventive where they are feared, is to maintain moister conditions, in fact, to keep plants and atmosphere as damp as can consistently be done without doing harm. In addition to that, an efficient wash is required, an insecticide it may be called. The new Red Spider Deaths now finding their place on the market are proving first-class when used as directed either to eradicate or to prevent the spread of the trouble, and can certainly be recommended. An older cure, but a very good one, is 1oz. fine sulphur stirred into soapy, tepid water (1oz. to 2oz. of soap per gallon); indeed, dry sulphur is quite good in itself, if carefully dusted where the pests abound. Nicotine and many proprietary insecticides are moderately good, but in all cases the thoroughness of application, so as to treat all parts of the leaves, the branches and surrounding woodwork or stonework, is the main reason of success. Fumigation in the ordinary way is very doubtful. As in all attacks of pests, washes should be applied at short intervals until immunity is secured.—CLYDESDALE.

Bedding Calceolarias.

WITH many readers, the bedding calceolarias which bear yellow, brown and bicolor flowers are still favourites and growers find it by no means difficult to carry a stock of plants over the winter, from year to year. An ordinary garden frame serves for this quite well; cuttings root in this soon after they are inserted and, with a minimum of care, pass the winter in safety. Now, plants in the frame begin to grow early in the year and tend to become rapidly overcrowded, to their detriment, it must be admitted; moreover, in a crowded state they do not branch out well and they tend to throw but one or two feeble shoots after they are bedded out in summer. As they are fairly hardy, by far the best plan is to board off a corner sheltered from cold winds about this time and to plant them in this, giving them lots of room. Should bad weather come along, simply lay branches or poles across this frame and put mats over them for a few days; otherwise they are quite safe here. Ten days or a fortnight after they are planted out in this rude frame, but only when evidence of growth is noticeable, pinch every shoot out; this will result in bushy plants in a month's time with shoots on all sides, plants which will become a mass of bloom shortly after they are planted out and which will continue to flower in like manner all season. I cannot over emphasise the benefits of this method; plants retained in the frame are much inferior, liable to damp off or to suffer from green fly and they never bloom so well. When transplanting, work some leaf-mould or a little manure into the soil; this encourages the formation of a mass of fibrous roots which enable the calceolaria to resist drought better than any other bedding plant. Amateurs who buy their plants between this and June will find little variety nowadays. Among the best sorts to grow are Cloth of Gold; Canariensis, primrose yellow; Bijou and Yellow Bijou, dwarfs; amplexicaulis, the old lemon yellow; Golden Gem and the deep browns or reds, Crimson Queen, Sultan, Prince of Wales and The Hero. The white, alba, is seldom seen, but it is well worth a place in clean country districts. Gladstone is a fine bicolor, its leaves are soft and more tender than the others, but the blossom spikes are really fine. —H. AITKEN.

Cucumbers Just Now.

SEEDLINGS will now be ready for permanent quarters in the greenhouse and beds may be made up for them in a suitable place; it is most essential that those beds be made up a day or two in advance of planting, in order to let the compost become thoroughly warmed up. Old turfy loam is generally used; to this is added one quarter of well decayed manure or a pint of hop manure per plant. The stuff, well mixed, is placed *in situ* with due consideration to efficient and good drainage; only two gallons or so are mounded up for each plant, more soil being added as the roots permeate what is already there. Plant the seedlings in mounds or, if seed is to be used, sow two in each place. Maintain a temperature which never falls below 60 degrees, syringe regularly and freely, keep a damp atmosphere and all will be well. Let the main shoot grow well up, then stop and train the laterals on either side; from the laterals, sub-laterals carrying fruit will soon spring. Add soil to the plants as the roots grow through that already there and give liquid feeding when the first fruits begin to form. At this time, also, sow seed for frame cucumbers. It is unwise for anyone without experience to begin frame cucumbers too early, but, if seed is sown now, plants will be ready in good time. Later on, the plants will be planted in the frame over hot-bed material, sufficient to give a good and lasting heat, and by that time the weather will be so far advanced that the grower has no great difficulty with the culture of the plants.—H.

CUCUMBERS PLANTED OUT IN A COLD FRAME AFTER RAISING FROM SEED SOWN NOW.

If all three plants grow well, one should be removed later on.

Two Popular Greenhouse Primulas.

EVERYONE is agreed that Primula obconica and P. malacoides are fine greenhouse plants and particularly useful in winter when stocks of flowering subjects are very low. In order to have first-class plants for mid-winter bloom seed may be sown very soon; it can, of course, be sown from now onwards until the end of May, but I find the earlier sowings invariably more successful. The seed is sown in a well drained seed pan filled with a porous, friable compost; a thin covering of sand or sifted soil is placed on top and the pan is then stood in a kindly corner, not too near the pipes. The seedlings may not come up for some three weeks; from the first, however, keep these seedlings near the glass, and not too warm. In due course, transplant into pots or pans, 2in. apart, and when the plants are well established get them into the frame; grow them there all summer, potting on first into 3in. pots and finally into 5in. pots, a little manure being added to the compost in each case. One great point to note is that they are given free ventilation; shade from strong sunshine may also be necessary and water, of course, must be given daily. It is most essential that good seed be obtained; after all, comparatively few plants may serve, so that the very best is distinctly advisable. Particularly in the malacoides species must the "newest" be ordered, like Dwarf Eclipse, Courtland's Seedling (pink), Superba (red) and good "doubles." Named varieties of obconica are also desirable and the newer hybrid Eureka must not be overlooked.—H. H.

Present Treatment of Forced Bulbs and Plants.

WHEN the bulbs and the various kinds of forced plants have done their part in the supply of early flowers, they are sometimes much neglected. Some cultivators regard forced plants as not worth troubling about; but, with a few exceptions, all may be made to serve again. Hyacinths, tulips and narcissi are the principle bulbs to take care of now. Directly they are removed from the forcing house to cooler quarters the soil must be kept drier, but not too dry, until the foliage has begun to turn very yellow and to shrivel. Then withhold water altogether and keep the bulbs, still in their soil, in a dry place until late in June or in July, when they should be replanted in prepared borders somewhere in the vegetable garden or reserve garden. If left there undisturbed for two years, they will again begin to yield a good harvest of flowers. Spiraeas, deutzias and similar plants may be treated in the same way; and lily of the valley may, with advantage, be planted in a cool north border. Azaleas, rhododendrons, deutzias and other plants that are to be repotted should be retained in the warm house and be duly repotted, afterwards being carefully watered and syringed until the new shoots are almost fully grown. Then gradually harden them and finally place them on slates, tiles or ashes in a cool position facing north, leaving them there until the early part of September.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

FEBRUARY in the north belied its reputation as a bad weather month, and even the adage familiar to readers north of the Tweed that "as the day lengthens the cauld strengthens" lost its meaning. The prevailing conditions could hardly be described as seasonable, for there were occasional mild spells during which the minimum day temperature did not fall below 37 degrees. While the genial atmosphere has had a quickening influence on bud and blossom, it did not favour the beginning of spring operations in the garden, as the ground remained heavy and sodden, especially in those inland districts where the soil is of a loamy clay composition. What is needed at the moment is a short period of drying northerly winds that will make the soil workable and thus enable those amateurs who do not practice early winter tillage to proceed with the essential work of digging and manuring.

Meantime the gardener who is in possession of a greenhouse or frame need not remain idle, for there is much that can be done in the way of striking cuttings of dahlias and chrysanthemums, and the sowing of popular bedding subjects such as asters, stocks, antirrhinums and an endless variety of half-hardy annuals, while the amateur who appreciates the value of vegetables in early summer should make a small sowing of parsley, lettuce, onion and peas, as all these favourites of the kitchen garden transplant readily. Any spare room in the frame may be devoted to cauliflower, cabbage and Brussels sprouts.

When visiting the garden of a successful exhibitor of vegetables the other day I was surprised to find a large collection of 2lb. glass jam jars and a goodly number of bottles such as are used in a confectioner's shop stored carefully in an outhouse. These, I was informed, were used as a substitute for the cloche in the raising of parsnips for competition purposes. The method of culture was very simple. Seeds are sown sparsely in pots of sand and allowed to germinate on the surface without any covering of sand or soil. By means of an iron crowbar a series of holes in rows are made in a piece of ground that was manured for a previous crop last year, each hole measuring 6ins. diameter on the surface and tapering down to the thickness of the instrument at the bottom. The holes are filled to within 1½ins. of the top with a specially prepared compost of leaf-soil, sand and well decayed manure in the proportion of three parts of the former to one of the latter, thoroughly mixed and broken up. When germination has taken place in ten to twelve days' time each individual seed is transferred from the pot to the hole, where it is laid on a thin layer of sand and covered with the same material. A glass jar is then placed over each hole and is allowed to remain until growth necessitates their removal. Feeding is never done from the surface of the holes, but at the side of the rows some distance from the plants.

Cut sets *versus* whole tubers is a question that one hears eagerly discussed by potato growers at this season. The point at issue, of course, is the relation of the particular seed to the weight of the crop. While the popular view favours the planting of the complete tuber, it may interest readers to learn that in a series of experiments carried out by a Scotch firm the results showed very little difference in the yield of the respective crops. In the case of the main crop varieties it was a case of six of the one to half a dozen of the other, but most of the growers of early potatoes who raise Epicure on a large scale prefer the whole tubers for sprouting in boxes. The ideal seed should approximate to the size of a hen's egg, but it is a not uncommon practice to halve tubers of larger dimensions.

At the recent meeting of the Royal Caledonian Horticultural Society a member courageously condemned the dahlia because of its lack of fragrance and also on the ground that, as it was liable to be cut down by early frost in a single night, the flowering period was very uncertain. These points of view are admittedly defects, but they have not affected the popularity of the dahlia as a decorative garden plant, for it is cultivated to-day on a scale that is unprecedented. The collarette and the dwarf bedding variety Coltness Gem are held in universal esteem, and trade growers are increasing their stocks by tens of thousands each successive year. The advent of the Star and the Charm forms created additional interest in the culture of the dahlia, and the creation of a new race by Mr. Unwin is suggestive of great possibilities. In the crossing of Coltness Gem with varieties of the Charm type the habit of the former has been combined with the pretty colours and semi-double form of the latter. Seven specimens varying in growth from 15ins. to 20ins. are being distributed this season. And these are certain to prove a popular addition to our modern dahlia strains.

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THE HALF-GUINEA HINT

Treatment of Apple Scab.

The most serious fungus disease of the apple and pear is what is commonly called scab, or black spot, caused by Fusicladium dentricticum and F. pyrinum. The method of attack by both pests and the appearance of attacked fruit are very similar, and for all practical purposes they may be regarded as one. These are diseases that can be prevented, but, once they get established, they cannot be cured without destroying the leaves and fruit. I have tried many remedies with varying results, but I have found the following treatment the most satisfactory: 2lb. of copper sulphate dissolved in 40 gallons of water, applied in spring before the buds begin to open, followed by a light spraying of Burgundy mixture; 2lb. to 3lb. of copper sulphate and 4½lb. and 6¾lb. of soda in 20 gallons and 30 gallons of water respectively, applied just before the flowers open or as soon as possible after all the petals have fallen. Carefully applied, you can laugh at black spot. As soda might vary, it would be safer to use testing paper for the Burgundy mixture: if it turns pink it will be safe; if it remains white, add more soda.—R. C.

Stunted Hyacinths.

It frequently happens that hyacinth stems are very short, giving the plants a stunted look. In such cases it is a good plan to make some paper cones (with brown paper preferably); put these over the plants and cut off the tops of the cones, so that medium sized, round holes are formed. The stems will be drawn up to the light entering these holes, and when the blooms have been raised well above the leaves, the cones may be removed.—J. L.

Starting Begonias Without Heat.

For those who wish to have begonias blooming in the garden early in the summer, but have no heat in which to start them, it is well to commence them indoors at once Procure a shallow box, pierce numerous holes in the bottom and cover with plenty of clean drainage. Fill with rich soil well watered. Begonias thrive best in damp, well manured ground. Place the tubers firmly in the soil and cover box with glass, preferably "Vita" glass because of its beneficial effect. Place in a sunny window in a room which is always kept at a good temperature, water regularly and avoid draughts. As the plants shoot up, the glass can be gradually raised by placing small and then larger stones at each corner. By May they ought to be in bud and ready to plant out.—E. M. M.

How to Insure Plants Against Slugs.

To be absolutely sure of keeping slugs away from a valuable plant, say a very expensive new delphinium, take a piece of old thick felt or similar stuff, cut it into strips 1in. broad, surround your plants or beds with these strips and soak the latter with petrol. Repeat the soaking in dry weather every week, in damp weather the petrol will retain its effect even two weeks after soaking. Never a slug will try to pass the petrol rings. I use this method especially on beds of young delphiniums of which slugs are very fond. Thus I saved fully 100 per cent. of my seedling plants in the past three years. The remedy is inexpensive and the petrol easily poured from a tin can having a slender spout, while rain does not diminish the effectiveness of this treatment.—M. W.

Early Flowers for House Decoration.

Cut off branches of lilac, etc., with good fat buds showing just now. Place the branches in jars of water, with a little charcoal, to keep the water sweet. Put the jars in a dark warm cupboard. Forget them for a few weeks. Then gradually harden to light and air, when there will be a nice bunch of blossoms long before they appear on the trees. Lilac, sloe blossom and flowering currant can be treated successfully in this way and other shrubs would probably respond to this treatment.—M. A.

Sowing Onions.

Most people sow their spring onions too thickly, with the result that when thinned the onion fly starts to work. My plan is to sow the main crop so that no thinning is required. This is done by mixing the seed with double the quantity of sifted soil or sand and then sow in the ordinary way, ignoring the fact that you have mixed anything with the seed. I find the onions generally come about right without any thinning and are large enough for general use.—F. W. D.

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CARNATIONS FOR THE BORDER (see page 165).

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Continued from page iii.

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THE GARDEN

VOL. XCI.—No. 2884. MARCH 12, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Making Plants Flower.

EVERY gardener, naturally, wants to secure the free flowering of his plants. Now whether these are in pots or in the border, there are just a few points which are worth bearing in mind and these are of almost universal application.

In a general sense plants that grow with great luxuriance rarely produce an abundance of blossom. Although the point is often forgotten, it is a fact that the flower production on the part of plants is associated with semi-starvation. Examine a flowering plant and it is evident that the blooms are nearly always at the ends of the shoots farthest away from the centres of nutrition. It is also a well known botanical fact that most plants tend to be more floriferous at an early date in rather poor ground than when the soil is very rich. If a specimen is growing in extremely rich soil, a great development of leaves takes place and the time of flowering is deferred and the number of blossoms produced may be below the average.

Sunshine is one of the greatest stimulants in the matter of flower production. There are a few plants which will grow in shaded places, like the foxgloves, the hellebores, etc., but these are really exceptional, for the vast majority of flowering subjects are sun-lovers. It should not be overlooked that a situation which is extremely sunny, like a south border, will often prove so hot that the beauty of the flowers does not last long. Here plants tend to set seed very freely and it is most important to pick off all dead blooms as fast as they appear. Then the display of bloom in a hot position may be much prolonged by keeping the soil in which the plants are growing thoroughly moist.

With pot plants, apart from those which are being forced, a very rapid development is undesirable. A slow, steady growth is much more likely to result in the production of an abundance of flowers and the plant as a whole will be more shapely and compact. The chief causes which induce too quick a growth in pot plants are a high temperature and a position where the light is not sufficiently strong. The remedies consist in getting the plants into a cooler atmosphere and placing them as near to the glass as possible.

Pinching out is a very wise practice in the case of many plants, whether out of doors or under glass. Always one gets more flowers by removing the tips of the leading shoots in the early days and the plan may be followed with advantage in the case of annuals as well as perennials. If this is done when the plants are quite young there is no reason why the flowers should be late in putting in an appearance. The result of this step is seen in the larger production of flowers. The state of the soil in which plants are growing has a marked effect on the extent to which they bloom. On close, heavy land, which is relatively cold, plants are always slow to come into blossom. On light, warm ground all plants will come to the flowering stage at a very much earlier date. Where specially early flowers are desired it is worth while preparing some beds in which the soil is much lighter than that usually recommended for the particular kinds.

Look out for our Special Gladiolus Number next week.

Order your copy early.

The Temple Gardens Exhibition.

ARRANGEMENTS are well in hand for the second annual Gardens Exhibition which is being organised by the London Gardens Guild in conjunction with the *Daily Express*. The dates fixed are September 3rd, 4th and 5th. This exhibition is one of the most unique in the country. No cash prizes are given, but Championship medals and other awards are offered for the best grown flowers in the Greater London area. Replicas of the first-prize gardens in the All-London Garden Championships will be made by several leading firms. Last year 20,000 people visited this exhibition, and this year it is confidently expected that this number will be greatly increased. A feature of the exhibition is a class for corporate displays of flowers from garden societies. Last year twelve societies competed, each filling a space 6ft. by 4ft. with flowers; and this year, with more time to make arrangements, it is expected that this number will be more than doubled. While the Show is strictly devoted to amateurs, a limited amount of space is available for exhibits from trade firms who specialise in various flowers. The Temple Gardens, as readers will know, was the venue of the old R.H.S. shows. It is the most central and beautiful spot in London. Readers can obtain a copy of the schedule on application to the organisers, the London Gardens Guild, 124, Walworth Road, S.E.17.

This Week's Work

Plant border carnations.
Sow leeks, onions, peas, cabbages, carrots and turnips in the kitchen garden.
Trim ivy on walls and prune your shrubs (see page 168).
Finish planting perennials, roses and shrubs as soon as weather permits.
Sow celery in boxes placed in a warm greenhouse.
Place boxes and pots of seed peas in a frame to harden off.
Lift and divide old plants of border chrysanthemums.
Protect wall fruit trees from frost by covering with netting.
Pot up tuberous-rooted begonias which have started into growth.
Plant first early potatoes.

Primulinus Gladioli.

A Flower which Everyone Should Grow.

THE illustration on the front cover of this week's issue is that of a group of primulinus gladioli, one of the most fashionable and certainly one of the most attractive of our modern flowers. It is only since the war that this race of hybrids has been developed to any great extent with the introduction of the species G. primulinus from South Africa some twenty years ago, but during that time they have come to the very forefront of our garden plants. Every year brings new and better varieties of richer and more brilliant colouring, which provide the most effective display in the garden from late July until September. It is safe to say that no flower lends itself for use for decoration indoors better than the gladiolus, and for that reason alone the housewife should see that a border is grown somewhere in the garden for cut flower purposes. The collections offered will be found to cover a wide range of shades, and the amateur would be well advised to purchase early and plant during the next two or three weeks. Our next week's number is one devoted specially to the gladiolus, and in it will be found hints on planting, together with articles on varieties to plant, how to arrange them for display indoors and their value in the garden. Our next week's cover will show the large-flowering varieties, and amateurs should note the difference in habit and flower character between the two races. Both are worth growing.

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HARDY AZALEAS FOR PRESENT PLANTING

FOR garden planting we still speak and write of azaleas as distinct from rhododendrons, though botanists unite them in the one genus, rhododendron. The original differences were that the azaleas were leafless in winter and had only five stamens, while rhododendrons were evergreen with, usually, ten stamens in each flower. The introduction of evergreen species with five stamens, Rhododendron (azalea) indica, for example, and the deciduous Rhododendron quinquefolium with ten stamens rendered the botanists' key valueless, and there remained no alternative but to unite them into the one genus, rhododendron. For garden cultivation and planting the name azalea can still be usefully employed to distinguish the deciduous members of this very large family.

Origin.

The present-day race, or races, of hardy garden azaleas are the result of intercrossing several species, the most important being Rh. molle from Japan, Rh. sinense from China, Rh. luteum (syn. flavum) from the Caucasus, and Rh. calendulaceum, Rh. nudiflorum and more recently Rh. occidentale, all from North America. The intercrossing of these wild azaleas from three continents by plant breeders or hybridists has given us a family of hardy flowering shrubs with a wealth of brilliant colours unequalled among deciduous woody plants. A garden of any size can scarcely be considered complete unless azaleas are represented. Certainly they should find a place in shrubbery borders, unless heavily shaded, if the soil is suitable.

Planting.

Though frequently alluded to as peat-loving plants, azaleas will thrive in loamy soils provided there is no perceptible quantity of lime present. The natural soil at Kew, where azaleas thrive so well, is a lime-free sandy loam. It is desirable to add a little leaf-mould and peat when preparing the ground, but it is by no means a necessity. Should lime be present in one's garden soil, it is not a difficult matter to remove the existing soil and prepare stations for the azaleas, but before doing this find out if there are any rhododendrons growing in neighbouring gardens. So many flower-lovers only associate azaleas with peat soils, and do not attempt their cultivation because the soil of their garden is loam.

For New Gardens.

Readers planning and planting new gardens should include azaleas among the desirable shrubs to cultivate. It is very noticeable how well azaleas and rhododendrons thrive in most virgin turfy soils. We may find they do not thrive in the soil of an old garden, not because it originally contained lime, but through chalk or lime being added for crops over a period of years.

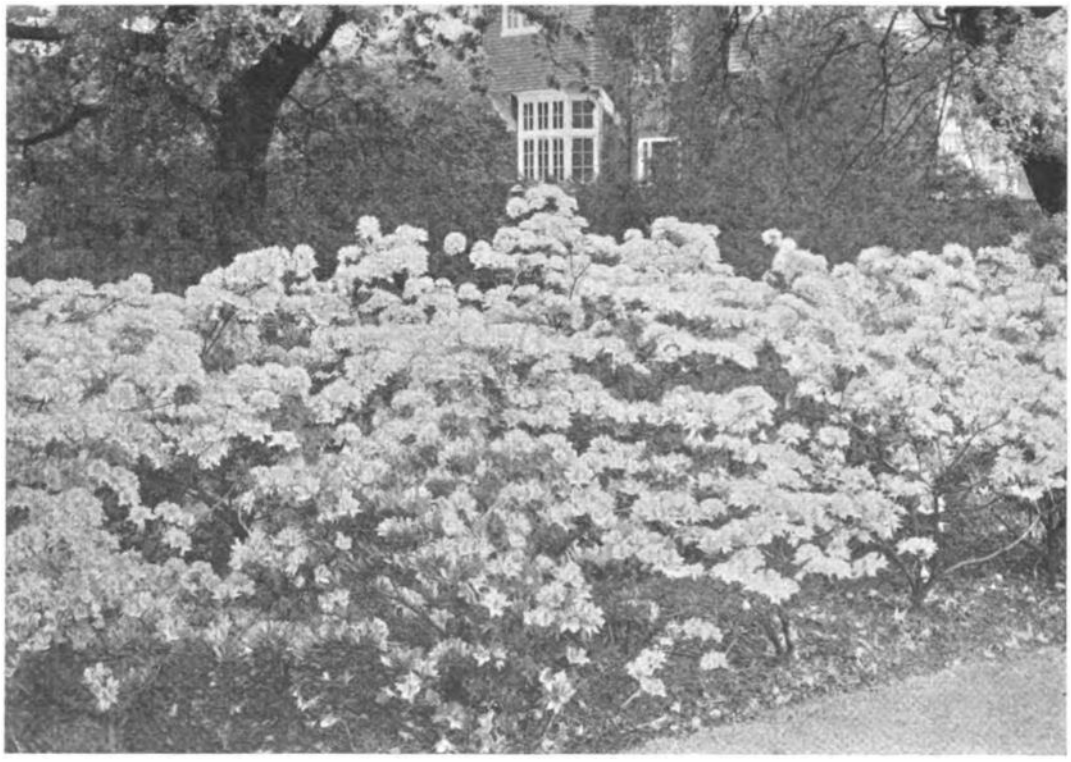
Select light positions for azaleas. A fair amount of sun is helpful to ripen the young growths and develop flower-buds, but I have seen plenty of azaleas thriving under a north wall where they got plenty of light. The two extremes to avoid when planting azaleas are dark shaded positions and very hot, dry, sunny conditions. Azaleas have a liking for a moist soil, not water-logged by any means, but damp ground to keep the roots cool during the hot days from May to September. A mulching of decaying leaf-mould is very beneficial to azaleas applied during May. A bale of peat-moss is quite a good asset in the cultivation of azaleas both to dig in when planting and used in about equal quantities with leaf-mould for mulching. It must be the new peat-moss as imported in bales. Used material from stables will do more harm than good to the azalea roots.

Propagation.

The named varieties of hybrid azaleas are increased by layering, grafting and cuttings. Except for the interest attached to the propagation of one's own plants it is scarcely worth while in small gardens.

Although hybrid azaleas do not come true to the colour of the parent plant when raised from seeds, it is very interesting work. Gather seeds from the best varieties only. While some of the seedlings will vary considerably from the parent plant, others may closely resemble it, and there is always the possibility of raising varieties which are an improvement on the parent.

IN A SMALL FORMAL GARDEN AZALEAS SHOULD BE PLANTED HERE AND THERE ALONG THE PATH FOR COLOUR EFFECT.



AZALEAS ARE ESPECIALLY SUITABLE FOR FURNISHING PATCHES OF COLOUR IN HALF-SHADY BORDERS. *This is an illustration of a bed flourishing in a garden in a London suburb.*

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Azaleas are among the easiest shrubs to transplant successfully. With masses of fibrous roots at the base they move with firm balls of soil attached. The planting season may extend from November to March whenever the soil and weather conditions are favourable.

It is very desirable to remove the clusters of flower-stalks as soon as the blooms fade and fall. Unless this is done most sorts develop seedpods, which absorb most of the plant growth, whereas it should rightly go in the development of new growth and flower-buds for the following year.

The gorgeous flaming colours of azaleas, though distinct to the eye, are impossible to describe accurately on paper. There are shades of red, orange and yellow, also white or cream, with pinks and rosy purples. All give a wealth of blossom and many are delightfully fragrant.

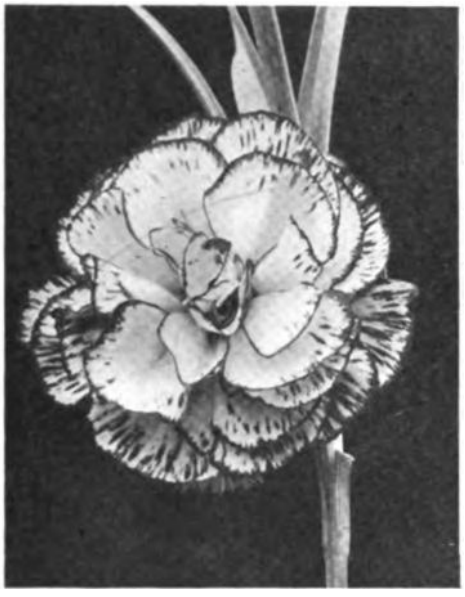
Among a host of varieties from which to select no two growers would agree in the selection of the best dozen. The following twelve, chosen as covering a wide range of colour, are among the most free-flowering sorts and obtainable at reasonable prices: Anthony Koster, golden yellow; coccinea speciosa, orange flame; Daviesii, creamy white; Gloria Mundi, orange vermilion; Grandeur Triomphant, cherry rose; Ignea Nova, carmine flushed orange; J. C. van Thol, red; Nancy Waterer, Indian yellow; Rio des Belges, peach rose; Unique, reddish orange; T. J. Seidel, deep salmon; and Mrs. L. J. Endtz, clear yellow. A. O.

CARNATIONS FOR THE BORDER

There are now many fine varieties of good colour and habit to be had among hardy Carnations, and a few should be included in this year's garden display. Planting can be done this month.

THE first quarter of the twentieth century has seen no less progress in the realm of horticulture than in that of science. The introduction of new and improved varieties of roses, sweet peas, dahlias and chrysanthemums, their general adoption by the gardening community, and the interest evinced at the exhibitions and shows are pleasing symptoms of increased and increasing activity.

The steady stream of exquisite novelties that has emanated from the small but select number of hardy border carnation raisers confutes any suggestion of inertia in this branch of horticulture. But the untiring efforts of the two societies that are exclusively devoted to the fostering of its interests—the Southern Section of the National Carnation and Picotee Society with London as centre and the National Society, Northern Section, with headquarters in Sheffield—and the obvious merits of the border carnation itself have failed to serve as stimuli to the well deserved popular fancy.



PALADIN, A YELLOW GROUND FANCY. GORDON DOUGLAS, A GOOD CRIMSON.
Two fine garden varieties.

While it is true that most gardens contain specimens of the border carnation, it is equally true that it does not command that individual attention, created by the desire to excel, bestowed upon no more worthy subjects. Mankind is disposed to expend its energy in the quest of those things that are difficult to acquire, and it is inclined to depreciate those things that are accessible. Thus the border carnation, thoroughly acclimatised, perfectly hardy and easy to cultivate has come to be regarded as inferior to those garden plants that demand greater skill and more careful nursing.

This is truly deplorable, for the border carnation is unique as a summer-flowering plant, and it is without its peer as a cut bloom for decorative purposes. A true perennial, free flowering in its second season, with blooms of remarkable longevity, embellished with perpetual glaucous foliage, it is worthy of a selected and prominent position in the border of the most exacting gardener.

Plants that have been derived from the layers taken from the previous year's healthy stock are regarded as being the most satisfactory. Though autumn planting is recommended, early spring planting in some localities and under certain conditions may be more conducive to success. Ineffectual drainage aggravated by excessive rainfall is liable to give rise to adverse soil conditions, and where this state prevails spring planting is advocated. Firmly planted out so as to allow 14ins. or 15ins. between each pair of plants in a raised bed that has been duly cultivated, enriched with old manure and freely limed in season, each plant may be expected to give a choice bloom upon the leading growth, with a possibility of side blooms in the later season. Judicious pruning or layering of any side growth that is disposed to straggle in the late summer will assist in the formation of a compact plant capable of bearing a profusion of flowers in the second season.

BOOKHAM SALMON, SALMON PINK.
One of the finest of all hardy border carnations.

Split calyces are a feature of old and neglected carnations, but there are now many varieties that are virtually proof against this weakness. When this tendency asserts itself in such varieties it may be more frequently traced to improper methods of cultivation and gross feeding with fertilisers than to inherited vice.

The numerous varieties afford wide selection in habit and colour. Those that make a short, sturdy growth are preferable to the tall growers, and the self-colours make a more ready appeal than the fancies. An interesting collection may be made from the following varieties:

Self-colours.—Elaine, white; Mary Murray, yellow; Bookham Rose, rose pink; The King, maroon; Gordon Douglas, crimson; and Bookham Salmon, clear salmon pink.

White-ground Fancy.—Fair Ellen, lightly marked grey; and Mrs. Edmund Charrington, regular lilac stripes.

Yellow-ground Fancy.—Highland Mary, rose pink stripes; Linkman, heavily marked scarlet; Sweet Ann Page, lavender stripes; and Paladin, edged and pencilled purple.

Nondescript Fancy.—James Griggs, lavender grey, banded rose.

As the plea of the servant must necessarily be weaker than the direct appeal of the master, there is confidence in the belief that a few plants acquired upon approbation will be destined to be the nucleus of a comprehensive collection of a future devoted carnationist. J. A. H.

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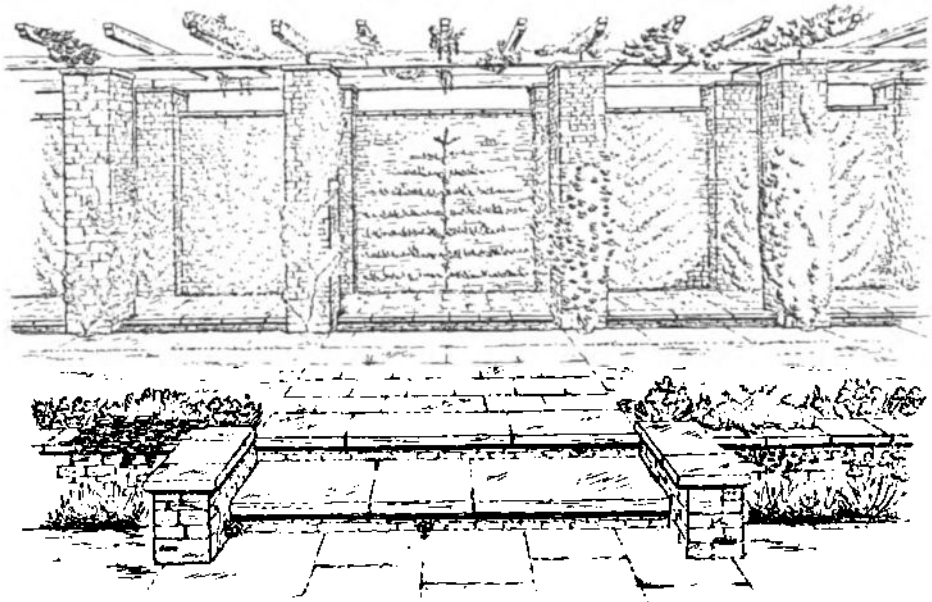
PLANNING THE SMALL GARDEN

Ground contour in the garden is important. Variations in level will be found to make a garden seem larger and will also create a larger area for planting.

WHERE space is little in question, fine garden effects may be achieved "on the flat." The smaller the area we have to treat, the more important it becomes that it should not be left monotonously level. The large garden may rely for form and definition on stately trees and carefully arranged masses of shrub planting, with, very possibly, fine distant scenery. Its smaller counterpart will have no space for striking contour in vegetation, and must very largely rely upon the judicious disposal of the earth at the time when the garden, as such, comes into being.

A garden plot on a level site is necessarily the most difficult to treat, but it must be borne in mind that we do not want sensational differences of level in a little garden; and we can often take advantage of the fact that architects usually place the damp-course some distance above the natural ground level, to form a shallow terrace dominating an otherwise flat garden. And the garden flat itself may be further broken up by the introduction of a sunk garden feature, which need not entail much soil removal.



Indeed, we must, in these cases, be careful to preserve a sense of proportion. In a very small garden, a difference in levels amounting to no more than half a foot may correspond in a large country lay-out to walling several yards high and with elaborate, balustraded two-way steps. Anything in the nature of a well-like effect will reduce the apparent size of a space already small, and give an effect of effort and pretentiousness quite out of keeping with the modest dimensions taken in hand.

We rely on our contouring—and the materials used in the contouring—for much of the form necessary to bring the full beauty out of harmonious colouring; but it also gives us, incidentally, a larger area for planting. And, of course, the plants we utilise for dwarf walling and such-like are of kinds which, in an ordinary flat treatment, we should probably be unable to use. So that we gain in variety of planting form as well as in mere general contour.

Up to a point, then, real variations in level assist us to make a little garden seem larger than it really is, but minor and unnecessary variations always reduce the apparent space available. Two borders with a sunken, roughly walled, metalled path between provide a treatment which appears to occupy less space than would similar borders divided by a simple grass path laid to about mean border level. And the amateur is often astounded at the apparent increase of area brought about by substituting for a gravel path traversing a grass plot a paved one running through it *at turf level*.

The accompanying sketch gives an idea of a treatment very suitable for gardens of strictly limited size, though modifications will, naturally, suggest themselves. We see the outer boundary of a small formal garden in the foreground; a narrow border below the retaining wall, and another immediately above it. A grass path separates this internal treatment from a slightly raised pergola which follows the garden boundary. Such a pergola may be used across the bottom of a suburban garden strip, or, in a garden not too narrow, down one or other side. The pergola as shown cannot be called elaborate, but it is substantial in construction and would only be suitable where the house architecture is likewise of a dignified character. For very small spaces a pergola must necessarily be of rather modest proportions, and uprights partially or wholly carried out in woodwork will be allowable. But any suggestion of "rustic work" should be carefully avoided. A base of stone or brick, if properly proportioned, with squared wooden uprights above, gives a much more architectural character to a pergola than is provided by uprights entirely of wood.

A terraced pergola similar to the one shown is very useful in another way. The combination of a terrace on the garden front of the house with a central sunk garden has already been discussed. But it sometimes happens that the house proper presents but a small frontage to the garden; the remainder of the garden frontage being occupied by a litter of none too sightly outbuildings. In such a case the combination of terrace and pergola is very helpful. Awkward gabled building ends forming part of the back wall of a simple pergola are easily rendered æsthetically innocuous, and may even, in some cases, be made beautiful in themselves. Ugly, bad-coloured brickwork, very possibly badly jointed and (especially in the Midland counties) very likely to be composed of singularly ill-proportioned bricks, should, when plastered and whitened, form quite a pleasing backing to a pergola; but care is, of course necessary in laying out the pillars so that they may at once display what is best worth showing and conceal down-spouts and other obnoxious features. Where down-spouts cannot be hidden, the provision of a good leaden spout-head will revolutionise its appearance. R. V. GIFFARD WOOLLEY.

Single Chrysanthemums for the Border

IT is a far cry to the day when that early flowering Japanese chrysanthemum Mme. Desgrange was first introduced—the early 'seventies—and became the pioneer of outdoor varieties. It is a white sort, still in commerce, and not long afterwards was followed by G. Wermig, a primrose, which for a time held sway as the chief of outdoor varieties. Later, the singles appeared and among the first to be distributed were Mary Anderson, Oscar Wild, Terra Cotta, which did not, however, bloom much before October. They were not received very enthusiastically by those who exhibited, being looked upon as something inferior to the big blooms of Japanese and incurved sorts, which were regarded as only important when size entered into account. Indeed, it was found to be a difficult matter to induce chrysanthemum societies to acknowledge them at all, and in one or two societies with which the writer had to deal, there was much wordy warfare to get the singles included in the schedules. But the public were not long in appreciating singles at their true worth, *viz.*, as flowers suitable for cutting for home decoration, and eventually prejudice was broken down, more especially when those which bloomed early and could be grown in the garden made their *début*. The output in recent years of many single sorts go to show that their popularity is assured, and that they have come to stay, and when one remembers that they can be planted out in May, and can be had in flower from July to October, it is not surprising to learn that they are being grown more every season. Grown outside, one is not concerned so much about the production of large individual blooms, as with quantities of flowers that are peculiarly adapted for cutting for table decoration. They are dainty, and on this account alone are being sought after for planting out in open borders. If it is not always safe to leave clumps in the ground during winter, it is not a difficult matter to lift a few and place under the shelter of a cold frame until spring, and this is all the trouble one need go to. Cuttings can be struck as late as March, and these will make plants that will give abundance of bloom in early autumn. As we know, chrysanthemums are not over-fastidious as to soil when planted in the open: one on the light side, helped with a little manure, suiting them admirably. A sunny position should be given them, and each plant must be well staked.

Among the very many sorts from which one may select to-day in singles, the following are worthy of consideration for planting out of doors:

Golden Gleam, bright yellow, 2½ft.
Papyrus, velvety crimson, 3ft.
Midnight Sun, terra cotta, 3ft.
Delice, bright pink, 3ft.
Nathalie, crushed strawberry, 2ft.
Waterwitch, clear white, 3ft.
Glorious, rich crimson, 2½ft.
Maidenhood, light primrose, 3ft.
September Gem, golden yellow, 3½ft.
Ray of Hope, deep orange, 2½ft.
Doreen Woolman, golden flame, 3½ft.
Stanley Baldwin, wine red, 2ft.
Donald Wells, pure white on long stems, 3ft.
Kitty Riches, rich pink sprays, 3ft.

As will be seen, most of the above are dwarf in habit and are specially suitable for border growing. W. LINDERS LEA.

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THE BUSY MAN'S PAGE

Thinning Herbaceous Plants.

WHERE nothing in the way of lifting and dividing has been carried out in the case of Michaelmas daisies, and other occupants of the herbaceous border, a certain amount of thinning out is strongly to be advised. During March most of the clumps will have sent up shoots to the height of a few inches and it is a great mistake to allow all these to develop. It will suffice if from four to six of the strongest are left to each plant. These will finally branch out with great vigour and, in the end, give a far better display of first-rate flowers than would be secured were the whole of the shoots allowed to develop at their own sweet will. Growers who have never tried this plan before will be astonished at the good results which follow.

Fertilisers for Roses.

ALL roses must be well fed in order to keep them at A1 standard and town dwellers who cannot get good natural manure may feel the need of some guidance. Of necessity, they must rely on artificials; these, though not a permanent substitute for organic manures, are very satisfactory, but must never be overdone. Best of all are what might be called semi-natural manures; hop manure is one of these, but a good brand like the well known Wakeley's, should always be insisted on—a good hop manure contains hop refuse and a scientific admixture of the correct artificial fertilisers. Next in order might come bone dust; bone meal may be too coarse to tell fully the first season, but bone flour or bone dust is very good, a quarter pound per border rose. Blood fertiliser, guano and fish guano may be applied at about the same rate, or the chemically-inclined reader may mix up 7lb. good super, 3½lb. sulphate of ammonia, 2lb. steamed bone flour and 2lb. sulphate of potash, applying this at 2oz. to 3oz. per bush. In all cases the plan advocated is that whereby the ground round the bushes is uniformly enriched; scatter the material evenly on the ground and prick it in with fork or hoe. Again, note that when it is the intention to feed the bushes during summer, less may be applied just now; in light soils it is not advisable to put it all into the ground at once, but to give half now and half about the beginning of June.

AN ASPIDISTRA THAT NEEDS REPOTTING.

Hollyhocks.

ALTHOUGH hardy perennials, hollyhocks may be successfully treated as annuals, providing the seeds are sown in gentle warmth in February. Failing this, a sowing should be made in April or May, when germination can be effected in a cold frame; while they will also germinate in the open border—a fact that is proved by the thousands of self-sown seedlings that appear in many gardens. The drawback of hollyhocks is the fungus disease to which they are subject, but this is not so virulent some years as in others, and even if they lose their lower leaves they are very effective at the back of the herbaceous or ordinary flower border. No doubt the best way with hollyhocks is to raise the plants annually; the result is vigorous, healthy seedlings, which are less susceptible to disease than old plants or those propagated by division or cuttings. The double-flowered varieties can be raised from seeds, so there is no need to resort to cuttings, and if seeds of a reliable strain are obtained a large percentage of double flowers may reasonably be expected, while the singles are invariably showy and attractive. From a late spring sowing, sturdy plants will be available by September, when they can be transferred to their flowering stations.

During recent years the single varieties have rapidly increased in favour, and now they can be secured in various shades of pink, red, white, bronze, yellow and rose; while for general purposes a good mixed strain is recommended. Seeds of named varieties are available, such as Golden Beauty, a deep shade of orange; Crimson King; Rose Queen, and others; while the American fringed are quite distinct, being characterised by the beautifully fringed petals. Hollyhocks enjoy a rich, deeply dug soil, and it is always best to arrange them on a border which was manured the previous year.

How to Treat Aspidistras.

THERE comes a time, even with the long-suffering aspidistras, when the plants are very much better for repotting. This should take place in the early spring, loam and sand with some peat and leaf-mould forming a good compost. The soil should be placed in the pot over a good layer of crocks, and worked in among the stout roots as the potting proceeds. The rhizomes, or underground stems, from which the leaves arise, must not be buried deeply, and previous to potting any dead or decaying parts of the stems should be cut away with a sharp knife. When an aspidistra is very large, and the rhizomes are much congested, it is beneficial to divide the plant. The actual work of division should be done, if possible, in a pail of water in order to prevent the undue breaking of many of the roots. If the rhizomes have branched and made two or more leads, they may be cut at the point of division, provided each has roots of its own. These portions of old plants grow with great vigour and often develop a finer type of foliage.

Manuring the Lawn in Spring.

A LAWN must be humoured, or, if it may be put in a different way, different lawns need different treatment. A fertiliser used for any lawn which has fine grasses must, nevertheless, be rich in phosphates and contain a little potash; such a one may be made merely by mixing 6lb. super and 1lb. sulphate of potash, but many simply use a lawn fertiliser, bone dust or fish guano, at some 2oz. to 4oz. per square yard. A lawn on a light soil needs more potash to counteract some of the soil effect of droughts (the quantity should be doubled at least), but, even at this late time, leaf-mould or spent horse manure rubbed through a quarter-inch sieve may be applied and lightly brushed in. A heavy soil, inclined to be sticky and wet on the surface in rain or cracked dry in heat, will derive much benefit from a sandy grit or even fine sifted gritty rubbish; not too much may be applied, however, at this late period. In such a case, carbonate of lime in powder, ground limestone or chalk, may also be applied, lightly, say 4oz. to 6oz. per square yard. A very efficient way to feed a lawn is to spread manure, well broken up, over it; this must be disturbed once a week and after a month the residue is swept up and used for the kitchen garden. Of a tonic nature, so very useful for bringing on grass quickly is sulphate of ammonia; a light dressing, ½oz. per square yard, every six weeks for three dressings, will undoubtedly have a wonderful effect and give a rich, close texture during the whole year. Carbonate of lime and bone meal encourage clover, while sulphate of ammonia eradicates it.

WHEN DEALING WITH A LARGE PLANT IT IS DESIRABLE TO DIVIDE IT INTO TWO OR MORE PIECES.

A SECTION OF A POT SHOWING METHOD OF DRAINAGE, AND A DIVIDED PORTION REPOTTED.

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SHRUBS TO PRUNE NOW

MOST amateurs know that pruning is necessary to attain the best results from ornamental shrubs; but a great deal of doubt is always prevalent as to how and when pruning should be done. The following shrubs are among those which can be pruned from the latter part of February to the middle of March. The method to follow in pruning each one is given.

Ailanthus glandulosa (Tree of Heaven).—When grown for large foliage, cut down to within a few buds of the ground, and only allow one shoot to develop. Given a liberal mulch of farmyard manure, leaves measuring from 3ft. to 4ft. can be produced.

Artemisia Abrotanum (Lad's Love).—Shorten last year's shoots and cut away old wood.

Buddleia variabilis and its varieties.—Cut back last year's shoots to within a few buds of the base. When the new growths appear, select the most vigorous ones and rub off the others, as it is much better to grow a few first-class flower spikes than many inferior ones.

Ceanothus.—The autumn-flowering varieties, such as Gloire de Versailles, should have last year's wood cut hard back. Vigorous growths may be left about 8–12ins., but the weak ones should be removed to within a bud or two of the base.

Cestrum.—Occasionally grown in warmer localities. Cut back last year's wood to within a few buds of the main stem.

Clematis Jackmanii and varieties.—Cut back last year's growth to within a few buds of the base.

C. Viticella and varieties.—Growths made during the summer often die back in winter, and the shoots should be pruned back to healthy buds.

C. lanuginosa.—Does not need such drastic pruning as the above.

Colutea arborescens.—Can be left neat if last year's wood is pruned to within a few buds of the base.

Desmodium.—Semi-shrubs for warmer localities. Cut to ground level or to base of last year's growths.

Eccremocarpus scaber.—Where this has survived the winter, it will need cutting back to a live portion of its stem: this may mean cutting to the ground, but it will probably spring up again from a woody root stock.

Fuchsia.—Where the branches have been killed in winter, cut back to ground level.

Hedera (ivy).—Ivy covering a wall should be clipped back as close as possible with shears.

Hydrangea paniculata and *var. grandiflora.*—If grown for huge flower heads, should be pruned severely. When new growth appears cut this out to a few vigorous shoots. Treat the roots liberally with manure. If very large panicles are not desired, a moderate thinning out of old wood will suffice.

Hypericum calycinum (Rose of Sharon).—Old stems should be clipped almost level with the ground.

H. Moserianum.—Cut out all dead wood and shorten remaining growths to half their length.

Indigofera Gerardiana.—Cut back last year's growth to within a few inches of the ground. If killed back by frost, cut to ground level.

Lespedeza.—Same treatment as indigofera and desmodium.

Lupinus arboreus.—Remove some of the older wood and shorten last year's growths about half-way.

Paulownia imperialis.—If grown for large foliage, treat the same as ailanthus, except that the two best shoots may be grown on for a time instead of one. When growth is established, remove the weaker of the two.

Piptanthus.—Remove old wood and shorten young shoots.

Polygonum baldschuanicum.—If growing in restricted space, some cutting back may be done. Best left alone where room is available.

Rhus typhina.—When grown for large foliage same treatment as ailanthus.

Romneya.—Longer branches will be improved by shortening, and exhausted wood can be cut out. Cut back any growths beyond dead point.

Spiræas.—Such as japonica and its varieties, which produce terminal flower heads on this year's wood, should be cut fairly hard back.

Sambucus (Elder).—When grown for foliage effect—*e.g.*, those with coloured leaves—cut back to within a bud or two of the ground.

Tamarix pentandra.—Cut back last year's shoots to within a few buds of the base.

Tecoma radicans and T. grandiflora.—Cut back last year's shoots to within a few buds of the old wood.

Vitis.—If trained on pergolas, etc., cut back last year's growth to within a bud or two of the main stems. If rambling over a tree it is best left alone.

All pruning operations must be thoroughly done; clean cuts should be made just above a bud, and no ugly snags left to die back. If fairly large branches are cut off, the wounds should be dressed with tar or some similar material. DUNHEVED.

BEGONIAS FOR SUMMER BEDDING

In this article special emphasis is laid on the value of B. multiflora and its many attractive varieties for a bright summer display.

IN my opinion, no type of begonia can compare with the multiflora type for summer bedding, and the same opinion is held by hundreds of visitors who have seen them used in this garden during the past four seasons. The multiflora type is not spoilt by heavy rains, as is often the case with the large-flowered doubles and singles. From the end of May until frost arrives in the autumn there is no break in their flowering period and of colours there is a good selection. I should imagine the variety Le Flamboyant to be the most popular, the colour being a bright iridescent red. Mme. Helene Harms is really a yellow, but if planted in full sun the effect is a more apricot colour, due to the red flower stalk and the pink reverse of the outer row of petals. It is a very excellent variety in all ways. Marguerite Eysser is by far the best of the pink varieties, but, unfortunately, does not make such a good bushy plant as the two previous, but certainly holds its own for wealth of bloom. It is remarkable to see plants of this variety with about half a dozen small leaves flowering so profusely for at least four months. Evelyn Tavenet is a much paler pink, but goes to the other extreme and makes a little too much foliage, but is very free flowering and a dainty and desirable kind.

Ami Jean Bard *the* ideal in habit and floriferousness, and, although described coldly in catalogues as copper yellow, such a description does it injustice. A round bed of this variety, planted in full sunshine, is like a highly coloured peach and cannot fail to charm all who see it. I predict a great future for this variety.

President Savoy is a pale creamy yellow, with the reverse of the outer petals pink, and is splendid from all points of view. A round bed of this variety, banded with a dark blue lobelia, is very charming and novel. Doctor Deluiel is a very uncommon colour in begonias. Individually, the flowers differ but little from Flamboyant, but when grouped together appear to have quite a purple tone, which is rare. The above varieties have all been thoroughly tested by me, and I can strongly recommend them.

So far, I have not seen a good white; the variety Mistress French, which was sent to me for trial, is much too big and heavy. Other varieties I have had on trial are Burgomaster Max, a good grower, but too bricky in colour. Colonel Lausedett, a nice yellow, but with me not equal to Mme Helene Harms. Major Hope, which is strictly not a multiflora, is rather taller than Eysser, with a picotee edge, but is not nearly so free flowering. Fulgurent, a good deep red with erect flower stalk, throwing a big percentage of singles. Guillaume Eysser, another scarlet of the same tone as the well known Geranium Paul Crampell. Mme. G. Bellair is not at all suitable as a bedder, hiding its huge cerise flowers under its ample foliage. Mme. Zelia Roberts and Rouget de L'Isle are two reds of no particular merit. Surpassii Daviesii is after the style of Dr. Deluiel in colour and Fulgurent in habit, and is very charming.

To those readers who are not familiar with this type, I might add that they bear dainty little double and single flowers, some varieties carrying a high percentage of doubles about the size of a Dorothy Perkins rose.

Tubers of most of these varieties may be purchased from various firms, with the exception of Marguerite Eysser, which, so far as I am aware, is unprocurable. Although the initial cost may be higher with this type, as compared with seeds of others, the advantages are many.

Propagation by cuttings is a fruitful source of supply, and, like many other types of begonias, leaves may be used. For cuttings, a start can be made in January, placing a number of tubers in shallow boxes containing leaf-mould and sand, in a forcing house with a night temperature of about 65° Fahr. Do not cover the tubers, but press them into the compost, leaving the tops clear. Spray over several times a day, and keep a moist atmosphere. As soon as growth is big enough to handle, take off as cuttings and insert singly in small pots, plunging same up to the rims in a close case. One good watering in is usually sufficient. So long as the foliage of the cuttings is kept fairly dry, little damping off will occur, and an experienced cultivator should have no difficulty in securing a good strike. As soon as roots show round the edge of the pots, repot into 3in. pots, using a little rotten stable manure in the compost. Cuttings inserted during February and March will require 5in. pots for their finals, and the plants will commence blooming during May.

By the time it is safe to plant them out they will be in full bloom and will continue flowering until cut down by frost. The old tubers will continue to throw up cuttings, which should be taken when ready. If the last batch of cuttings be put in during the first week in May, they will provide plants to furnish the edges of the beds in six weeks time, and, like the bigger plants, will be in bloom. Where sufficient room is available inside, 100 good plants could be obtained from every dozen tubers, and about fifty others which could be grown on in pots or planted out to make bulbs for the following year. F. C. K.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

The Use of the Small Greenhouse.

THERE are probably hundreds of small greenhouses in the back gardens of our towns that are neglected because the owners do not know how to make use of them. March should be the busiest of all seasons for the greenhouse cultivator, for in this month the plants which are to make a good display in the borders all summer must be raised from seed, or started into growth so that the flowering period may commence earlier. If your greenhouse is old and neglected, lose no time in cleaning it up, washing the glass inside and out and spreading fine ashes, or small pebbles on the stages in readiness to receive pot plants. Prepare boxes and pots for seed sowing, scouring the pots inside and out, and then drying them before use. A layer of leaves, or crocks at the bottom of the box will provide drainage, and over this some fine sifted soil, mixed with sand, should be placed, to receive the seeds.

Any of the half hardy annuals can be sown now in a cool greenhouse. Stocks, asters, Phlox Drummondii, verbenas, zinnias, dimorphotheca (Star of the Veldt), kochia (summer cypress) and many others will germinate freely, and if transplanted as soon as they are large enough to handle, either into separate pots or into larger boxes, they will make good sized plants for the summer beds and borders. May is the time to plant them outside in their permanent quarters.

It should not be forgotten that there are many showy annuals which can be grown in pots in the greenhouse during the summer months and which will prevent it from having a bare appearance after the stocks and other half-hardy seedlings are planted out. Torenia, a dwarf plant with numerous pale mauve-flowers, or schizanthus, a fairy like flower in shades of pink, white and amber, could be raised for this purpose. The secret of success is to pot off the seedlings when they are still very small, allowing them plenty of room to develop into strong bushy plants which flower well.

Boxes of seedlings should generally be raised so that they are near to the glass of the greenhouse, otherwise the plants tend to become drawn. Systematic ventilation is half the secret of success in greenhouse management. If you have ventilators opening on both sides, always open the one away from the wind. If only one side is ventilated, as in a lean-to, care must be taken not to allow too much draught when the wind blows strongly against the greenhouse. Stagnant air is bad for seedlings, and some fresh air should be given every day from now onward. Close the ventilators an hour before sundown, to retain the solar heat, and water early in the day.

Moisture must be given at regular intervals. It is best to keep a tank inside the greenhouse filled with water (rainwater drained from the roof, if possible), as this will be always at a suitable temperature for watering the plants. The floor and stages of the greenhouse should be kept moist by syringing or watering, and it is therefore best to make the floor of trellis or laths so that surplus water can drain through and leave the paths dry to walk over.

Delicate seedlings need shading from the bright sunshine. A piece of paper placed over them for a few hours when the sun is brightest is sufficient. Arrange the other plants carefully, giving each as much light as possible, and you are fairly certain to secure a good return for the small trouble you take in utilising your greenhouse.

Repot Fuchsias.

AFTER their winter's rest, fuchsias are showing signs of life. From apparently dead twigs tiny leaves are peeping. Cut back the twigs in the same way as you would prune young roses, leaving three or four buds on each, shake off all old soil, and repot in soil in which leaf-mould and sand have been liberally mixed. Water carefully, and syringe on sunny days.

Begonias in Fibre.

NO other flower is quite so distinctive as the begonia, with its fleshy stems, waxy flowers and curious lop-sided leaves. For continuous blooming it is a close rival to the zonal pelargonium. Not everyone knows that it can be grown quite well as a plant for room decoration. Plant the tubers in bowls, using carbonated fibre. Place the tubers cup-side up in the fibre. Water carefully, and when the little pink shoots appear, press the tubers more deeply into the fibre. On sunny days the plants will benefit by being placed out of doors, but they should always be brought in before the cool of the evening.

Varieties are obtainable in all colours of pink, yellow, white and crimson. The flowers of the double flower type last longer than the single variety. For room culture the lighter shades are preferable.

A succession of flowers can be maintained throughout the summer by the use of a small greenhouse for raising annuals and starting bedding plants.

Grow Your Own Potatoes.

IF the amateur gardeners throughout the country were all told of the enormous number of diseases and parasites which attack the potato, perhaps they would be frightened off the cultivation of this staple crop of the allotment holder. Happily, however, the diseases are neither so bad nor so uncontrollable as they might be. The worst of them all—wart disease—is now under effective control. The amateur would be well advised, however, to plant only those varieties which are recognised as immune to wart disease. Points to remember are to buy reliable seed, and to practise clean cultivation, keeping the land free from weeds, and burning any tops which become affected by blight.

If potatoes used for seed are too large and have to be cut, they should be kept in a dark, cool place for a day after cutting, before being put into the ground. A corky layer then forms over the cut portion, preventing rot. An increased yield is given by potatoes that are set to sprout. For the information of the beginner, the "rose end," which must be put uppermost when the potatoes are sprouting, is the end which shows a collection of "eyes," *i.e.*, the buds of the new shoots. Two shoots to each tuber should be left when the planting is done. It is important to leave a good space between the sets. Three feet between the rows is not too much for main crop potatoes, and the resulting crop will be finer than if the plants are crowded together.

As with most crops, the varieties are legion, and selection depends to some extent on the locality. For general purposes I would recommend the following:

Early.—Witch Hill (immune), a large cropper with shallow eyes. Sharpe's Express, a popular kind of an oval shape.

Second Early.—Great Scot (immune), white and round and a good keeper. Majestic (immune), which produces a good proportion of large tubers.

Late.—The Bishop (immune), a beautiful kidney potato for exhibition, and a good keeper. Golden Wonder (immune), russet skinned and said to be unsurpassed for cooking.

Those who wish for a few coloured potatoes to add variety to the exhibition stands will find useful varieties are "Edzell Blue," and "Mauve Queen."

Sowing Tiny Seeds.

THE size of flower seeds varies considerably, but not according to the size of the mature plant. Snapdragons and begonias have very small seeds, whereas annual lupins have large ones. Small seeds are difficult to sow evenly in pots or boxes. No matter how carefully they are sown the patches of green soon show where the seeds were too thick. Mix the finer seeds with a little dry sand before sowing. Mechanical sowers can now be obtained for sowing seeds evenly. If sowing in boxes or pans always water before sowing, and, after scattering the seed evenly, cover lightly with very fine sifted soil. Each box or pan may be covered with a sheet of glass and piece of brown paper until germination has taken place.

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THE FLOWER GARDEN

Herbaceous subjects for late planting. Pyrethrums, Gaillardias and Anchusas for colour in the summer—Red Hot Pokers for brilliance in autumn.

Raising Anchusas from Seed.

Two Good Varieties for Present Sowing in the Open Ground.

THOSE requiring a fine blue perennial for the back of small or the middle of large herbaceous borders should raise a stock of anchusas from seeds. The two which have proved most successful in my hands have been Anchusa italica, a large-flowered Cambridge blue, and A. Dropmore Opal, a pale forget-me-not blue, which has smaller flowers somewhat resembling large forget-me-nots, but paler in colour. Anchusa italica makes a magnificent border plant even in the poorest of soils, growing to a height of 3ft. in such ground and branching out with its flower sprays until it occupies nearly a yard of space. In a well manured border, or if a handful of coarse bone meal has been dug in at the time of planting, the plant will go to a height of 5ft., and require staking with a fairly strong stick, or wind will take advantage of the tree-like formation and rock it out of the straight. The same remarks apply equally to A. Dropmore.

The tendency with those who do not know the plant will be to place them too close to other perennials in the border. They require at least a yard of ground if they are to give of their best. The seedling plants look such puny things, about the size of a healthy primrose plant, which they rather resemble, giving no indication of the giant stems which will rise from their centres the following summer.

They are perfectly easy to raise from seed, requiring no frame or other coddling. The seed is large, and easily handled, which makes it possible to space them in the drills so that each plant will have room to develop without thinning. I have tried sowings in both March and April, and both seem to do equally well in Berkshire. Drills are drawn about an inch deep, and the seeds placed therein at 2in. intervals, lightly covering with the soil which has been removed. A position should be chosen for these drills where it will not matter if those seeds provide a succession of plants over a period of three years, the reason being that it is extremely difficult to get the whole of the plant out of the ground. The anchusa seedling makes a very long tap root which penetrates some distance into the soil, and a portion of this root is almost certain to be left in the ground when the seedling is lifted. This may be 2ft. down, and measure only an inch or so. But, as sure as fate, during the next season that small piece of root will form a splendid plant which will flower prodigiously. I sowed anchusa seed three years ago, and am annually able to replace those which die in the borders from the plants produced by the roots which are inevitably left in the soil.

I am not at all sure why some of my anchusa plants die back each year; the fact remains that they do. Possibly this may be due to my soil being a heavy clay. The more floriferous the plant the more certain is it that it will have flowered itself to death. This is peculiar in face of the fact that the roots of the seedlings in the same soil produce a succession of plants year after year. On digging up these dead plants the root system appears to have rotted away.

The roots of the anchusas are peculiar things, rather like a piece of very dirty black wet thick string, and break very easily. Like the Oriental poppy, any piece of this root seems capable of forming a plant, which makes increase a matter of extreme simplicity. The long tap roots merely require to be cut into inch lengths and inserted in ordinary soil out of doors in the autumn, when a good stock of plants will be available in the following year.

In the herbaceous border it makes a striking note of colour, and is extremely useful when planted near the perennial lupins, as it comes into bloom at a time when the lupins in going out of flower leave rather unsightly blanks in the borders. The plant itself makes very little foliage either close to the ground or on the flowering stems, with the result that the solid mass of bloom is well displayed. Quite a small packet will provide sufficient plants to furnish a large border in the following season, planting out being done in autumn, and further plants will be provided by the broken seedling roots should the original stock die back in the borders.—CLARENCE PONTING.

A SEEDLING OF ANCHUSA ITALICA IN THE FIRST YEAR.

An Accommodating Border Plant.

THE florists' varieties of gaillardias constitute a wonderful series of fine border plants, which are in bloom from July to September, and as they only attain a height of 2ft. to 2½ft., they are well-nigh indispensable for the front part of a herbaceous border. They are among the most gorgeous of hardy perennials, and are well adapted for bold groups, also they are very effective in clumps of three plants. Moreover, they are excellent for cutting purposes, and are most pleasing in vases in the dwelling-house. These delightfully decorative plants require no special treatment in regard to soil, the ordinary root run available in gardens generally will produce blooms of first-rate quality. One that has afforded me great pleasure is The King, a large and showy flower, the long, broad, deep red petals being margined with bright yellow. It possesses a good constitution, and if due attention is paid to cuttings whenever they are available, a healthy stock is soon obtained.

Another fine variety is Lady Rolleston, a soft golden yellow. It is very free-flowering, and a beautiful colour, while the blooms are large and showy. There are other named varieties of equal merit, but to some growers the beautiful unnamed seedlings will appeal. They are sold under the name of G. hybrida. They are most reasonable in price, free flowering, and the colours are usually various shades of crimson and gold. For those who want a good display at small cost the seedlings are strongly recommended. It should be borne in mind, however, that most firms send out flowering examples, and not small specimens as is generally understood when seedlings are referred to.—T. W. B.

Saxifrage Guildford Seedling.

SOME of us who do not like to think ourselves very old can remember when Guildford Seedling was the only truly red-flowered "mossy" saxifrage; to-day their name is legion. The writer must have seen practically every red-flowered "mossy" in commerce, and grown many of the best. Sanguinea superba is fine; so, in a different way, is Pompadour; the older barthoniensis is cheerful, easy and good. Yet, when asked—as I often am nowadays—the name of the best red-flowered "mossy," I always say "Guildford Seedling." This was never a plant of rapid increase, and, doubtless, it is even more "stay-at-home" nowadays than when of recent introduction, but in a rock plant a rampant habit is not in all positions a recommendation. The flower opens a good colour and retains it remarkably well; moreover, the blossoms are always well formed, and the foliage is neat and of a rich dark green, worthy, in fact, to bear comparison with that of the cæspitosa, hypnoides and muscoides varieties.—V. G.

Some Useful Harebells.

THE genus campanula is a large and varied one, but in C. carpatica we have a glorious all-round plant, suitable for a variety of purposes, and one, moreover, that it is easily grown. The type produces erect deep blue flowers more or less funnel-shaped, and the loose panicles attain a height of 9ins., but this will be exceeded where the plants are growing in rich soil. In addition to the type there are a large number of hybrids and varieties, many of which are most exquisite. The form known as alba is pure white, and it is very effective when growing in close proximity to a blue-flowered variety. In White Star we have another white with just a trace of blue in the large saucer-shaped

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flowers which are about 2ins. across. A very fine form is Riverslea, with large flat clear rich blue flowers, and Isobel is a beautiful dark violet. C. c. pelviformis is a more distinct variety, and not quite so vigorous as those named above, but nevertheless it is very handsome. It bears a profusion of large flowers of a pleasing shade of pale blue.

All the harebells quoted in this note produce a wealth of blossoms from June to September, and they should be grown in full sunshine, although they will also succeed in partial shade. A rich rooting medium is not required, and they will thrive in ordinary garden soil, all being robust and capable of taking care of themselves when planted. They are ideal subjects for the rock garden and walls, while they are quite at home in the front line of the herbaceous border.—CHEPSTOW.

Some Good Pyrethrums.

FROM the end of May to the beginning of July, few plants of the herbaceous border can rival with the so-called pyrethrums as to the richness of flowers. More than seven hundred named horticultural varieties are known to us up to the present day, and each season adds some good ones to this already excessive number. In my judgment one of the best of the pink ones is Eileen May Robinson. For the most part the single or semi-double flowers are of a distinct pinkish colour, scarcely surpassed, so far as I know, by any other among the numerous varieties of pyrethrum roseum. It is as beautiful in the open as in the vase. All the pyrethrums have a great value for cutting purposes.

Among the red ones are two varieties, both decorative and floriferous: Agnes Mary Kelway (at the left of the picture), and Mrs. Bateman Brown. The first is of a vivid rose pink, the second crimson red. The double forms, too, are of great beauty, and their flowers last even longer than those of the single ones. A very good white variety is White Queen Mary, with large snowy white flowers. It seems to be the most commendable of all the white double forms I know. It may be added that from a botanical standpoint these pyrethrums are now referred to the genus chrysanthemum, and are called C. coccinum. This is a species from the Caucasus and Persia, where I met it in meadows like our common ox-eye daisy. C. coccineum is cultivated in France and in California for insect powder. In gardens C. coccineum is also called Pyrethrum hybridum, and there are probably a lot of forms of hybrid origin among the cultivated varieties. —CAMILLO SCHNEIDER.

KNIPHOFIAS WITH THEIR STATELY SPIKES OF ORANGE AND RED FLOWERS.

The Red Hot Pokers.

THIS stately group of lilaceous plants is capable of creating some very fine garden effects, more especially when judicious care is expended upon their effective placing; they will, assuredly, lend an air of distinction to, and, indeed, ennoble, the hardy flower border, and they are never seen to greater advantage than when grouped in isolated positions and with a suitable background. They are particularly beautiful when grouped in front of yews or other coniferous trees, not, of course, immediately in front of these trees, but sufficiently to the fore to display a proper sense of proportion with the general surroundings.

Beds planted with one variety of the larger type are far more telling than are mixed plantings and a grouping of such a one as the old nobilis, 5ft. to 6ft. in height, can be an outstanding ornament of any garden. The smaller kniphofias, such as the gracilis group, are very beautiful for massing on the large rock garden or in the herbaceous border. Of comparatively recent introduction, these small red hot pokers should stimulate an even greater interest than of yore in these noble plants.

Not the least pleasing feature of these plants are the generous tufts of broad grass-like foliage, a splendid foil to the stately spikes of flower; of inestimable value in the late summer and autumn garden, I have known, in a mild season, quite good flowers in evidence during December.

Kniphofias delight in a deep, well drained and rich loam, deeply dug and enriched with some well rotted manure; they may be planted in autumn or in spring, from February to April and when once established, they intensely dislike frequent disturbance. During severe weather or in very cold, exposed situations, it is well, during winter, to afford them some protection in the form of straw, bracken or dry litter. The stock may be increased by careful division of the roots. A good selection of kniphofias should include nobilis, orange scarlet; Uvaria grandiflora, scarlet; Royal Standard, scarlet and yellow; grandis, orange scarlet; C. M. Prichard, rich yellow; aloides maximum, a veritable giant with orange scarlet flowers; corallina, coral red; Tuckii, glaucous foliage and orange scarlet flowers in June; Sulphur Spire; Rufus, yellow and scarlet; and Solfaterre, soft yellow.

The gracilis hybrids grow from 3ft. to 4ft. and flower from July to late autumn; well adapted for the perennial border, they display a wide range of colouring in their small and graceful spikes of flower. Some of the best of this section are Alaska, rich yellow; Victoria, orange yellow; Chrysolora, golden yellow; Daybreak, yellow tipped orange; and Lemon Queen. Macowanii is a lovely species of small growth, producing a profusion of brilliant coral red flowers throughout the summer months.—R. E.

AGNES MARY KELWAY, OF BRIGHT ROSE PINK.

MRS. BATEMAN BROWN, A DEEP CRIMSON VARIETY.

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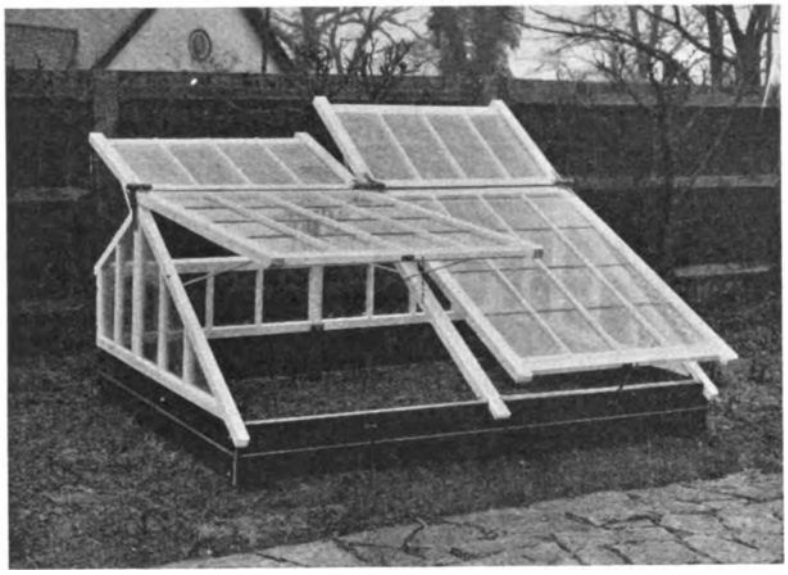
THE COLD FRAME AND ITS USES

No garden is complete without some form of garden frame. There are now types to be obtained suitable for all purposes and for every size of garden. The amateur will find that with the aid of an inexpensive cold frame his gardening duties will become increasingly interesting. In this article these various types are described and their uses discussed, with hints on where to place them and how to manage them throughout the year.

THERE is no doubt that in the upkeep of a garden the cold frame plays a very important part; indeed, it is not an exaggeration to say that this device is almost indispensable. The services which the frame will render are very numerous, although the frame is never heated in any way, and it is always possible to extend its usefulness by the formation of a hot-bed. Even those gardeners whose ambitions do not extend to a glasshouse should certainly establish one or more frames, and never will there be any regrets over the matter. Naturally, the cost of frames to hold a given number of plants compares favourably with the expense of a greenhouse of equal capacity. Then there is no doubt that many kinds of pot plants flourish as well, or even better, in a roomy frame than they do in the larger structure. For the raising of half-hardy plants from seed, the hardening-off of tender subjects prior to planting out, and the growing of cuttings in conjunction with a greenhouse, the frame will prove of great service. Many plants can be kept in the frames up to a certain stage in their growth and then removed to the warmer atmosphere to complete their development. Plants such as primulas, cyclamen and cinerarias might be kept in frames until the late autumn, and this would free the greenhouse for a summer crop of tomatoes or enable it to be used for some other purpose.

A lean-to frame or forcing pit on a brick foundation. When a permanent frame is desired then this type will prove most useful for all general purposes.

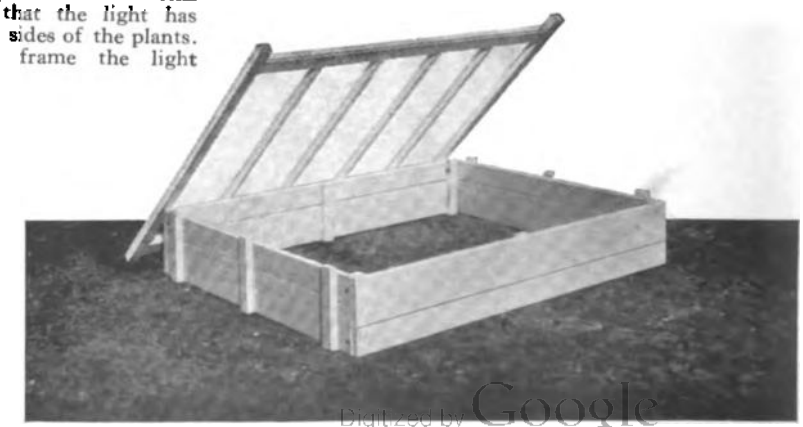


The three-quarter span-roof type of frame can be made with a wood foundation as shown, or built on to a brick base. Easy access can be had on the two sides by means of the hinged lights, which is an advantage. This type is most suited for housing greenhouse plants.

Nowadays frames of almost every conceivable size and pattern are offered to the public. The buyer should bear in mind that, generally speaking, the low-priced articles are rarely satisfactory. Although the frame may be cheap in price, it will certainly be "cheap" in other directions. The wood will be thinly cut and unseasoned, the glass of a light weight, the paint and putty of an inferior nature and so on. Such a frame will soon warp or rot and, while it is in use, the structure will allow serious fluctuations of temperature which will have a very bad effect on the plants grown. Never consider a frame unless it is made of thoroughly well seasoned wood at least 1¼ins. thick—1½ins. is better still. The four sides should be closely fitted together to exclude air and strengthened at the angles inside with upright bars of wood. A flange of wood should be nailed along the outside of the two sides for the same purpose, and the sashes must fit exactly in their places. The lights, which ought not to be less than 2ins. thick, should be glazed with 21 oz. glass.

Kinds of Frames.

In a general sense frames fall roughly into two classes—the span-roof and the lean-to. The former type is the more suitable when the frame is for the growing of pot plants, such as cinerarias, begonias, primulas, etc. In the span-roof there will be a greater depth and an additional advantage is that the light has access to both sides of the plants. In a lean-to frame the light enters at one angle and, as plants tend to grow towards the source of light, the symmetry of the specimens is affected. Ventilation is easier in a span-roof frame, for the lights to the windward side may be closed while those to the leeward are opened. The value of the lean-to frame is chiefly in connection with soft young plants which will only be in the structure for a short while. This type, with its comparatively shallow front and back and fairly flat roof, ensures that the plants will be near the glass. In the case of certain plants the maximum of sunshine is very desirable, and a lean-to frame facing full south will ensure this. Again, the coolness of a northern exposure may be desired for the purposes of propagation, and in such cases a lean-to frame, backed against a high wall or fence that keeps away the sun, will provide ideal conditions. Frames which are to remain in one position are much better when set on a brick foundation. On the other hand, there is much to be said in favour of the portable frame, which can be moved about as required to different positions. An excellent type is the two-light lean-to frame. A span-roof frame with two lights on each side is also very handy and useful. A half-way house between the span-roof and the lean-to is the type of frame known as the three-quarter span. One of the illustrations explains the nature of the design. The short span is especially useful for ventilation purposes and, in addition, gives extra height for tall pot plants. There is also the span-roof frame in which the lights turn right over, a most convenient arrangement which the gardener will be quick to appreciate. Of course, where big demands will have to be made on the space in the frames it pays to buy a larger type with, say, six or eight lights. This is arranged so that the lights can be securely fixed open up to 2ft. 6ins. in such



An ideal portable frame for all allotment holders, and one found invaluable in the small garden. It may be used to serve a double purpose—for protecting your plants and raising seedlings. This size is 4ft. 9ins. by 3ft. 9ins.

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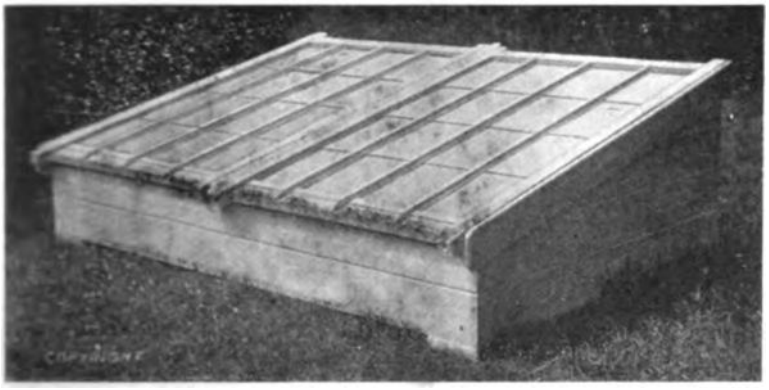


A two-light lean-to frame with sliding lights. This is a useful type, but requires slightly more space for the placing of the lights. The amateur will find this frame serviceable in the raising of all seedlings and cuttings.

a way that work can be easily done underneath.

Position of Frame.

Naturally, it is a good plan to set a frame in an open position, for in nearly all cases the more light the better. Some consideration should be given to the question of shelter from the north and east, and in the placing of the frames advantage may be taken of walls, hedges, fences, etc. Unless a frame is to be used as a hot-bed or for some purposes like the raising of early salads, the floor inside is best covered with beaten cinders. On this the pots, pans and boxes can safely stand, for one can be sure that there will be a free drainage of water. In all cases the distance between the soil and the glass of the frame should never be greater than is just sufficient to accommodate the plants. It is often an excellent plan to raise pots, etc., containing seeds on bricks so that the little plants when they come up may be close to the glass to prevent their being drawn.

Watering and Ventilation Necessary.

Even the smallest frame requires unremitting attention. One of the great things to guard against, no matter what may be grown in the cold frame, is damp, and this is especially so in the early months of the year. Too much watering and too little in the way of ventilation will inevitably lead to that disastrous condition known as "damping-off." This trouble, although due to the attacks of a minute fungus, is usually associated with excessive moisture either in soil or atmosphere. Of course, it goes without saying that the soil in which seeds are sown should be light and that the pots, etc., must have a free drainage. After the sowing of the seed no water need be given for some days providing the soil was in a fairly moist state at the start. In fact, if the frame is kept rather close, as is the best way, until the little plants begin to appear, there should not be the least risk of dryness. Eventually it will be necessary to start watering, and this should always be done in the morning, after which some hours of ventilation are allowed. Avoid wetting the foliage as much as possible, so that the plants will go through the night with dry leaves. In managing a cool frame try to equalise the temperature between the interior of the structure and the open air as much as possible. It is when there is a sharp difference between the two that condensation of moisture takes place on the glass and young plants are soon in great danger. Thus it follows that, apart from very exceptional weather such as we sometimes get in a wintry spring, it is always best to ventilate. When the weather is inclement the lights might only be raised a little and kept open long enough to allow the grass in the frame to clear. In bright weather the frames require a good deal of attention, for if the lights are closed while the sun is shining on them a very unhealthy state of the atmosphere will be created in the frame. At the close of a day it is a mistake to shut up the frame too early, and it is really a good idea to continue some ventilation until nightfall unless the conditions are very bitter.

Wherever there are frames there should also be mats, for if a keen night is anticipated these will be most useful for protective purposes. It is most important that the mats should be dry when they are placed on the lights, as if wet they will convert the frame into a veritable ice house in the event of the frost being severe, as is always possible in an English spring. Of course, sooner or later there will be days when for some hours at least the lights of the frame may be lifted as high as possible or removed altogether. Now and again if owing to cold winds a very free ventilation cannot be allowed, it is not a bad plan to use mats to protect the plants from the strong sunshine which we often experience in March.

How to Guard Against Pests.

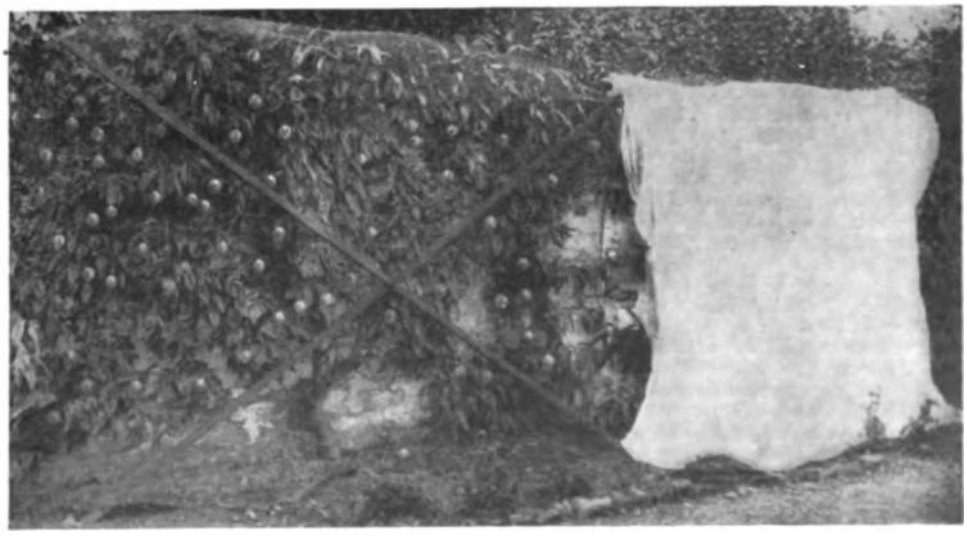
In connection with frames a sharp look-out must always be kept for such pests as slugs, woodlice, etc. No soil should ever be used in a frame unless it has been sterilised by steaming or baking. This will not only destroy the eggs of slugs and kill woodlice, but it will also go a long way towards checking damping-off, for the germs of this fungus, in addition to others, lurk in soil. All pots, pans and boxes employed should be clean. Examine the boxes closely if these are not new, for quite often woodlice creep into the joins, and one or two of these creatures may spoil a promising batch of seedlings in a single night. Even when precautions have been taken a sharp watch should always be kept to make sure that the plants are not in danger of attack. It is an excellent plan to move the pots, etc., about every few days and so expose any possible hiding places of slugs or woodlice.

[We are indebted to Messrs. Boulton and Paul, Messrs. Duncan Tucker and Messrs. Geo. Hayward for the illustrations which accompany this article.—ED.]

PROTECTING FRUIT TREES

THERE are many owners of gardens who have not yet realised that they can now entirely eliminate from all their fruit trees, except the very high ones, the following pests: bullfinches, tits, blackbirds, frosts, cold winds, and wasps, by various appliances which have been recently introduced by Major C. Walker. With these pests eliminated, and insects and disease kept down by the various insecticides and fungicides now available, there is no reason why every average garden should not produce, in even bad seasons, ample fruit of all kinds to keep the house supplied all the year round. The one gap—after the apples are over in March and before the strawberries come in at the end of June—being filled by all the various surplus fruits which should have been bottled.

It will now be necessary to explain how this protection is provided. For wall trees an adjustable framework to fit the size of the tree is covered over with a special frost-proof netting with which a guarantee against 14° of frost is given. This netting absorbs the moisture in the atmosphere and retains the warm air radiating from the wall around the tree. It first protects the buds from the birds and the early blossoms, and when these are set is carried and placed against a late-blooming tree. When danger from cold winds is past, the netting is taken down and used again to protect, first, the early cherries, then the peaches and plums, from birds and wasps, and lastly, the pears from the tits When the fruit commences to ripen, the



AN ADJUSTABLE WALL TREE PROTECTOR PLACED IN POSITION.
A special screen as an additional protection against wasps can also be seen on the right of the picture.

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wasp screen is pinned over the netting so as to seal the whole tree from these pests.

Until now, we have never had any means by which we could protect a tree growing in the open. This is performed by the bush protector, placed over trees up to 8ft. in fifteen minutes, and with a little adjustment can be used on higher trees. One protector can save several crops in one season by protecting first the buds, then the blossom, and finally fruit; being likewise carried from the early to the late blossom and fruits, so that it should be doing its work from February until October, and therefore will cover its cost in the first year by the fruit it has saved. A wind screen can be tied on to the windward side of the netting; this and the roof are composed of the frost-proof netting and keep off the lighter frosts.

A BUSH FRUIT PROTECTOR PLACED IN POSITION.

This will be found to preserve the crop against injury from attacks by frost and birds.

We finally deal with the small fruits, which are protected by a transferable cage made to any size 6½ft. high, which can first be erected over the strawberries, and when they are over, can be taken down and erected by one man in three hours over either the gooseberries, raspberries and currants, or the culinary peas. Like the protector, it saves at least two crops in one season. The tit feeds her offspring on insects until they leave the nest, and therefore never attacks the earlier crops of peas until the strawberries are over. This cage has innumerable advantages over any other form; it is much cheaper; simple to erect; fruit can be picked in comfort without any removal of nets; is not unsightly like wire and posts, as it is stored when the crop is over, and therefore cannot be wrecked by a snowstorm; it can be reduced in size; entered at any point; and the steel standards which stand as if in cement, can be pulled up with one hand, and will last a lifetime.

A TRANSFERABLE FRUIT CAGE.

Useful for covering bush fruit or protecting strawberries and other low-growing crops.

WHAT OUR READERS SAY

A BLUE ACHIMENES

SIR,—Your correspondent, A. Bulwer, asks the name of the real "blue" achimenes. I believe it to be longiflora, and the white one is longiflora alba. I have grown them both for many years, and consider them about the best varieties I know of. They are described in "The Florist" of 1852. I do not know of any firm offering them.—E. D'OLIER, *Bray, County Wicklow.*

SIR,—Achimenes longiflora major is undoubtedly the plant to which your correspondent, page 143, refers. It is taller than the average achimenes, and has small green leaves and produces large open flowers freely. Under some lights and conditions these have a very blue appearance, not unlike some delphiniums. Years ago, as a journeyman, I had charge of a large collection of these plants, and never missed a chance of seeing others; but the *true* blue achimenes has yet to be raised, *viz.*, anything approaching the real blue of Gentiana verna or phacelia.—J. COMBER.

[We have consulted many catalogues but have failed to find this particular species listed. We suggest, however, that if our correspondent writes to one of our leading nurserymen engaged in the cultivation of greenhouse plants, such as Messrs. Russell of Richmond, the plant may be obtained.—ED.]

CAMPANULA ISOPHYLLA MAYI.

SIR,—With reference to an answer to a correspondent in the issue of THE GARDEN of February 26th, we should like to point out that the campanula referred to is not C. Mayi. There exists much confusion over the name of this plant, and a few notes on its origin may be interesting.

C. Mayi was sent out as a cross between fragilis and isophylla. Soon after its appearance, it was noticed that it was apt to send up variegated shoots and Messrs. Balchin, a South Country firm, soon offered variety Balchiniana, a pretty silver variegated form. We bought it at that time, presumably, from the raiser. Several times since then we have had a variegated form offered us by growers—not knowing of Messrs. Balchin's plant—who had noticed and struck these foliage sports. We still grow the green-leaved form, which is downy leaved, and also the variegated form known as Balchiniana.

It does not seem generally known that all these forms—fragilis, isophylla (blue and white), Mayi, etc.—are quite hardy in a wall or well drained cleft in the rockwork.—J. STORMONTH.

PEAT IN THE GARDEN.

SIR,—While it would be useful to have a definition of what your correspondents, "Dunheved" and "R. H." understand by "peat," their letters raise the larger question of what the term peat, when used by writers on gardening, is intended to cover.

True peat is a substance formed by the action of stagnant water on decayed vegetable matter and is only found in bogs and fens. It is not generally available, and most authorities agree that it is not essential to the well-being of even ericaceous and other "peat-loving" plants.

What in this district, however, is commonly called peat, occurs in two forms—a dark brown, flaky deposit, 2ins. or 3ins. thick, found in woods, especially of beech, oak and birch, which is, I suppose, more properly leaf mould, although distinct in appearance and texture from that obtained by piling leaves in a heap; and a bright brown, soft and fibrous deposit, very light in weight when dry, occurring in old bracken beds, where it may average 8ins. or 9ins. in thickness. Both may be found in dry places, even on sandy uplands, and water—except rain—evidently has nothing to do with their formation. These two substances are extremely valuable in the shrubbery and if they are the peat "Dunheved" has in mind, I quite agree with him that their use is very desirable, to say the least, in the cultivation of rhododendrons and many other shrubs. Like the true peat, they are, of course, acid in character. Perhaps the above correspondents or other readers of your paper can make clear which of these forms is the "peat" we are bidden to use by some writers and to dispense with by others, in the cultivation of peat-loving shrubs and plants.—A. E. F., *Berks.*

EARLY BROAD BEANS.

SIR,—In the issue dated February 19th of THE GARDEN is a short article on the raising of broad beans under glass in order to obtain an early crop. I think I am able to suggest a means by which the labour attending the growing of early crops of broad beans can be reduced and the result be at least equally certain with, probably, even an earlier crop than is possible under the system recommended.

A friend in this village possessing a large garden planted a portion of it with the ordinary farm winter bean, usually fed to pigs and horses. In the following spring he thoughtlessly planted broad beans alongside the field beans, with the result that the bees cross-pollinated the two distinct types.

My attention was called to what should have been broad beans, but which were of varying sizes and shapes, a few being of the form of ordinary broad beans though somewhat smaller. I begged some of these for the purpose of testing their ability to withstand the winter. A few survived over the first winter, which was somewhat severe. The next winter was milder, and fewer were killed off by the frost. The fifth winter was very severe and only two plants came through. I have continued to select the largest beans from the most prolific plants, with the result that in the winter of 1925–26 nearly all the plants withstood the winter, and at the present time I have plots of these winter broad beans in four different portions of my garden, two sheltered and two fully exposed, and there is not a single plant missing from exposure. I usually plant the beans about the second week in October, as I found that those planted much earlier were sometimes cut down by the frost. Last year the beans did not ripen thoroughly, and a few failed to germinate. This was noticed in November,

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and seed was planted in the vacant spots; the late-sown beans are now showing in the drills, which are about 1½ft. apart; the beans are dibbled in about a foot from each other, so that plenty of room is given for the plants to tiller.

Another sport or cross-bred is a white runner bean which I have grown for a quarter of a century. Its origin was a pod of four white beans found among scarlet runner beans. I planted these four beans away from the other runner beans and continued to do so for some years, as we found the white beans, when steamed, a very nice second vegetable. Some ten years ago a friend in New Zealand wrote that he had been growing some wonderful white runner beans which had been imported from Germany, and he posted a few beans to me. I sent him some of mine in return. The following spring I planted the New Zealand beans among those of my own growing.

As the growth of the beans for winter use was my chief object, I have selected each year for planting the pods containing the largest number of beans from the most vigorous plants. I have gradually increased the number of beans in each pod until, some three years since, I grew one containing eight beans, and my present stock is grown from these eight beans. In 1925 I had several pods containing seven beans, and though last year was not a good year for beans, I had several pods with six beans each.—SANDERS SPENCER, *Huntingdon*.

ASTILBES FOR THE BORDER.

SIR,—I was much interested in the article on "Astilbes" in your issue of March 5th, and I can certainly endorse your correspondent's remarks as to the excellent qualities of many of the varieties mentioned. The hybrids of A. Arendsii all make fine plants, and the illustration of the parent A. Arendsii from which many of these hybrids have been raised, may be of interest to many readers.—T., *Middlesex*.

THE SNOWFLAKES.

SIR,—Everyone has acquaintance with and loves the vernal snowflake (Leucojum vernum) and, when naturalised in thin woodland, or colonised on the rock garden, it is capable of creating a lovely garden picture. These little bulbs are pretty, too, when grouped in grass at the edge of the stream or lake, and as I write I can visualise from memory a beautiful effect so obtained. The congeners of this delightful spring-flowering bulb—not even the old-world summer snowflake, Leucojum æstivum—do not meet with the appreciation which they might well do; L. æstivum is a handsome plant producing spikes of drooping white flowers in May. About 1½ft. high, the leaves are of a fresh green colour, and it is a very fine border plant, or it may be very happily placed in thin woodland. The flowers are of considerable value for cutting. L. autumnale, sometimes referred to as Acis autumnale, is a real gem for the rock garden or for cultivation in pans or pots for the embellishment of the cool greenhouse, alpine house or frame; but a few inches in height, the dainty white and pink flowers are produced in autumn; it is quite hardy, and prefers a sandy, well drained soil and a half-shaded position. This little plant deserves to be far more widely grown than is at present the case.

L. vernum carpathicum or L. Wagneri, as it is sometimes called, is a glorified spring snowflake, and is larger in all its parts than is the well known typical plant. The large flowers are white, with each segment tipped green or yellow, the leaves a fresh bright green, and the whole plant some 8ins. or 9ins. high. This is a very fine bulb for freely naturalising in grass or for colonising on the large rock garden. The flowers are contemporary with those of L. vernum.

L. Hernandezi (syn. L. pulchellum) somewhat resembles L. æstivum, and produces in May scapes of pendent white flowers; 1½ft. high, it may be grown in the hardy flower border, where, like the summer snowflake, it will luxuriate in any ordinary good soil.

L. roseum, sometimes called Acis roseum, is a very beautiful little plant from Corsica, producing in autumn rose-coloured flowers; about 4ins. high, this little bulb is easily grown in a well drained sandy soil in the rock garden, or a few bulbs will furnish a lovely and interesting pan for the cold house. These snowflakes are increased by division, offsets being produced with fair freedom. They enjoy a half-shaded situation, and their cultural requirements do not present any great difficulty.—RALPH E. ARNOLD.

THE ELEGANT AND GRACEFUL ASTILBE ARENDSII, FROM WHICH SO MANY FINE HYBRIDS HAVE BEEN RAISED. *It is a fine plant for a shady moist border.*

OBTAINING QUALITY IN ROOT CROPS

SIR,—In your issue of February 19th, under the heading "Obtaining Quality in Root Crops," the following passage is quoted: "In the first place the ground must no. be of a heavy texture, or such roots as carrots and parsnips will grow forked . . ." Heavy soils, if they get into a lumpy state, may produce badly shaped roots; but if these soils are worked well and methods adopted to render them more friable, good specimens of root crops can be grown.

In my experience, the factor governing the forking of roots such as carrots and parsnips, is the digging in of copious supplies of farmyard manure prior to sowing, *i.e.*, in preparing the breaks for these crops.

I think it is better to give the ground a liberal supply of farmyard manure for the previous crops, the subsequent root crop receiving none other than artificials, *e.g.*, sulphate of potash before sowing and sulphate of ammonia during the growing period.

From the general tone of the article, one gathers that long, straight specimens are signs of good quality in root crops; they catch the judge's eye when such specimens are staged for exhibition. But quality is something entirely different and, I think, has more to do with flavour and nutritive value in this case. The nutritive value of a carrot lies in the outer red portions of the root, and the wider this is in comparison with the central yellow portion the higher the value. Potash appears to develop the outer red portion, hence its application to the ground prior to sowing root crops. Long, straight specimens are ideal and good to admire, but when grown on light soils, granted one gets shape, but the quality is lacking, the central core being often well developed.

Sandy soils as a rule lack in potash, whereas clays, generally speaking, are considered rich in this plant food, having originated in rocks containing it.—J. W. H., *Edinburgh*.

POTASH FOR TOMATOES.

SIR,—"Perthshire's" criticism (in the issue of THE GARDEN, February 12th, page 111) of my article on Potash for Tomatoes (January 22nd, page 56) is just that correct constructive criticism so helpful to the craft in general, and I thank him for it. Perhaps he understands, however, that by limiting my notes to potash, I left them open to such criticism as his; this may answer his main points. I agree that saltpetre is highly nitrogenous, but my point was that it is distinctly beneficial where potash had not been applied in good time; it is, therefore, used exactly as he describes and with an excess of soluble phosphates. The only other matter I may enlarge upon is that concerning wood ashes. I have sixteen houses under my eye; in only one of these are wood ashes used, so scarce is this commodity, and the application is approximately equal to the sulphate used elsewhere, as far as potash is concerned. The result is invariably better than elsewhere. I need not argue whether the potash or the other salts bring that about, but it explains my advice to use wood ashes for growing tomatoes.—LANARKSHIRE.

ANOTHER RAT TRAP.

SIR,—In your January 1st issue of THE GARDEN, page 4, under the heading "A Sure Rat Trap," a trap is described similar to one used on this side of the Atlantic, but I believe ours is better in two ways. We take a 45-gallon coal-oil cask, or similar vessel, place a brick on end in the bottom, and put in water to come nearly to the top of the brick; cover the end of the cask, as in your trap, with stiff springy paper firmly tied on. We then feed the rats for a few days until they have lost all fear of eating off the paper; then we cut the paper, as in your trap. The first rat then plumps into the water and mounts the brick. The next one that gets in starts a fight to get on the brick, and every rat within hearing rushes to the top of the cask and goes in, and a very large number may be caught at one time.—W. SCOTT, *Ontario, Canada*.

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THE FRUIT AND KITCHEN GARDEN

An Early Crop of Celery.

A CROP of celery much in advance of the main crop may be secured in this way: During March sow a few seeds in a box of fine soil and place in a warm frame or greenhouse. Put a piece of glass over the box until the seedlings appear. The little plants should be given a light position near the glass and have a temperature from 55° to 60°. As soon as they can be handled transplant them 4ins. apart to shallow boxes filled with fine loamy soil. Keep the plants cooler and give plenty of air, although protection will be needed during cold nights. About the first week in May, or a little later, the plants should be 4ins. high, and they are then ready for putting out of doors. The early crop is best grown in single rows in trenches of rich soil 12ins. deep and 12ins. wide in an open part of the garden. Open these trenches some time before they are required for the celery, and the intervening ridges may be used for catch crops like French beans, lettuce, etc. The bottom of the trench should be well broken with a fork to the depth of a foot. With this early crop close planting is advisable, and the distance between the plants need not be more than 9ins. The soil should be pressed firmly round the roots and the plants watered in. Shade and protect with fir branches or sheets of paper for a few days. Give plenty of water in hot weather, or the celery will be likely to run up to flower. Keep the ground clear of weeds.

Earthing-up may be done in August, the first step being to remove all lateral shoots and leaves from the base of the plants and water well. Bring soil from the ridges, first breaking this well up in between the plants to the depth of 4ins. Add a few inches more soil a fortnight later and go on in this way from time to time, making sure, however, that the soil is never placed higher than the heart or growing centre of the plant.

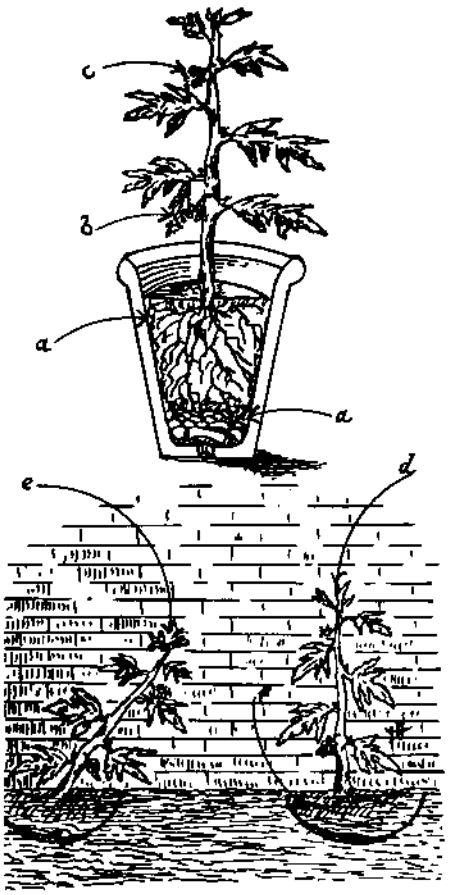
Lettuce: Cabbage and Cos.

How to Grow both Well.

UNDOUBTEDLY this is one of the most profitable of all garden crops, whether grown for market or home consumption. As the plants—under good cultivation—soon come to maturity, that is, to that stage when the hearts are perfect as far as solidity and crispness are concerned, several crops may be grown on the same plot of ground during the year. Even in the depth of winter lettuce plants may occupy the open border, as there are now first-class varieties for the purpose. The best time to begin the work of providing plants the whole year round is now. The cabbage varieties are best for raising under glass, as it is necessary to sow seeds in a greenhouse or a garden frame and to transplant the resultant seedlings. For very early use plants without hearts may be grown of the cos varieties by sowing the seeds in boxes about 5ins. deep and cutting the young plants, like mustard and cress, when they are about 4ins. high. This plan answers well in a frame or a greenhouse, especially the latter. For transplanting, seeds of cabbage varieties should be sown very thinly in boxes of rich, light soil, and the resultant seedlings transplanted in open borders early in the spring. These will follow the batches retained in boxes or in beds in cold frames and utilised from them. The first sowing of the cos varieties should be in an open border about the middle of April. If young plants of these or of the cabbage varieties are transplanted in a deep, rich, warm soil at the foot of a wall or between the trenches prepared for celery or leeks, they soon grow to a large size. It is the extra depth of soil on the ridges between the celery trenches that induces such luxuriant growth generally. Always raise the soil and roots with a garden fork when transplanting; do not forcibly pull up the plants, as so many roots are broken and bleeding occurs. For succession sow a few seeds only every six weeks, the last sowing for the winter and spring supplies being made at the end of August.—CHRISTCHURCH.

Tomatoes for Open-air Fruiting.

NEARLY everyone who possesses a garden or a frame and a small plot of ground likes to grow a few tomatoes for household use, and in many instances for exhibition at the late summer shows. Experienced



cultivators always try to obtain strong plants for planting out directly the danger from frost is past—about June 10th in the southern and a week later in the northern counties. Late-raised plants set their fruits late, of course, and if our summer is a cool one the fruits rarely ripen satisfactorily. Every seed should be sown separately about 1in. apart in a compost of fibrous loam two-thirds, old leaf-soil one-third and a free sprinkling of builders' mortar rubble. Water the soil before sowing the seeds, cover them lightly, but do not water the covering soil. Place a sheet of glass on the seed pan or box, also a sheet of paper, but set the seed vessel on a shelf in the greenhouse or in a frame in a warm position. Transplant the resultant seedlings when the second rough leaf appears, each separately, in small pots as shown in the sketch. Deep, narrow pots are the best if available. At first place the pots close together, but allow the plants more room as they grow. The object should be to secure sturdy, short-jointed plants. Do not allow the young plants to get too pot-bound before they are shifted to larger pots, and throughout May ventilate the frame freely, on fine days remove the glass lights altogether. The soil near walls, fences or even in the open borders should not be too rich. Do not dig it deeply; 9ins. is sufficient. If a hard pan of soil is left below that depth so much the better for the plants. Immediately around the stems firm the soil well while it is rather dry. When the roots in the pots begin to mat together, as shown at *a*, *a*, repot if the time for planting out is not come. Try to retain the lowest truss of fruits, *b*, and fertilise other trusses, *c*, as the flowers open. Where the walls are high enough plant and train upright as shown at *d*, on low walls train as shown at *e*. The portion of soil to prepare specially and make firm is shown at *f*.—GEO. GARNER.

Mid-season and Late Potatoes for Exhibition.

ALL exhibitors wish to be successful, but they will not meet with success if they do not take extra pains with the work connected with the cultivation of the various crops. Potatoes claim first attention by the majority of growers, and at local shows more dishes of them are staged than of any other kind if we include the whole of the country. Few early varieties are exhibited, but chiefly midseason and late sorts. If the soil is dry enough to work without any of it sticking to the tools, it cannot be broken up too finely if of a heavy, retentive character. Something can be done to it during the summer months, but not immediately around the young, growing tubers. The preparation of the soil should be complete practically before any tubers are planted. Fine tubers can be grown in pure leaf-soil alone. I do not advocate this generally, but if any readers possess heaps of old leaf-soil I advise them to level the mould, add some old chrysanthemum or potting soil sifted to remove lumps, and try a few special tubers for exhibition purposes. In such a rooting medium the "sets" should be planted about 7ins. deep and a spadeful of the same kind of mould placed right in the centre of the haulm instead of earthing up in the usual way. Tubers so grown are generally large, of grand shape and exceptionally clean of skin. In every case a careful selection of tubers bearing sturdy sprouts should be the rule. Undersized and prematurely sprouted tubers are not suitable. In the common, open border it is not necessary to have the rows extra wide apart. Follow practically the usual method of planting, but allow the "sets" an extra 3ins. in the rows. It is a common mistake to place the tubers too closely. If there is a heap of burned garden rubbish in the garden, scatter some freely in the drills, on the tubers, before the latter are covered with soil. Do not on any account use fresh organic manures. Mos growers have their favourites, but I think all will like Arran Comrade and The Bishop. The first named is round, the last kindey. King Edward VII is a beautiful potato in most soils, but as earthworms are so partial to it it is advisable to sprinkle dry lime on the sides of the drills, not on the tubers, before covering the latter. On the surface use wood ashes freely, sprinkled on in a dry state when the haulm is growing and covering the soil. Lift the haulm and scatter the ashes underneath.—HANTS.

The Loganberry.

THIS free-fruiting plant may be planted with great success now. It is a strong-growing subject, its branches cover considerable space—even when planted late—in

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one season. Ample room is required if proper treatment is to follow. Owing to plants being too close together, the branches become entangled, difficult to disentangle and, consequently, they are often left in this condition and become a mass of young and old shoots mixed together. Twelve feet apart is the nearest to plant if the branches are to be trained out to right and to left. These plants are suitable for training on division fences in certain cases. Cleanliness of soil is essential; plants choked with weeds do not thrive. They thrive where leaf-soil is added.—HANTS.

Soils Not Dug Last Autumn: Their Present Treatment.

I HAVE, recently, been busy digging part of my own garden which was not dug last autumn. Late in the summer and almost throughout the autumn, the soil, in many districts, was much too hard to allow of any effective digging or trenching. Of course, conditions were not similar all over the country; there were, fortunately, many exceptions. I daresay many readers of THE GARDEN whose soil is rather heavy loam have been similarly placed to myself. The soil I have been digging was in a fit condition, and unless this is the case, the digging should be deferred until it is. No opportunity to dig deeply should be missed now if the soil is kindly, not sticky and adhering to tools and boots badly. All soils so treated now will be in really good condition for the seeds and young plants from the latter part of March onwards. When engaged in late digging, the inexperienced person should, at this time, break up all lumps finely except the top ones. The ground is to remain undisturbed for a short time, and at the end of it all those surface lumps will fall to pieces like powder when knocked about by the tools, and throughout the summer months it will remain in a kindly condition to work.

Mostly, it is our clayey soils that cause the greatest trouble when seed-sowing time comes. I have in my mind at the moment a gardener who recently told me he could not grow carrots in his garden as the soil was too stiff. I know this particular garden very well. It is typical of scores of others in the same district, and the owner grows fine vegetables, excellent roses and stately herbaceous plants; but the carrots are not forthcoming. They can be grown, however, very satisfactorily in that and similar soils. He prepares the ground for this crop much the same as the bed for cabbages. This will not do, however. A special plot should be deeply dug and all lumps broken as small as possible at the time; then rotted leaf-soil, old potting soil and similar material should be collected and thoroughly mixed. Add a small quantity of wood ashes and heap the whole, keeping it dry—from excessive rain-water; in the meantime, when the border loam is getting dry, towards the end of March, put down the garden line and, with the spade inserted near to its full depth, pull towards your direction as you stand, holding the handle, thus leaving a narrow opening the depth of the spade. Fill up with the prepared compost, which has been passed through a ¼in. mesh sieve, and so on until the whole length of line is similarly treated. Sow the seeds immediately on the filled-in trench and cover them with fine soil. Very fine carrots may be grown in this way, and the little extra trouble will be justified.

Potatoes cannot be grown very satisfactorily in a lumpy soil, and so the correct thing to do now, when digging the ground, is to render the soil as fine as possible rather than attempt to do it when sun-dried. With naturally light and sandy soil there never is any real trouble regarding its preparation.—CHRISTCHURCH.

IN THE GREENHOUSE

A Handsome Conservatory Plant.

THE old greenhouse plant known as African hemp (Sparmannia africana) is a very good subject for clothing the wall of a conservatory. Most people know the plant, with its softly hairy leaves of an intense green and its large clusters of white flowers with their central group of golden tipped stamens. In an ordinary greenhouse the sparmannia often develops on somewhat ungainly lines, and it is at its best when, with some support, it is allowed to spread up a wall. Within the writer's experience the sparmannia will stand quite low temperatures under glass, for, even if some of the foliage is damaged, vigorous growth is soon restarted. If properly treated, the African hemp will remain in flower for a very long time, and usually the blossoms, which begin to appear in the early spring, continue a display until late in the fall. To secure the longest flowering period the sparmannia should be in the sunniest position that can be obtained, and, within limits, the poorer the soil the better. If the plant is luxuriating in a very rich soil it becomes a fine specimen from a foliage point of view, but flower production is inferior. Where convenient the sparmannia may be planted directly into the soil at the base of the wall; but, in many cases, a pot will have to be employed. There is no object in having this very large unless a considerable area of wall has to be covered. If the plant should ever become too extensive, it may be freely cut back, and a somewhat severe pruning will often result in an increased flower production.—A. B.

Early Peaches and Nectarines.

SOMETIMES the amateur cultivator experiences much trouble through the flower-buds dropping off wholesale at the present time. There are several reasons for the buds dropping. The first cause is, probably, lack of water at the roots early last autumn as well as through the wintertime. The second cause may be through erratic ventilation during the winter; sometimes the ventilators are closed for several days while the weather is rather mild and the sap is excited a little. Then the ventilators and doors are left wide open, perhaps in cold weather. Another cause, lack of water at the roots recently, just before the house is closed, and too much fire-heat. Some varieties are more liable than others to drop their buds. The forcing should begin by applying a little artificial heat only. When the first flowers open cease syringing, generally, and admit a little top air, but none at the front. Sharply tap the branches several times a day and also fertilise the flowers by hand, especially those well placed, using a camel-hair brush or a rabbit's tail. Watch for black aphides and fumigate directly the bulk of the fruit is set.

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

How to Cultivate Large Shallots for Exhibition.

To grow fine large shallots requires good cultivation and well drained soil. Select a plot of ground not too heavy, as shallots thrive best in light soil. Dig two spits deep, or bastard trench, dig in a good layer of rotten mellow farmyard manure, and give a dressing of soot, then let it lay rough until a few days before planting. Draw a ridge with a hoe 6ins. high, 9ins. wide, working in at the same time a dressing of bone meal, then level ridge down with a rake. Plant the shallots in single rows along the centre of ridge at 10ins. apart. The ridges should be 18ins. apart. When plants are 6ins. high, give a dressing of soot on a rainy day. I have grown shallots on ridges and on the level side by side. Shallots on ridges are far the best. They get more sun, there is more room for the bulbs to grow and they ripen much better. When bulbs begin to swell give a soaking of liquid manure; this will increase their size. Sutton's Giant is the best in cultivation.—B. R.

A Method that will Destroy Roots and Stumps of Large Forest Trees.

To destroy nuge stumps and roots of trees. Get an inch auger bit, bore several holes as deep as you can bore, fill up with weed killer, then plug hole with a cork. Remove cork every month to refill with weed killer; eighteen months with this treatment will kill huge stumps and roots of ash, elm, walnut and all stumps. The weed killer soaks into the heart of the stumps, blacks and rots everything that comes in its way; it decays and simply rots away. This remedy was applied on a large Hertfordshire estate with great success.—B.

Protection Against Slugs.

So many people burn "Perfection" stoves now, that those among them who are gardeners may be glad to know that the perforated zinc collars that surround the wicks may be put to a very practical use in the garden, when the wicks are done for. They should first be put in the fire to burn away every scrap of wick and then the collars are most useful to protect small plants and bulbs from the ravages of slugs. They should be pressed well into the soil round the plant with the sharper rim uppermost. I have always found them most effective in the rock garden.—M. H.

Garden Refuse.

Economy is necessary in all gardens to-day, and one of the items that lends itself to such is the disposal of garden refuse. A garden fire will destroy all tree prunings and yield up with the ashes an appreciable amount of potash. Throughout the year all weeds, lawn mowings, discarded bedding plants and any other rubbish should be heaped together. In the autumn all available leaves should be added, and also one barrow of good loam to five of rubbish. To complete the heap apply sulphate of ammonia at the rate of 14lb. to each cartload of rubbish, and then turn thoroughly, moulding the surface so that the water will run off. In one year's time the heap will be available as a substitute for farmyard manure, and the percentage of nitrogen available will be higher.—W. M. C.

Primula Seed and Germination.

In many instances primula seed fails to germinate and often causes trouble when batches of plants are required. Especially is this so with Primula obconica grandiflora (pink, blue and blue shades, which are very useful for table decoration at this time of the year). P. malacoides, also hardy primulas Beesiana, Bulleyana, denticulata, Lissadell hybrids and sikkimensis. Seed of all the above varieties will germinate more freely if sown when gathered from the seed pods instead of getting hard and dry. Seed may be sown in pans or boxes half drained with small crocks and filled with a mixture containing leaf-mould, old loam, broken crocks or old mortar rubble passed through a ¼in. sieve, and silver sand. Do not cover seed with soil, keep damp and cover with a piece of glass till germination takes place.—W. R. P.

A Hint on Growing Good Carrots.

Choose the lightest piece of land in the garden. As soon as the land is dry enough, cover over with burnt ash and soot. Dig full depth of spade, leave to dry, then fork over, adding a little more soot. When the time comes for sowing, fork over again, rake level, draw the drills 15ins. apart, into each drill sow a good sprinkling of common mustard, then the carrot seed. As soon as the seedlings are 1in. high soot the bed every ten days. No other manure is required.—L. R.

OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Box Trees in Pots.

I shall be glad if you will kindly give me advice concerning two pyramid box which I purchased three months ago; these were planted in large pots, with gravel and clay soil and at the time of planting they were trimmed to keep their shape. and now I notice the leaves at the base of the trees are going brown. Can you tell me how to prevent this going any further.—E. O'C., Sanderstead.

November or early December is not a good time to move box. September and late April or early in May are the best seasons for transplanting. The leaves turning brown suggests that the roots were damaged in moving, and are unable to supply sufficient nourishment. We suggest that you move the plants to a greenhouse, if possible, which would encourage the immediate production of new roots.

Some Low-Growing Rock Plants.

I have an elevated lawn with rockery round. I want some low, hardy perennial mosses or such like that will creep over the stones. I see some very close green carpet plants about, but do not know their names; shall be glad of your aid.—G. J., Newport, Mon.

We should suggest that for the rockery running round your lawn you plant some of the mossy saxifrages, such as Saxifraga hypnoides, S. Maweana, S. decipiens and S. Wallacei. We should also suggest Raoulia australis or Nertera depressa (if in a warm and sheltered position), or Gentiana sino-ornata. For splashes of colour aubrietias, such as the variety Dr. Mules; Iberis sempervirens; Alyssum saxatile and arabis. These we think you will find suitable for your purpose.

The present is an excellent time to plant Phlox, Delphiniums, Michaelmas Daisies, Pyrethrums and many other plants which do not care to be disturbed in the depth of winter. If any renovation or rearrangement of herbaceous borders is required, it should be put in hand at once.

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E. GAYE,
OULTON BROAD, LOWESTOF

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THE GARDEN

VOL. XCI.—No. 2885. MARCH 19, 1927. PRICE TWOPENCE.

THE FLOWER FOR EVERY GARDEN

IN our desire to stimulate further interest in the cultivation of the gladiolus among all amateur gardeners, we again devote a special issue to these popular garden flowers at the height of their planting season. Last year, we published our first gladioli number and it proved so popular that we have repeated the experiment and hope in future, to make it an annual event. Certainly there is no flower more worthy of having an issue devoted to it than the fashionable gladiolus. It is one of our modern garden flowers which has come to stay. The popularity of all the various kinds is on the increase and, while it is no longer a flower seen only in a comparatively few gardens, yet there are still many gardens where it should take its place along with the rose, sweet pea, tulip and daffodil as an integral part of the garden display.

Gladioli are pre-eminently flowers for the amateur. Their qualities are those which the amateur desires to see in every plant, namely: (1) Ease of culture. (2) Grace and beauty of habit, which renders them suitable for planting in either beds or borders by itself or in association with other subjects. (3) Wide range of alternative colourings; and (4) Excellence as a cut flower for interior decoration, not only on account of their beauty of form, but also for their lasting qualities. Few of our garden flowers combine these four qualities to such a marked degree as the gladiolus and for that very reason we would urge everyone who has a garden to plant a few corms this season as a trial. Next year, we feel sure, the space devoted to its culture will be increased. No matter where the garden is situated, the gladiolus will succeed. It does equally well in the town as in the suburban and country garden. It is not fastidious as regards soil, and unless that be of a very inferior and poor quality, then no precautions need be taken to improve it.

They flourish well in soils of a medium to heavy nature where peat is present and they succeed equally well in light, sandy soils. On the whole they are averse to limy conditions and where there is much lime in the soil, or if this is of a cold, tenacious and clayey nature, then it is advisable to prepare a special bed of sand, grit and good loam, with a little well decayed cow manure. At planting time, give each corm a small amount of sharp sand to rest on, and plant about 3ins. to 4ins. deep and about 5ins. to 6ins. apart. Deep planting to a certain extent does away with the necessity for staking, but it is not always advisable, and when the beds are exposed to strong winds, then insert the stakes at planting time, to prevent the plants, when they have reached flowering size, from being blown over and broken. The actual date of planting gives rise to some controversy. Every year seems to bring it earlier and earlier, but experience shows that the last fortnight in March may be taken as early enough to begin planting. When well started planting can be continued until the end of April at intervals of ten days or so, so as to provide a succession of flower later on in the year. The planting of gladioli, as with other subjects, is largely governed by the state of the weather and also by the condition of the corms when purchased. It is best to purchase corms which are dormant, that is, not showing a green point. Immediately pointing takes place, then planting must be done at once.

When planting, select positions in the garden where the flowers will be seen at their best. The gladiolus, like many another flower, must have a background to show itself to advantage, preferably one of dwarf evergreen shrubs, or against an old wall of sombre colouring. Amateurs, with an observant eye, will see many examples of this type of planting in many of our public parks. One which we recall was the border of gladioli in Greenwich Park last year. The border, with its attractive and varied shades looked well against the background of evergreen shrubs. This is an arrangement which could quite well be followed on a smaller scale by many amateurs and their gardens would gain much in beauty and appearance.

This Week's Work

Strike cuttings of border chrysanthemums now in frames.

Finish planting perennials and shrubs as soon as the soil is in suitable condition.

Repot fuchsias, palms, aralias and aspidistras.

Sow hardy annuals in the open.

Plant shallots, artichokes and potato onions.

Protect wall fruit from birds and frost.

Prepare asparagus beds and sow onions, carrots, parsnips and leeks.

Start dahlia tubers into growth by placing them in boxes in the greenhouse.

Prepare new lawns and sow grass seed when the surface soil is dry.

Plant anemones in prepared borders.

Their inclusion in the herbaceous border is largely a matter of personal taste. In bold, large clumps of perhaps a dozen plants or more they look well if planted with regard to the habit and colourings of the subjects close by. Avoid incongruity at all costs by the planting of two or three corms here and there along the border. Such a method will not add beauty to the border or grace to the gladiolus. They look well in beds on a lawn and a good method to follow is to associate the large-flowered and the primulinus types together, the former as the tall tier and the latter as the groundwork. If the colourings are chosen so that they do not clash, then the effect is most attractive. Apart from their planting in the actual flower garden, a small reserve bed or border should be planted up to supply cut flowers for the house in the same way as the sweet pea.

We have not reached the culminating point in the popularity of this elegant garden flower. Interesting although its history is, its future should be still more so if our leading growers follow out the lines they are already on. There are about a hundred and fifty species of gladioli, the majority of which come from South Africa and in recent years, many of these have been and are being introduced into this country for the purpose of further hybridisation work. What the result will be it is difficult to guess, but it is certain that we can look forward to a gladiolus flower which will be a marked improvement on what we have at present. The introduction of the primulinus in the nineties of last century has contributed greatly towards the increased popularity of the flower by producing our modern varieties, with slender arching stems and hooded flowers and of the most delicate colourings, the results of crossing this species with the large-flowered Lemoinei and Childsii races, which, in turn, originated from the hybrid race referred to as G. gandavensis.

There is still open a wide field for further experiment. Numbers of sweetly scented species, such as G. tristis, the South African Avondblom, are in existence and their introduction and use in hybridisation work in this country seems especially desirable, since up to the present our modern hybrids are lacking in fragrance. Their colourings can be improved, and in this connection much may be done by attempting crosses with some of the delicately blue Babianas. Hi-generic crosses should prove successful and also fertile in such an instance. These are only suggestions flung out in the hope that a few of our growers may follow on these lines, because we feel sure there is a great future for the gladiolus if these few further improvements can be registered. G. C. T.

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GLADIOLI FOR INDOOR DECORATION

There is no more useful or beautiful flower for vase decoration than the gladiolus. Here are a few hints on how to arrange the different types to best advantage.

THOUGH gladioli may be very beautiful when used simply and solely as bedding subjects, in my opinion they are only seen at their best when cut and tastefully arranged in the home. Both the large-flowering varieties and the primulinus hybrids possess qualities which render them invaluable as cut flowers.

Now is the time to purchase gladiolus corms and in choosing a collection of varieties to be used for cut flowers, one should not only select suitable colours for the purpose, but take into account their respective times of flowering. Different varieties come into bloom at different periods if planted at the same time, some as early as July, others at the end of October and of course, at all times in between. A little forethought may avoid disappointment. If one wishes to plant all one's gladioli about mid-March, it is wise to select varieties strictly according to their time of blooming. Most catalogues give this necessary information, as a rule, classifying them roughly into three sections, early, mid-season and late. The time of planting does, to a certain extent, determine the time of flowering. It is a simple matter, by a judicious choice of varieties, to obtain a comparatively lengthy flowering season and to regulate to some extent the time of blooming of individual varieties.

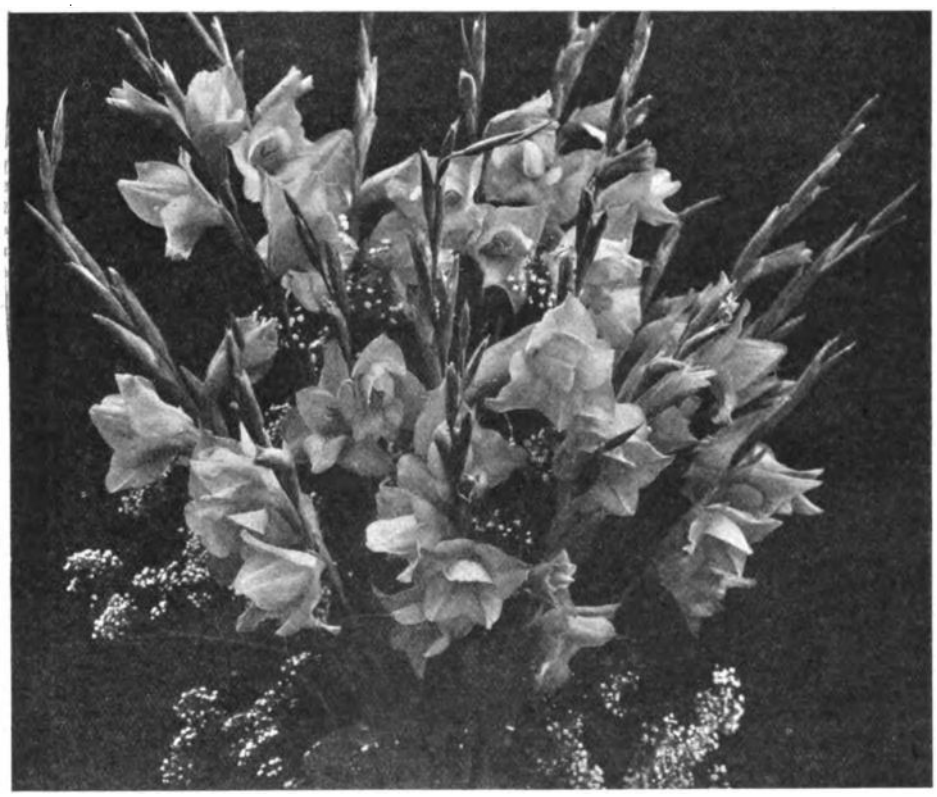
A sunny spot in the kitchen garden is ideal and if there is some protection from the prevailing winds, so much the better. staking each individual flower spike will be unnecessary, if strands of string, fastened to stakes, are passed horizontally on each side of the rows. A word of advice to the grower to *plant sufficient corms*. It should be remembered that gladioli are not quite like sweet peas or roses, a single corm of the large-flowering variety usually produces but one flower spike in the season; primulinus hybrids will give one, often two and sometimes three.

In discussing the effective arrangement of gladioli indoors, the two sections, large-flowering and primulinus hybrids must be dealt with separately, for in many ways they are quite different and need different treatment. There is one point, however, common to both, to which I must direct attention, and that is the actual operation of cutting the spikes. The leaves are the "lungs" of the plant and if these, or most of them, are cut off with the flower spike, the proper formation of the new corm is impossible for the following year. In order to cut the flower spike with a minimum of injury to the leaves, quite a good plan is to insert a sharp penknife in the stem, give the spike a gentle jerk each way, till it snaps, then it can be readily be drawn out of its sheath of base leaves. In both sections the spikes should be cut when the bottom bloom is fully open, then every flower bud will open in water indoors in succession. As the bottom blooms die, they should be broken off day by day and a small piece at the base of each stem cut off. This procedure will give one a fresh bunch of flowers from the same spikes for at least a week, often nearer a fortnight, an advantage which gladioli possess over most other flowers and a point which flower lovers will readily appreciate.

The large-flowering type are, as a type, very stately, majestic and perhaps rather massive in appearance and are undoubtedly more difficult to arrange effectively than the smaller-flowered primulinus hybrids. It is all too easy to obtain a heavy-looking and rather formal appearance, indeed, the spikes themselves are weighty and any attempt to place them in a light vase, bowl or basket will, as a rule, result in the whole toppling over. Receptacles must be heavy without appearing to be heavy or ungainly. Rather tall, thin vases containing several spikes are very attractive on the mantelpiece, while tall and slightly larger vases may be arranged effectively on a sideboard or small occasional table. Fairly large baskets or large, deep bowls admirably fill a fireplace or corner of the hall, or even the centre of a large table. Some means of support for the spikes will render the work of arrangement much easier and more satisfactory. Usually, baskets or large bowls intended for floral use are fitted with wire mesh supports in two "layers," fastened on a wire framework horizontally, the top "layer" almost on a level with the rim of the basket, the bottom one, 2ins. to 4ins. lower, according to the size. These or similar supports allow one to place each spike exactly where one wishes and at any angle, without fear of its twisting round in that tantalising way well known to all who have tried to arrange gladioli. Of course, in smaller vases where only two or three spikes are used, a wad or two of paper or cotton wool will keep them in the desired positions. I find that there is a strong temptation to overcrowd the spikes in baskets or bowls, and to arrange them too formally. Place some of the spikes at an angle, not all of them bolt upright like slats on a fence, and break up formality by using light foliages, such as Asparagus plumosus nanus or A. Sprengeri. In my opinion very few foliages may successfully be arranged with gladioli; those mentioned are my favourites, but I have used sprays of copper beech and the copper-foliaged prunus to enhance the effect of salmon, light orange, yellow, cream, white and other colours, with which they blend. Just a few co ours, usually the dark shades, will allow the inclusion of golden privet. Gypsophila is often effective, but its use should not be overdone.

Unlike many flowers, it is difficult to mix different varieties of various colours and obtain as a result an obvious "clashing" of tones. On the other hand, a little care taken in the choice of shades for a "mixed" vase or bowl will give one the most attractive effects. On the whole I prefer to use one variety to each receptacle, but realise this may be somewhat difficult where comparatively few corms are grown. Space will not allow suggestions for colour blendings and after all this is largely a question of personal taste. Naturally, one chooses light shades to place against a dark background, bright rich colours for a dull position and take into account the prevailing colour (or colours) of permanent furnishings and decorations.

Beautiful though the large-flowering type may be for home decoration, they are easily surpassed by the primulinus hybrids. The latter possess thin, wiry stems, with the individual florets spaced comparatively widely apart. Their smaller blossoms have the top petals hooded in a demure and charming manner, while their colours embrace the most wonderful art shades imaginable, the soft salmons, rich oranges and delicate creamy salmon-pinks being particularly attractive. They lend themselves to easy arrangement as do sweet peas. Dainty and graceful, they may be arranged in quite small vases and bowls. Much that I have already written concerning the arrangement of the large-flowering varieties is equally true when applied to "prims," but I would again emphasise the advice to avoid overcrowding. C. U.



A WELL ARRANGED VASE OF A MODERN PRIMULINUS VARIETY. SPRAYS OF GYPSOPHILA ARE USED TO LIGHTEN THE EFFECT.

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NOTES ON THE FLOWER GARDEN

The Californian Poppy.

THOSE gardeners who secure a plant of the Californian poppy (Romneya Coulteri) for the first time always wonder why they have never grown such a splendid subject before. The species is a glorious shrub with flowers 6ins. across, pure white, save for the mass of golden stamens in the centre. It is true that the Romneya is not thoroughly hardy in the colder parts of this country, but it is worthy of a little special treatment. In all localities it is best to give the plant a sunny position sheltered from the north and east as much as possible. Romneya is not herbaceous, and the deeply cut glaucous foliage is retained throughout the winter. The flowers are borne chiefly on the points of the new shoots and on laterals nearest the points, but more sparingly on the lower laterals. The shrub likes a rich light soil, and it is not much of a success on cold clay unless the situation has been well prepared in advance. A great point which recommends romneya is the fact that it is of rapid growth. Year old plants have grown vigorously and flowered abundantly from the end of June to the beginning of October where the position was favourable. It is not at all an uncommon thing for the shrub to send up shoots 7ft. in length during the growing season, and all of these produce large numbers of flowers. Even those who live in rather bleak districts should not despair of growing Romneya. It has been proved that the root-stock of the shrub has a large amount of vitality. During severe weather it is an excellent plan to cover the ground with dry litter, and then, should the top growth be cut down by frost, new shoots will appear in the spring, so that by the summer the bush will be as good as ever. Another good species, rather an improvement on Coulteri, is R. trichocalyx, a novelty offered by Messrs. Barr's this year. Like its relative, it carries large snow white flowers.

THE GLORIOUS BLOSSOMS OF THE CALIFORNIAN POPPY.
An excellent shrub for a sunny position in the small garden.

The Spanish Heath.

THE Spanish heath, Erica australis, is one of the most distinct of the species usually grown outdoors in Great Britain. It must be included among what are commonly known as the "Tree Heaths," though it seldom exceeds 4ft., or occasionally 5ft., in height. It is in flower from March until May, and its large cylindrical blossoms are of a brownish red colouring, quite distinct from that of other species. The growth of the plant is loose and whippy, but by no means unattractive, and a western aspect in thin woodland or with other shelter seems to suit it as well as complete exposure, while safeguarding it to some extent from killing wind-frosts. This species succumbs to a hard winter in many places, but it is hardier than most forms of cistus and other plants we habitually grow outdoors, and its beauty is such that its culture should by no means be neglected. Stock is easily increased from cuttings of half-ripened wood rooted under glass, or it may be raised from seeds.—R. V.

A Dainty Bulb for a Warm Border.

THE quaint and undeniably pretty bulbs of Cypellas may be planted during March, choosing for them a sunny position and a well drained sandy loam; if not lifted annually and they are better so treated, the bulbs must receive some protection during the winter, a frame or handlight proving very serviceable.

The two or three species are very easily grown and are sure to command attention and admiration; the most familiar is C. Herberti from Buenos Ayres. The flowers are chrome yellow, produced on a scape about 1ft. or rather more in height.

C. plumbea, a Mexican species, is a remarkable plant with coral coloured flowers, slightly tinged yellow at the centres; it is synonymous with Ferraria coelestina and Phalocallis plumbea. C. platensis from La Plata has very beautiful sky-blue flowers and is a larger plant than its congeners; while the somewhat rare Peruvian C. peruviana is yellow and brownish red, a desirable plant.

Not unlike tigridias and responding to similar treatment, these cypellas have grass-like leaves and are well adapted for growing in a warm border or rock garden. Not at all fastidious, they are certainly worthy of more extended cultivation.—R. E. A.

Giant Dahlia-Flowered Zinnias.

Chiefly from Scottish Tests.

THE giant dahlia-flowered varieties are a great advance on those formerly grown. Like all the zinnias, these new varieties must have an open, warm border reserved for them; in addition to that, the soil requires to be light and well opened up by deep digging, ameliorated by the addition of leaf-mould, and enriched fairly heavily by the addition of good manure. In the north it is best to sow about the middle of March, but friends farther south can have equally good results from sowings made at the end of this month; the seedlings can, thereafter, receive individual pot treatment or they may be grown in boxes. Treated like the usual run of less half hardy plants, hardened off in May and planted out during the first fortnight in June, they will give no trouble and need no extra care. I might add, here, that zinnias cannot withstand wind and their outside site must not be exposed in that respect. The merit of these new zinnias lies in their size; plants will reach to a height of 3½ft. to 4ft. and the flowers are correspondingly large—last year they were from 4ins. to 5ins. in diameter, in the main. The gorgeous tints are also an outstanding attraction; flowers of the sun, they have all the flaring, striking colours one expects in tropical plants and this should prove a strong point in their favour, something we cannot get easily in other flowers. Our first varieties were obtained direct from U.S.A. and included Meteor, Exquisite, Oriole, Dream, Buttercup and the white Polar Bear. These are now easily obtainable from Messrs. Dobbies of Edinburgh, and there may be added the other fine varieties. Crimson Monarch, Scarlet Flame and Golden Land.—LANARKSHIRE.

Sea Lavender.

STATICE LATIFOLIA is the botanical name of the great sea lavender. It is generally regarded as the finest of the hardy members of this family and no garden should be without a few plants.

The large, shining leaves are more or less evergreen and in August it sends up stout, branching, flowering stems which bear a profusion of tiny lavender coloured flowers. These remain in good condition for a considerable period, but do not persist after they are cut and dried as do the flowers of many sea lavenders. The white calyces remain attached to the flowering stems, however, which, when dried are useful for mixing in with other "everlasting" flowers.

Although in its native state this plant is found growing in sandy soils near the sea, it succeeds quite well in any ordinary garden soil and even makes luxuriant growth on clay soil if well drained. An open, sunny position is essential for success.

S. latifolia makes a strong tap root and does not transplant well; it should therefore be planted where it can be allowed to remain undisturbed. Propagation may be effected by means of seed, but this is rather slow, and if the plant is lifted and divided the loss of the whole plant is risked. The best method is to take off the side shoots with a "heel" of the root attached. Insert these in small pots filled with a sandy compost and place in a shady situation in a close frame or cool house until they become established. They may then be potted on until they are large enough to plant out.—T. H. E.

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GLADIOLI FOR NORTHERN GARDENS

Specially written for amateurs in the north, giving varieties suitable for growing in Scotland.

THERE was a time, and that not so long ago, when the gladioli was considered by most Scottish amateurs to be too stiff as a floral subject for the decoration of the garden. That effect was accentuated in some instances by the method of planting, which consisted of planting the corms singly and at varied distances in the mixed flower border. Grouping was the exception rather than the rule, and a bed exclusively devoted to the culture of gladioli was the work of a comparatively small body of enthusiasts who specialised in that particular flower. The whirligig of time has brought about a remarkable change. The gladioli has advanced in favour until it has reached a degree of popularity hitherto unparalleled in its history. No garden is now considered complete without up-to-date examples, massed groupings are now a feature in the border, beds containing choice collections are quite common, and last year the displays of hybrid gladioli and primulinus were outstanding both in the trade and competitive sections of town and country exhibitions.

Of the various influences which have contributed to the progress of the gladioli, three may be mentioned. First of all I would place the hybridist, who is responsible for the creation of new introductions which are incomparable for their grace of form size of blossom and beauty of colour. With that work the name of George Mair, Prestwick, is prominently associated. For over forty years he has been actively engaged in the raising of an improved race, and the high quality of his pedigree seedlings is famed all over the world.

The advent of the primulinus with its ever-increasing and charming group of hybrids has also contributed to the popularity of the gladioli among amateurs, and in the third place the recognition of improved methods of culture has had the effect of raising the quality of the flowers to such a high standard of excellence that new recruits have been attracted to the ranks of admirers whose chief aim is the decoration of the garden.

To grow gladioli successfully a good, deeply dug soil is essential. In late autumn the top soil should be removed and a liberal dressing of decayed manure incorporated with the subsoil. If the ground is stiff, leaf-soil and sand may be added. In early spring—just about this season—give the surface a dressing of wood-ashes and bone flour at the rate of 3 oz. to 4 oz. per square yard and lightly fork it in. Here in the north country it is risky to plant the corms in the open ground before the beginning of April, and even then it is advisable to surround the corm with sand to prevent it decaying. The arrangement of the gladioli is a matter of personal taste. When grown in beds single rows of one variety make a pleasing display, but if grown at intervals in a mixed border they look best when planted in groups of not fewer than three.

Gladioli are easily grown from seed sown in pans or boxes in spring, but the general practice among amateurs is to purchase new varieties and preserve them over winter by lifting the corms in autumn and storing them in shallow boxes filled with dry sand.

I believe in staking gladioli at the time of planting, as there is less chance of injury to the corm. It also indicates its position before growth appears above ground.

Where colour varieties are numerous it is not an easy matter to make a selection. Experienced growers have their own points of view and need no guidance, but beginners may rely on the following inexpensive varieties as the genesis of a representative collection :

Large flowered varieties.

Odin, salmon with deep red blotch ; Red Emperor, glowing orange scarlet ; L'Immaculee, free-flowering white ; Empress of India, deep velvety maroon ; Yellow Hammer, deep yellow self ; Prince of Wales, one of the finest of the salmon pink shades.

Primulinus varieties.

Orange Brilliant, orange, shaded scarlet and yellow ; Maiden's Blush, pink ; Daphne, vermilion ; Salmonea, salmon flushed orange ; Niobe, orange self ; Souvenir, yellow self.

HOW TO GROW FINE GLADIOLI

EVERYONE interested in gardening must have noticed that, during the last quinquennium, the gladiolus has drawn to itself an ever increasing popularity ; but during the last two or three seasons an entirely new and much more vigorous appreciation has developed, till now it basks in the sunlight of widespread acclaim. Never before, not even at the advent of the gandavensis, Childsii, Lemoinei or Kelway hybrids, has the cult of the gladiolus received such stimuli as are now pushing it to the forefront of the so-called " florist's flowers."

Many thousands of gardening folks will be planting gladioli during the next few weeks, and a few practical remarks regarding culture will be timely. Some sluggish and inert pursuers after garden beauty find refuge from exertion in such stock phrases as, " Yes, very nice, but they are too much trouble to grow and look after." Now, of all the Weary Willies in our land, there can hardly be one so perfectly weary as to shirk the amount of work needed to grow this flower. Corms and bulbs are, in a sense, clockwork plants, with all the impetus of growth and flowering wound up in their portable root stocks, and the zero minimum of labour is just to put these into the ground and pull them out when they again become dormant in autumn or early winter. Spikes of bloom would not be denied even this careless treatment, but it would not satisfy the cultivator. Even so, there is no need for much exertion in the production of the best results, and therein lies one of the secrets of popularity.

Soil.

It is a moot point which soil is the best for the gladiolus, but my experience is that it is satisfied equally, or apparently so, so far as concerns corm production, in practically pure sand and in stiff clay. Every sort of soil between these extremes appears to be equally favourable, provided that poor land is suitably enriched and low-lying, heavy ground is properly drained. Autumn is the correct time to prepare the beds if manure has to be incorporated, for the latter must be well decayed before it is acceptable to the roots of the gladiolus. Land which is in reasonably good heart is all the better without animal manures ; if it is simply turned up rough for the winter, forked down into tilth as soon as the weather permits in February or early March, and given a good sprinkling of bone-meal before the final cultivation prior to planting, enough will have been done in the way of preparation. In preference to horse or farmyard manure, if some fertiliser is really required, I would recommend guano, used at the rate of a handful to each square yard of ground, and forked well into the soil a week or so before planting. During growth, old soot sprinkled among the plants in showery weather will discourage slugs and other soil pests, and has a distinct effect on the colour of the flowers, heightening the red shades and purifying the tone of the deep " blues " such as Baron J. Hulot and Master Wietse.

Planting.

Time of planting depends on soil, district and prevailing weather. In the south and west of England and in warm sandy soils, the earliest planting may be made towards the end of February if the weather permits ; the Midlands and eastern counties are, naturally, later, and there the middle of March will be a more suitable season to make a start. In the north and all districts where spring comes fitfully or tardily, the weather will decide the most favourable moment ; but, wherever one is operating, it is advisable not to plant all the corms at once. Better is it to divide the stock into four or five lots, leaving an interval of ten days or so between each plantation, as this gives an extended season of bloom. Another important point to watch when planting is to plant corms which are showing a green point at once. No good results by delaying the planting of precocious corms. Dormant ones can be witheld for later plantings. Another factor tending to the extension of the flowering season is to mix some smaller corms with the large ones, the former taking about a fortnight longer to reach the flowering stage than those which are fully matured.

A DORMANT AND A PRECOCIOUS CORM.
Pointed corms should be planted at once.

Depth to Plant.

One hears many opinions expressed as to the proper depth to plant the corms. It is only common sense to plant more deeply in light soils than in heavy ; but deep planting

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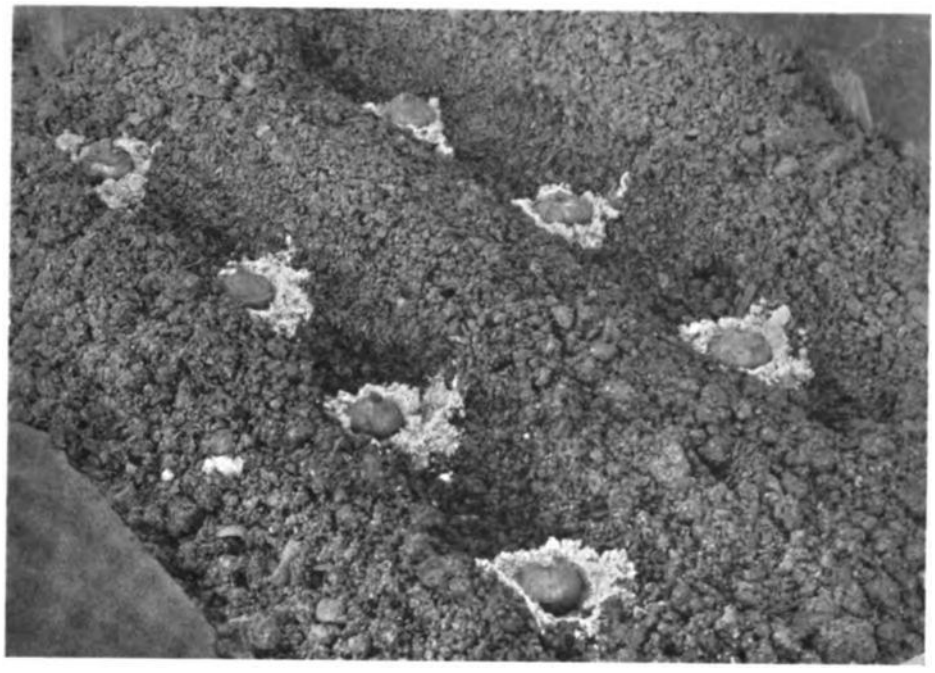
is, I feel sure, not in the best interests of the grower. Experience has frequently proved that spawn production is much heavier in cases where the corms are planted within reach of the sun's warmth during the growing season, and, where spawn is freely produced, almost invariably a plump heavy corm is the parent of that spawn. In very sandy soil, 4½ins. to 5ins. is a suitable depth; in medium loams, 3ins.; and in clay, 2ins. to 2½ins. is enough. Wherever the soil is heavy and retentive, it pays to plant the corms in an envelope of silver sand. Not only does this help to keep vermin from eating the corms, but it makes harvesting an easy, and clean operation, taking probably about a fifth part of the time that it would if messy, sticky clay has to be scraped off before the corms are ready for storing.

Some writers on gladiolus matters suggest digging before the foliage begins to turn yellow in the autumn. There is no great harm in so doing, but it can be taken as certain that so long as the leaves of deciduous plants are green they are still functioning, and I consider it is a mistake to commence digging up the corms till even a slight change of colour in the leaves indicates maturity.

Culture in the Greenhouse.

Growing gladioli in pots for greenhouse or conservatory decoration has so rapidly increased in favour that something might be said here on that phase of culture. I grow at least 1,000 corms each year in pots and have taken fairly exhaustive notes of the results attained, so that my experience may reasonably be of some help to others. Broadly speaking, the large-flowered varieties are slightly dwarfed when grown thus, while the primulinus hybrids are refined and improved.

PLANTING GLADIOLI IN POTS.
Three corms should be planted in a 9-in. pot. Note the drainage and the evenness of the compost. The corms should be about half-an-inch below the soil.



PLANTING THE CORMS.
The depth at which to plant varies with the nature of the soil, about four inches being a good average depth. Note the dressing of silver sand round the corms.

I have not found it useful to grow the large-flowered sorts in this way for exhibition purposes, but only for hybridising, though, if one went in for systematic and high feeding, excellent spikes could certainly be produced. As regards the whole range of primulinus hybrids, whether the true "prims" or medios, their cultivation in this particular manner is so thoroughly enjoyable that unlimited leisure and means for the pursuit of the hobby could not stale its infinite variety. Under pot culture the gladiolus is as easy to grow well as a tulip, and, like many of the cottage and Darwin types of that flower, the blooms opened under glass, and especially when gently forced, are frequently refined and clarified to a high degree of purity, altogether superior to those from the open border.

How to Secure Good Corms.

If the corms are to be thrown away after flowering, little heed need be given to soil, size of pots used, or actual time of potting; but these points are of considerable importance if the varieties are scarce or expensive and an economic eye is given to the increment of stock. To secure good corms and large or numerous cormels, it is essential to pot early, not later than the end of March, and earlier if possible; to use large pots; and to give plenty of nourishment for the roots. I generally put three corms in a 9in. or 9½in. pot, and the compost, prepared some time in advance, is rich and mellow without heavy manuring. If animal manure is mixed with the potting soil, it should be very old and thoroughly rotted; but an excellent compost can be made without it. The following mixture can be used safely and with good results:

12 parts decayed turfy loam of a somewhat heavy texture
4 parts leaf-mould
1 part finely ground oyster-shell
1 part silver sand.
1 part burnt wood ash
½ part bone-meal
½ part old soot.

As this is being mixed together, a handful of Peruvian guano may be added to each barrow-load of compost. All the ingredients should be thoroughly blended and the heap turned over frequently for some days before being used. One large crock is sufficient over the drainage hole of the pot. On this some of the rougher parts of the soil should be placed, and then more compost added till the pot is within 2ins. of being filled. The corms are slightly pressed into the surface, and the soil made moderately firm before filling up. When the operation is complete, the tops of the corms ought to be about half an inch below the soil, or an inch below the rim of the pot, for enough space must be left for watering.

Treatment after Planting.

If a good watering through the rose is given at once, it will suffice for at least a week, and until growth appears above ground the pots must not be over-watered. The pots should not be exposed to much frost, or rooting will be retarded; on the other hand, no forcing must be attempted until root formation is well advanced and top growth started. The best place for the pots in the early stages is a greenhouse from which frost is just excluded; or, failing that, they can be plunged in ashes up to the rims in a cold frame. As leaf growth advances it is advisable to place a 4ft. cane against each plant, taking care not to thrust it into the soil too near to the corm. When the flower stem appears, it should be secured to the cane in good time, preferably with a split ring, as raffia ties are sometimes liable to prevent upright growth by catching on some obstruction or adhering to the stem itself.

Feeding the Plants.

I begin feeding the plants when the third leaf appears, starting with very dilute doses of liquid manure every four or five days, gradually making it a little stronger and with more frequent applications, and occasionally alternating with guano water and soot water. Some growers stop all artificial feeding before the flowers begin to open, but I think this is unnecessary, and if liberal cultivation is continued till the flowers have passed and seed is ripening, the corms are all the better for it. If seed is not wanted, the spike should be cut off, either as soon as the first bloom opens, when it can be used for decoration, or immediately the beauty of the spike is past its best. In this case, feeding is continued for a fortnight or so to plump up the new corms.

J. L. GIBSON.

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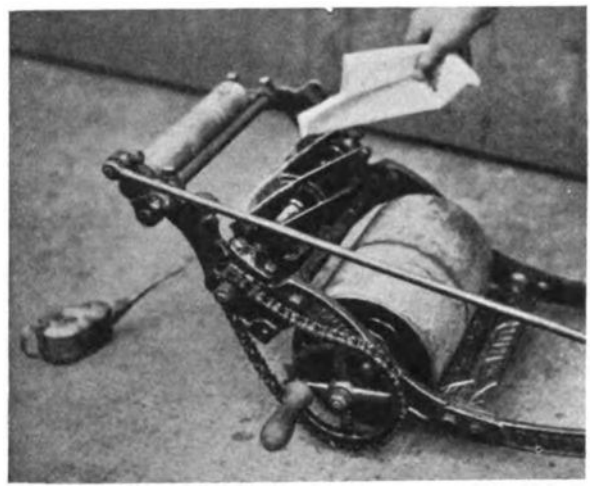
THE BUSY MAN'S PAGE

Sow Stocks for Summer Flowers.

THERE are several types of the stock, but that kind which is most commonly grown in gardens for summer bloom is the summer-flowering or ten-week stock. Plants are easily raised in a cold frame without any but sun's heat; indeed, cold culture like this gives strong robust and hardy plants for planting out in May and June. The soil should be prepared for them, because it is better to have the manurial dressing well mixed with the soil proper and to have the border uniformly enriched before they are planted out. Some old mortar rubbish or carbonate of lime may be added, along with the manure, if the ground was not limed in winter. It is best to keep young seedlings on the dry side, as they are liable to damp off in dull weather and yet the plants must never lack water; this and a check given in any other way, are potent causes of premature flowering. Always keep a reserve of plants in a spare bed to replace "singles" but in the first instance get the best seed and those singles will be very few. Among the best strains may be classed large-flowering pyramidal, Giant Perfection and the dwarf bedding kinds; also to be recommended are the newer beauty stocks which may be considered as a type of ten-week stock. Good seed gives a delightful range of colours, but, of course, growers can have individual colours to choice.



SHARPENING THE LAWN MOWER.
One handle is removed and screwed to the gear wheel, and as the latter is turned, emery powder is shaken over the blades—previously well oiled.

Care of the Lawn Mower.

IT is quite time to examine the lawn mower, as this will soon be in regular use. Overhaul the machine carefully, looking at the different parts to see if any of these are worn. The bearings of the revolving blades are the parts which are most likely to wear. Indications of this are to be found in the "jumping" of the blades when the machine is in use, and by the frame of the blades feeling very loose. In a chain-worked mower the chain may need tightening up, for in course of time this tends to become loose. The local ironmonger would be able to attend to matters of this kind, and it is as well to get the machine to him soon, so that it will be ready for use when the cutting season starts.

All lawn mowers must be sharpened now and again, and this is a job calling for extreme care. The blades should be well oiled and all the rust removed by rubbing over with a paraffin rag. Then some emery powder may be shaken over the blades, which are then revolved. Where the blades are not too blunt, this method will serve to fit them out for a further season. Where, however, the blades are in a bad condition, they should be sent to the makers or another expert for attention. The revolving blades may require some adjustment, for to work properly they should revolve very close to the fixed blade at the bottom. When this is the only trouble quite often the turns of a few screws or the manipulation of a couple of bolts will bring the blades closer to the knife. By adjusting the back roller the height of the cut is altered accordingly. The notches in the slotted brackets enable one to see the adjustment is equal on both sides.

Many gardeners make the first mowing with a scythe, and this is really quite a good idea. If a scythe is not available, the first mowing should be done with the blades of the machine set high. The height at which the machine will cut is varied by shifting the rollers up or down. Place the mower on a hard ground and it is then quite easy to see if the fixed blade is too near or too far from the ground level. When everything in the mower seems in order, oil all the bearings and rub the machine with an oily rag. One of the illustrations shows the method of oiling the bearings which, in this case, are of cast-iron. The screw head seen just behind the oil-can spout adjusts the bearing and should be tightened sufficiently to prevent any play of the cutting cylinder (the blades) without hindering its revolution. It is sometimes wise to remove the cutting cylinder and clear out all grass clippings and other *débris*.

The back roller (and, accordingly, the cut) needs to be nicely adjusted.

How to Sow Dust-Like Seeds.

ANYONE who is inexperienced in the sowing of such seeds will benefit by following the hints given in this short note. Minute seeds are, mostly, those of more valuable kinds of plants, such as calceolarias, tuberous and fibrous-rooted begonias, etc., and should not be buried under any soil. It is always safer to sow such seeds in pots or pans, than in boxes, because the soil in a pot retains its moisture longer than in a box. If once, only, dust-like seeds become dry in the soil after germination has begun, they will perish. There is more moisture round large seeds because they are buried under a thin layer of soil. Avoid sowing such seeds thickly. The seed leaves of the resultant seedlings are large, especially those of gloxinias and tuberous begonias, and if they are overcrowded, there is danger of wholesale damping-off and the weakening of every individual seedling. Wash and thoroughly dry the seed pans or pots, also crocks. Provide sound drainage by neatly placing the crocks in position and then a few half-decayed leaves on them, or some very fibrous turf, quite old and from which the fine soil has been sifted. The bulk of the soil should be passed through a rather fine meshed sieve. It should not be too wet nor too dry at the time. Make the surface level and carefully water through a fine rosed watering can. When the surface is beginning to dry a little sprinkle a small quantity of white silver sand on it. Then sow the seeds very carefully and very thinly. As the soil dries further the dust-like seeds are drawn into its surface and are, as it were, fastened down there. This is all that is required. Do not put on soil of any kind, however light; but cover the pot or pan with a sheet of glass and some brown paper. Try to keep the soil in the pan in a consistant state of moisture by placing it out of the direct rays of the sun. If water is required, immerse the pan gently in tepid water, and, also, while the seedlings are tiny.

The Lawn in the Early Spring.

FROM the beginning of March onwards the lawn requires an increasing amount of attention. The worms are getting active, and their casts should, on dry days be regularly scattered with a birch broom. Then, unless the lawn is in a sodden state, roll thoroughly. Where the worms are very abundant so that their operations really disfigure the lawn, apply clear lime water in the evening and gather the worms on the following morning; or apply one or other of the artificial worm-killers which are all very effective. Apply lawn sand also, in the proportions directed. There are several good brands obtainable.

To ensure easy running the cutter bearings must be oiled regularly.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Gay Flowers for the Town Garden.

ABOUT 120 species of gladioli are known to botanists. Their central home is South Africa, but species are found wild as far afield as Turkey and Greece, and one even occurs wild in this country. This is Gladiolus illyricus, and is only known in three localities. In South Africa it is not uncommon to see fields of gladioli spikes, as plentiful as buttercups and daisies are in this country. What a stirring sight it must be to see a whole field of waving gladioli! I was hardly surprised when a friend from South Africa told me recently that he used, a few years back, to take parties of visitors up the Table Mountain specially to see the wild gladioli, a sight, he declared, never to be forgotten.

It is safe to say that no flower has become more popular in so short a time as the gladiolus. There is, as usual, a very good reason for this popularity. Easy culture and certainty of results are the reasons for its universal cultivation. No matter whether the garden be in the heart of a smoky town or in less smoky suburbs, the result is the same, a glorious display of bloom. But to get the best results a certain amount of care is needed. The important point in all town gardens is thoroughly to prepare the soil. Good drainage is essential. Deep digging, stirring the soil to at least 18ins. promotes drainage and soil aeration in most cases, but if the land is very heavy and waterlogged, some sort of drainage must be made. In the small garden this can be effected by digging a trench across the flower border about 3ft. deep. Into the bottom of this place a 6in. layer of bricks, clinkers, or rough stones. An application of lime is also important. Spread 4oz. of ordinary builder's lime over each square yard before digging is commenced. To a light soil add leaves, organic refuse and other moisture retaining contents; to a heavy soil apply sand, road grit (if free from tarry matter) or mortar rubble. Use a dressing of one of the proprietary fertilisers suitable for flower production when planting and again when the shoots are 6ins. high.

A word about planting. If the corms of gladioli can be started into growth in boxes of light soil in a cold frame, well and good. But this is not essential. They can be planted direct into their flowering quarters. A good plan for ease in planting is to rake the bed or border level, breaking up any lumps in the operation. Do not remove small stones, they aid drainage. Sprinkle a little sand over the surface, and lay the corms out 6ins. apart or a little more, according to the kind. Plant with the flat-ended dibber if the soil is light, but if the soil is heavy clay, use a trowel. Allow a little of the sand or grit to trickle into each hole before inserting the corm. Plant 4ins. or 5ins. deep. Cover by raking the surface over. Gladioli are best planted in masses, and owing to their stiff habit are best associated with other, more bushy plants, such as snapdragons. Endless colour schemes can be devised. Complementary colours go well together. For example, yellow snapdragons with deep purple gladioli.

Varieties are Legion.

There are too many varieties of gladioli. The amateur goes to a show, and probably makes a note of one or two choice sorts and maybe forgets the particular nurseryman who exhibited them. When planting time comes he consults the catalogue of a leading seedsman, only to discover that no mention is made of the variety noted at the show. What is required is standardisation of the best varieties, and to some extent this is happening, but there is considerable room for improvement. The following are some of the best modern varieties: Baron Hulot, deep violet blue with small white stripes; Pink Perfection; Halley, light salmon, throat and portion of three lower segments flushed sulphur, with magenta markings; Brenchleyensis, handsome spikes of vermilion scarlet; Golden West, orange scarlet, creamy yellow blotches; L'Immaculee, white; Yellow Hammer, clear yellow.

Those who prefer mixtures should plant some of each of the following hybrids, gandavensis, the famous Langprim, Lemoinei, primulinus, and Childsii. These will give a variety and succession of blooms. For show purposes it is best to plant named varieties.

LARGE FLOWERING GLADIOLI ASSOCIATE WELL WITH OTHER FLOWERS IN A ROUND BED SUCH AS THIS. UNDER TOWN CONDITIONS THEY SUCCEED PARTICULARLY WELL.

Sparrows and Seedlings.

SEEDLINGS often come to grief in town gardens because of the sparrows which attack them. To cover them with wire netting, or twigs, until they are well grown is one way of avoiding trouble. A few sticks driven into the ground, and black thread stretched across and across the seed bed and fastened to the sticks is most effective in scaring away the intruders.

Where sparrows are known to be exceptionally troublesome it is well to take every precaution. First of all sow the seed rather thickly (in the case of lawn seed, for instance), to allow for a percentage of loss. In addition, place a shallow dish of water for the birds to drink here and there in the garden. In dry weather birds frequently peck at young green shoots for no reason other than that of thirst.

How to Mix Potting Soil.

PROPERLY mixed potting soil is a pleasure to handle. It is silky to the touch and a rich brown in colour. Close inspection reveals flakes of dead leaves, bits of brown earth (loam), and particles of sand. If you need only a little soil for potting, it may be bought from a florist, but it is quite easy to mix at home and, of course, cheaper. Loam is made by taking the surface turf from pasture (or road sides) and building it into a heap to remain until the grass decays. After about six months this is chopped up with a spade and mixed with decayed leaves and sand, the proportion varying according to the kind of plants to be grown in the pots. Bulbs like two parts loam, one part leaves, and one part sand. Chrysanthemums like two parts of loam, one part of decayed leaves, one part of well decayed manure, and a handful each of bone meal, lime and sand to each bushel of the soil. It is always a good guide to the mixing of potting soil to study the nature of the soil in which the plants grow naturally. For example, carnations grow in the wild state on limestone, and in mixing any soil for them, lime must be added in liberal quantities.

Dahlias for the Town Garden.

DAHLIAS which have been stored for the winter should be put into boxes with a little moist earth, and kept away from frosts. They will make shoots, just as potatoes do that are stood on end to sprout, and, if desired, each shoot can be cut with a piece of the rootstock attached, and planted in a pot. By the time the frosts are over, the plant will be well established and will make a welcome addition to the border. A single plant of a good dahlia makes an outstanding feature in a small garden.

The following varieties are suitable for town cultivation: Nora Bell, scarlet and yellow; Our Annie, shrimp pink and yellow; Lemur, bright scarlet with bronzy foliage; Aglaia, orange and salmon; Trevussa, orange and red; Picture, orange tipped with rose; Pink Pearl, rose pink; Crimson Flag; Coltness Gem, bright scarlet; and Dobbie's Bedder, pale sulphur.

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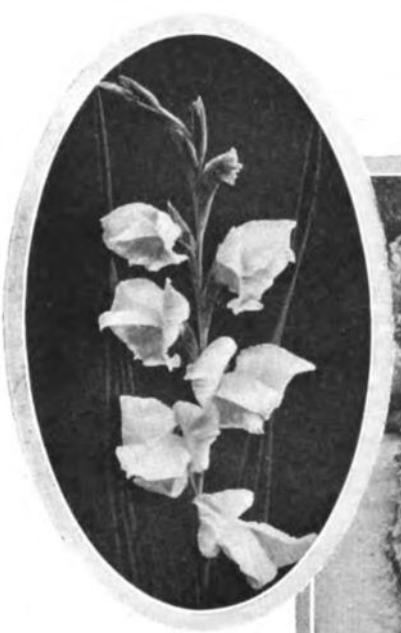
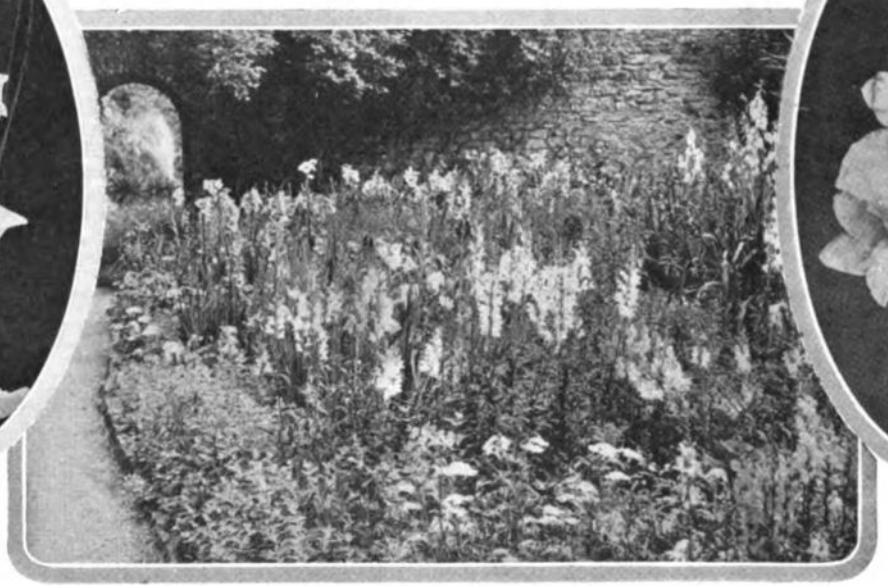
GLADIOLI FOR EVERY GARDEN

This gorgeous flower should be planted within the next two or three weeks for a brilliant display in the summer.



THE DAINTY AND HOODED PRIMULINUS TYPE.



THE STIFF AND ELEGANT LARGE-FLOWERED TYPE.

GLADIOLI GIVE DIGNITY TO THE LATE SUMMER BORDER.

In this article an authority on gladioli gives, at our request, two lists of varieties for present planting. (1) The best dozen primulinus hybrids; (2) The best dozen large-flowered varieties. These varieties have been specially selected for the needs of the amateur. They offer a wide range in colour and habit and are reasonable in price.

Primulinus Varieties.

THE primulinus hybrid class of gladioli is, comparatively speaking, a new one, yet there are, I think, sound reasons why this light, graceful and altogether charming class will become most popular. There are already in commerce many exceedingly beautiful primulinus hybrid varieties (shall we call them prims. for short?) and the distinct promise of still finer ones to come. As a class, prims. are remarkable for their light and "airy" appearance, their superb colours and the ease with which they lend themselves to all forms of indoor floral decoration. A curious point with respect to their colouring is that, although their colours range from white to deep scarlet through many shades of cream, yellow, pink, salmon, orange-salmon, orange and orange-scarlet, one may mix a dozen or more varieties in a decoration and there will be no appreciable sign of any one shade clashing with another. I very much doubt whether such glorious art shades of salmon and orange are to be found in any other species of flower except, perhaps, in begonias, but the latter do not possess the combinations of yellow and salmon found in prims. such as Salmon Beauty.

Here are twelve reliable and excellent varieties which should not cost more than 25s. for twelve corms of each (144 in all): Athalia, Daphne, Hermione, Maiden's Blush, Niobe, Orange Brilliant, Orange Queen, Rosandra, Salmon Beauty, Salmonea, Souvenir and Xanthia. I will briefly describe them.

Athalia.—Undoubtedly the best brilliant orange-scarlet, a very beautiful variety.

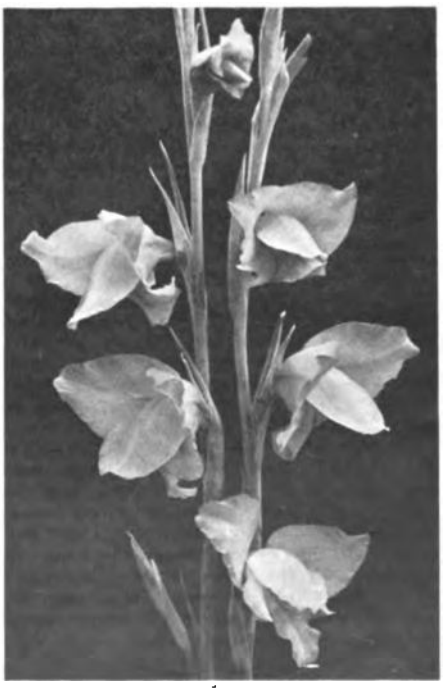
Daphne.—A wonderfully rich scarlet-red or brick red.

Hermione.—One of the earliest of the prims. to be named and introduced, but still one of the best. A pleasing shade of orange-salmon.

Maiden's Blush.—Easily the best inexpensive pink prim., it should be included in every collection.

Niobe.—A very reliable variety. A distinct and beautiful orange self.

Orange Brilliant.—The colour blending is very attractive. Its upper petals are orange shaded scarlet, and the lower yellow shaded orange. A small-flowered and dainty bicolor exceedingly useful for decorations.



DAPHNE, A DAINTY AND ATTRACTIVE PRIM. OF A RICH SCARLET RED SHADE.

Orange Queen.—There is no other gladiolus, either in the large-flowering section or among the prims., quite like Orange Queen in tone of colouring, which is a charming shade of warm, coppery orange. As yet it is not very well known, but is sure to become popular. For a primulinus hybrid its flowers are rather on the large side and perhaps a little too close together on the stem, but its most wonderful colour fully compensates for other slight defects in form.

Rosandra.—A good grower and very reliable. Probably the best soft rosy cerise.

Salmon Beauty.—In my opinion the best primulinus hybrid gladiolus. Its habit of growth and form leave nothing to be desired. The colouring is exquisite, soft warm salmon with a yellow-tinted throat. Whether growing outside or used for indoor decoration, both in daylight and artificial light, this variety invariably attracts attention. It should be grown by all.

Salmonea.—Another excellent decorative prim. and one of the most beautiful of all. Salmon, flushed glowing orange.

Souvenir.—The best and most inexpensive bright yellow. A strong grower and a colour which "sets off" any of the deep orange and salmon shades to perfection.

Xanthia.—The rich vivid golden effect of Xanthia in the bunch is most effective. It is a brilliant, pure orange which I most strongly recommend in preference to the better-known and very popular Sphinx.

A few others of great merit, most of them a little more expensive than the above dozen are: *Altair*, a distinct salmon-saffron, with flowers a trifle on the large side. *Citronella*, a very refined creamy yellow self, pure and clean; invaluable for decorations. *L'Ecaillon*, a very soft biscuit salmon with rose blotch,

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delicate and distinct. A very beautiful prim. *L'Exuette*, cherry red with large and well defined golden blotch. A little larger bloomed, but a very striking variety, particularly in the bunch. *L'Yser*, something like L'Exuette, but brighter. Orange-scarlet with yellow throat. *Rose Luisante*, a very fine rose-pink, a good grower, rather large flowered. *Scarlet Cardinal*, without doubt this is the best intense and brilliant scarlet primulinus hybrid. Of ideal form and habit. *Shell Pink*.—This new variety is certain to become very popular when its price is a little lower. It is the best pink I have yet grown.

Large-Flowered Gladioli.

The extraordinary number of varieties of large-flowering gladioli presents no small problem to the inexperienced amateur who may wish to grow really good ones but who is unable to pay "fancy" prices for them. New varieties are not necessarily the best, nor are prices always a reliable guide to the merit of a variety. The inexpensive kinds are usually the older ones, but it is quite possible to find among these a fair number of satisfactory all-round varieties which will hold their own for beauty and reliability against later introductions.

I will venture to name a dozen or more which are not likely to be beyond the reach of even a modest purse.

My dozen are Baron Hulot, Byron L. Smith, Early Sunrise, Golden West, Mrs. Frank Pendleton, Odin, Parliament, Pink Perfection, Prince of Wales, Red Emperor, White Giant and Yellow Hammer, all distinct colours and all obtainable from advertisers in THE GARDEN. In the first place, the cost of the above collection, twelve top size corms of each variety (144 in all) should be between 25s. and 30s. at the most.

Now for a few details about them which may be perhaps interesting and useful. Their time of flowering varies slightly, and as a guide to this I am placing "E" after the name of each variety which blooms early, "M" after each mid-season kind and "L" to indicate one that is later still.

Baron Hulot (M).—The well known deep blue and still one of the best in its particular shade. It is fairly vigorous, but, like almost all blues, the flowers are on the small side.

Byron L. Smith (M).—A distinct and beautiful variety. The colour is very similar to a Cattleya orchid, lavender pink with creamy throat blotch. One needs several spikes together to obtain the full beauty of this gladiolus.

Early Sunrise (E).—One of the finest gladioli in existence and most reliable. A vigorous grower, producing long, well shaped spikes with many florets open at the same time. Extra large-flowered and a most pleasing salmony pink colour.

Golden West (M).—Almost as large as Early Sunrise, a beautiful orange-red, overlaid gold. It is a good grower, giving a good well formed spike. Its beautiful and unusual golden markings invariably attract attention.

Mrs. Frank Pendleton (M).—I prefer this variety to Willie Wigman; their colours are, of course, quite different, but in general effect there is a resemblance caused by the dark blotch on both. Mrs. Frank Pendleton is a light pink with a dark blotch, very striking and distinct in the bunch.

Odin (E).—Orange-salmon with darker, well defined blotch, a tall, vigorous grower, giving a handsome spike of a rich colour.

Parliament (L).—A charming shade of salmon-rose with very large flowers.

Pink Perfection (L).—Although quite inexpensive, this is one of the finest soft pinks we have, a most satisfactory gladiolus.

Prince of Wales (E).—Very few gladioli are cheaper than Prince of Wales, yet it is still the best salmon-pink, and a great favourite with all. At the British Gladiolus Society's Exhibition at Burton-on-Trent this year it was in evidence on many of the trade groups.

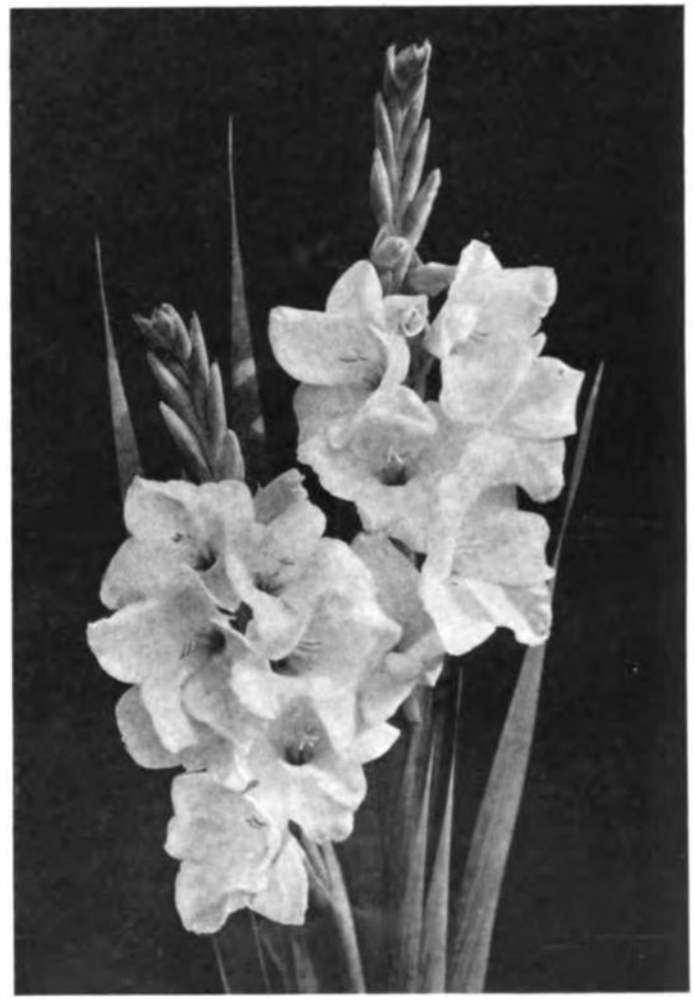
Red Emperor (M).—A basket or large bowl of Red Emperor well arranged is a sight that lives in the memory for a long time. It is very vigorous, extremely large-flowered, and the most popular red in commerce at a reasonable figure. Red Emperor is the favourite gladiolus of many.

White Giant (M).—Large bloomed and well known. It is the most popular white, and the white variety usually grown for market purposes and seen in the florists' windows.

Yellow Hammer (M).—Extra vigorous and undoubtedly the best inexpensive yellow.

C. H. A. S.

GLADIOLUS WHITE GIANT, A MOST POPULAR AND ATTRACTIVE VARIETY.
This is the one usually seen in florists' windows.



THE DISTINCT AND BEAUTIFUL BYRON L. SMITH, OF A BLENDED COLOUR OF LAVENDER PINK AND CREAM.
Two or three spikes look well together.

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SOME OF THE BEST ANNUALS

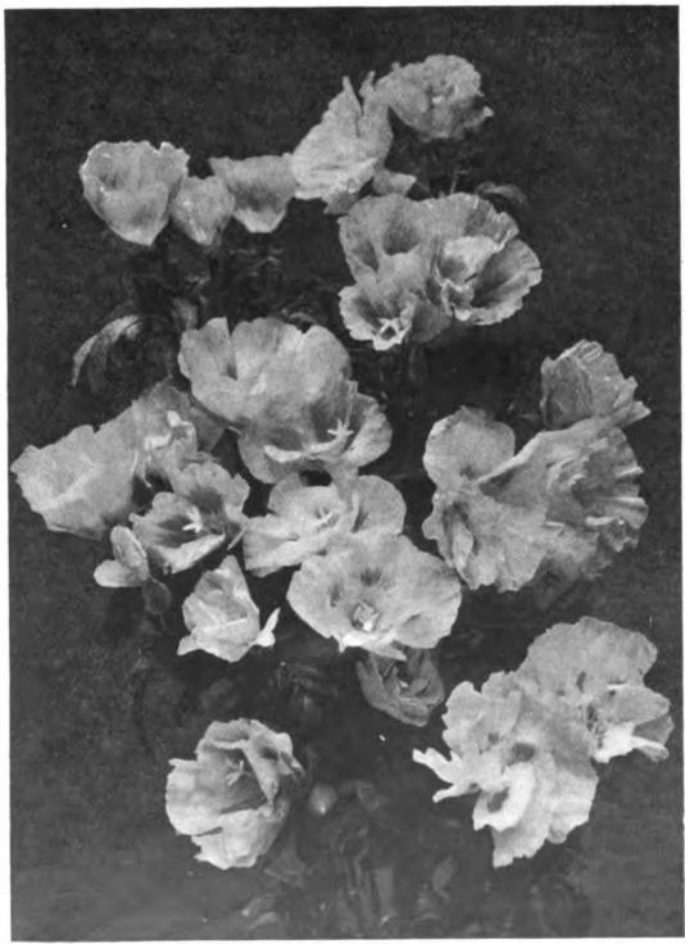
AMONG the lists of our seed catalogues we have a large and varied choice; but within the short space available I am merely going to mention a few of the best for cut blooms and some of those that will give us blooms from early summer until late autumn confining myself to those that are true annuals, that is, necessitating the sowing of fresh seed each spring. We will start with the

Aster, whose splendour is only marred by those heavy summer thunder showers to which our climate is so subject. Here we have choice of many sorts, including the Comet, ostrich plume, peony-flowered, the large bold single varieties and the Victoria. The flowers are very easily grown from seed sown in March or April in prepared beds made up in a cold frame, or in pans or boxes placed on a greenhouse shelf. Soil for sowing should be a mixture of finely sifted loam, leaf-mould and sharp sand. If the boxes are covered with a piece of glass, it will hasten germination. Seed pans should be watered by immersion before sowing seed. When seedlings have made a good start, they may be pricked out into a larger space. If shelter can be given at night for a time, they may be put out into a prepared bed in the nursery garden; by about June they will be ready for final beds.

Schizanthus (Butterfly Flowers).—These are splendid for vase work if well grown. Where there is a greenhouse, seed is sown in August and September in large pots, and the plants grown on through the winter for blooming in the conservatory in spring. For outside work and cut flowers seed may be sown in March–April in the positions where plants are required to flower, as they do not transplant well unless pot grown. They like a well drained moist soil, and the incorporation of well decayed-manure is an added encouragement.

Salpiglossis.—These are both varied in colour and elegant in growth, the one and only fault being the sticky nature of the leaves, etc., in this respect akin to their close relative the petunia; but this trouble does not in any manner spoil the flowers, and they are unsurpassed for cutting for vases. They are sometimes grown in the greenhouse for spring blooms, but on these lines need careful attention to the foliage, etc., being apt to become very blighted under glass; in fact, not worth the trouble. For outside work the seed may be sown in March in pans or boxes placed in frames. Prick out when large enough to handle and, finally, plant in permanent quarters in latter part of May. If, as in many cases, there is no glass available, seed sowing may be postponed until April, and then be sown in its flowering position. An extra good point about these flowers is the wonderful display of bloom right up until the end of October under mild conditions. They stand a considerable amount of drought; in fact, if watered, are inclined to scorch and shrivel.

FEW PLANTS HAVE THE CHARM AND GRACE OF THE NIGELLA WITH ITS OLD-FASHIONED NAME OF LOVE-IN-A-MIST.
They are still considered as one of the best of the blue annuals.



THE CHARMING PINK GODETIA CAN BE GROWN IN CLUMPS IN THE FRONT OF THE HERBACEOUS BORDER.

Godetias.—Here we have a real hardy annual, needing no glass shelter at all. It may be sown straight outside in flowering quarters in May or end of April. There are now obtainable named varieties, as well as double sorts, and all these are splendid for cutting, and look well in clumps or lines in front of the herbaceous border. They like a good deep soil, and under these conditions stand hot, dry weather well. It is true they are rather a heavy type of flower for cutting, but for a gay garden they are excellent and last well.

Stocks.—Under this heading I shall only deal with the variety termed the ten weeks stock as being a true annual. Almost too well known to need description, they may be sown under glass in March and pricked out into larger boxes when large enough. Being of the crucifer type, they are gross feeders, and therefore require well manured ground of a fairly light nature. Again rather a heavy type of bloom, but they look well cut in vases with such as gypsophila. From the florist's point of view only the double varieties are of any use, but this cannot always be arranged, and the best safeguard is to obtain seed from only well known firms, of which there are plenty nowadays.

Nigella (Love-in-a-Mist).—This is certainly one of the best annuals we have, yet so few grow it. Splendid for late flowering, especially on a limestone soil. Miss Jekyll is the best known variety, being intense blue in colour, the foliage in all cases being an added adornment—a dark green ferny-like foliage. May be sown outside in April where it is to bloom. It usually seeds itself abundantly, thus effecting a saving on the seed bill.

Larkspur (*Annual*).—It always surprises me that these are not more widely grown, having all in their favour now due to improved strains, as well as the double variety, and being elegant, easy to grow and flowering until late in the season. They do not require glass shelter, may be sown outside in April, being

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thinned if required. I suppose some would find a fault in the lack of any scent, but surely the colours make up for this.

Centaurea (Cornflower and Sweet Sultan).—Here we have two members of a family, both equally good. The cornflower is best in the old blue colour, of which there is also a double variety now. This annual, with some good foliage, is excellent for decorating tables. Sweet sultans, are varied in colour, well known for their honey-like smell. They look well as cut flowers mixed with something else, but are too stiff alone. Both these annuals may be sown outside in permanent quarters in April, and will give a display of bloom until late autumn.

Coreopsis.—In this we have a splendid annual to cut from in both summer and autumn. There are both yellow and red varieties. It will do well in a dry position and comparatively poor soil, too. Seed may be sown outside either in rows or groups in April and May. I once saw this annual flowering among a large bed of roses. The seed had evidently been in some burnt rubbish that had been spread over the garden broadcast. The effect was splendid and flowers were cut right up to the time of the first frost. I may add that these old-fashioned flowers are excellent for table decoration at the autumn shows. If once allowed to seed, it will usually come each year afterwards.

Cosmos.—These were once of a rather ugly colour of a mauve shade, but now improved strains have given us a variety, and a mass of these flowers look splendid in a large round bed, the dark green ferny-like foliage adding greatly to the general effect. Seed is often sown straight outside in April–May, but stronger plants are obtained by sowing, if possible, under glass and pricking off as required. They are suited to a dry and even poor soil, and flower until late season.

Shirley Poppies.—These I feel I must mention, though too well known to need description. They are quite hardy, no glass being required at all. Sow early April and May, or even in March if a warm spring. They are certainly the most delicate and graceful of our annuals. One gets a wonderful range of colours from a packet of mixed seeds from a good firm, with often many double flowers as well. They are quite unsurpassed for table decoration at shows, and a well arranged table of these seldom fails to catch the judges' eye. The great secret is to pick them before quite out in flower and during the cooler hours of the day. They self-sow largely each year.

Clarkia.—This annual is perfectly hardy. It is valuable for filling in gaps in the front of a herbaceous border, and also for growing in the reserve garden for cutting purposes. It is also largely used for conservatory decoration, when it is sown in pots in the autumn for blooming in the spring. The long graceful sprays of double or semi-double flowers are most decorative, and are produced in great abundance. It should be sown thinly in April, where it is to flower, thinned rigorously and given slight support by means of short, bushy twigs.

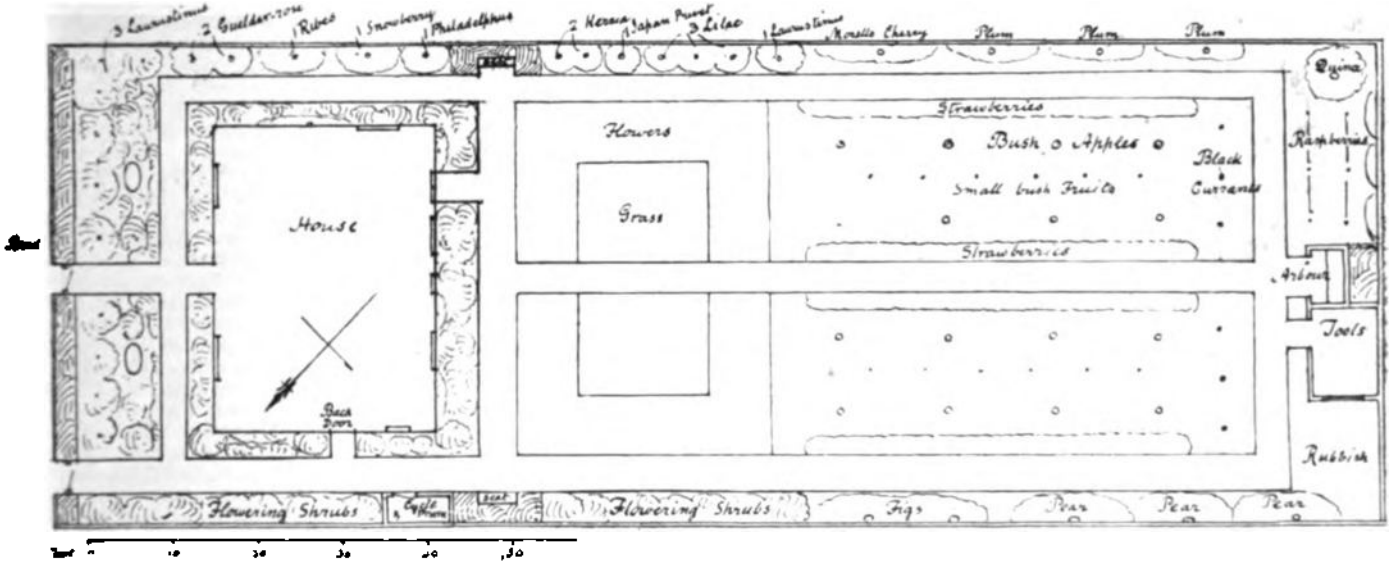
Scabious (Pincushion Flower).—As a last mention I appeal to lovers of a gay garden to grow scabious. Usually sown under glass and when large enough pricked out into their flowering quarters, but good results are also obtained by sowing outside, as they are quite hardy. Allow a little more room than for most annuals, as they grow large and bushy.

There are many others I would like to mention, but think I have named some of the best, and space allows of no more. Therefore it is to be hoped that those wanting a gay garden will try each one of those dealt with. W. W.

THE JOY OF MAKING A NEW GARDEN

BY GERTRUDE JEKYLL.

THIS is a small plot, 150ft. deep with a 55ft. frontage. The house stands rather near the road, so that instead of the more usual grass plat, the space is given to shrubs and flowers. There is the usual hedge next to the road, and as the extreme front has a north-eastern exposure, there are some good sized bushes of the cheerful looking Scotch Gold Holly. These will be only slightly trimmed, just enough to keep them in good shape, but they will be allowed to go up to a height of 12ft. in order to make a complete screen to the road. The ground is a good rich loam, such as will favour the beautiful white lily (L. candidum). Groups of six each are in the two patches shown by ovals and will give important points of interest to this small piece of garden. The remainder of the space has plants and shrubs, mostly of permanent foliage; dwarf veronicas and skimmia towards the back, with Cotoneaster microphylla near the front and broad leaved saxifrage (Megasea cordifolia) and London Pride next to the path. This will still leave room for some more flowers; the white Campanula macrantha and C. persicifolia, with a few Michaelmas daisies next to the hollies. The planting of the narrow border against the house is of the same character, of shrubby things for the most part.



The right and left boundaries are a wooden fence 6ft. high. On the south-west side a set of rectangular flower borders look well, and there is a well chosen planting of flowering shrubs on each side against the outer fence. They are named on one side to show the class of planting, which is repeated, with some additions or omissions, on the opposite side.

The owner's chief pleasure in the garden is fruit growing, and all the main lower part of the ground is given to it. In each of the two larger spaces there are eight bush apples, with a row of small fruit bushes, gooseberries and currants, in the middle, and borders of strawberries along the edges. Black currants, which take more space than the other small bush fruits are across the ends. This place is the more suitable for them as the ground at this end has a slight slope downwards and therefore lies cooler and a little damper. It would be tempting to have the apples alone, in a setting of grass, in which daffodils and fritillaries could be grown, but though this would be prettier gardening, it is better for the apples to be without the grass for at least five or six years.

The southern angle suits the quince, which is not only a beautiful small tree, but gives fruit for the making of a delicious jelly. Its shade will be a comfort to the two rows of raspberries for in this wild state they are woodland plants. This space is also utilised for three bushes of red currants trained against the fence; easy to mat up and keep for some weeks for late use.

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RASPBERRIES FOR THE SMALL GARDEN

THERE are not many gardens or allotments that do not contain a few rows of raspberries. They are easily grown and thrive in most soils and situations and with proper care and attention will give a plentiful supply of luscious fruit over a long period. Although autumn is undoubtedly the best time to make a new plantation, spring planting will prove quite successful.

A good position to grow raspberries is on a north border, where they will be partly shaded, and if well manured will continue to fruit until the autumn.

When replanting, select canes from a young plantation, they will give more vigorous

RASPBERRY LLOYD GEORGE, A STRONG HEALTHY GROWER AND A GOOD FRUITER.
It should be planted in every garden.

growth and remain in a fruiting condition over a greater number of years than if suckers are taken from an old stock. The rows should be 4ft. to 5ft. apart, according to available space and 12ins. to 15ins. between the stools. A liberal dressing of well decayed farmyard manure must be given, especially if the soil is poor, and applied below and above the roots, but not actually touching them. It must be remembered that the raspberry is essentially a surface rooting plant, the fibrous roots must therefore be protected from drought and drying winds during the early part of the summer, when the plants are throwing up their young canes. Suckers that are transplanted in spring should be cut down to within 12ins. from the ground one month after planting, so that the stools produce strong young canes for fruiting the following season.

It is also advisable to give a dressing of nitrate of lime early in April at the rate of 1lb. to 100ft. of a row. This nitrogenous manure stimulates the young canes, and assists the laterals in old plantations to make growth before coming into flower.

Varieties.

Many and varied are the varieties of raspberries. We have summer and autumn fruiters, also red and yellow fruiting varieties. If we take Perthshire and Forfarshire as the raspberry growing area of Great Britain, we will find a trio of favourites, Mitchell's Seedling, Red Antwerp and Lloyd George.

Although those varieties are extensively grown in the open field, they will also succeed in gardens and allotments.

Mitchell's Seedling is a strong grower, producing vigorous canes with large leaves. The fruit is a beautiful scarlet, large, but slightly acid in flavour, perhaps, for dessert, but a splendid variety for culinary purposes.

Red Antwerp is an old variety, weak grower but the plants throw many suckers, with the result that the stools are inclined to spread and rise out of the ground. The fruit is very dark red, large and very sweet. One of the finest for dessert purposes.

Lloyd George is a comparatively new variety, strong, healthy grower. The fruit is large crimson, delicious flavour. Splendid dessert raspberry. This variety is being extensively planted in the fruit growing areas and is very popular. It is suitable either as a summer or autumn fruiter.

Hornet is an old variety which is again coming into commerce. Tall grower and one which succeeds on light soils. Fruit large, oval in shape and fine flavour.

The Devon is a strong grower; fruit large and slightly conical in shape. Beautiful scarlet coloured berry and fine flavour.

Pine's Royal is a vigorous grower, inclined to branch and for that reason should be planted fairly wide apart. Fruit large and of lovely dark red colour.

If, however, two varieties are to be grown in gardens, I would vote for Lloyd George as a dessert raspberry and Mitchell's Seedling for culinary use. G. S.

WHAT OUR READERS SAY

GENTIANA ACAULIS IN THE MERSEY VALLEY.

SIR,—Our first flower of the winter was the ever-beautiful Gentiana acaulis. This gem of the Alpine flora came into bloom December 26th. Each year these plants never fail to flower about Christmas time. I do not think Gentiana acaulis is grown as frequently in our northern gardens as one would desire.

If the proper conditions are considered there is no great difficulty in flowering. And what handsome bells, or are they trumpets? Here they grow in a border at the foot of a high wall, in sandy gritty soil and rough leaf-mould, with rough sandstones mixed with the soil, tightly wedged with larger red sandstones.

I am persuaded that if these conditions are carried out there will be flowers in abundance and rapid increase, and in a few years' time from planting it will be necessary to take up the original specimens, divide and replant. By this easy method we shall have a border of alpine flowers very little inferior to those grown in the Alps.

The bells measured exactly 2ins. long and 1½ins. across from point to point; the colour rich dark azure blue. Some of the flowers were taken into the house, placed in a shallow bowl, where they remained in good condition for over fourteen days.

Need I say more to induce a wider cultivation of this exquisitely beautiful flower of the Alps!—MERSEY VALE.

THE BRITISH CARNATION SHOW.

SIR,—With reference to your interesting note in connection with the £100 Gold Cup offered at our next show, it may be of interest to record the fact that amateur members of the Society are competing for a £5 prize offered for one bloom.

Carnation growers who are amateurs and would like to compete in this class, which carries a record premium for one bloom, have still time to enter by becoming members of the Society and by sending their names to me.—LAURENCE J. COOK, *Drapers Road, Enfield.*

MAKING A NEW GARDEN.

SIR,—Made bold by the letters you continue to receive asking for advice upon rockwork and plants, often for shady positions, I feel a small record of my struggles may be useful.

I have in my garden a slope from one lawn to another, about 6ft. high, facing east and north, not a promising aspect. When I knew it first it was clothed with privet, ivy and coarse grass. Although only quite a beginner at gardening, I knew something might be done to use the slope to better advantage, so I had it cleared. Then I dotted it with such odd pieces of stone as I could find, and after this planted it with the rampant covering plants one's neighbours readily give, such as arabis, cerastium and woodruff.

With more experience and much reading of THE GARDEN, I was soon dissatisfied with this, so to pieces it came again, and I faced all my disadvantages and wondered how I could overcome them. No proper stone, bad aspect, very heavy clay soil and the line of the slope very ugly. Not a promising prospect, but I started to rebuild in the following way:

I made a brick wall 3ft. high at the base of the slope, planting as I worked with primulas, saxifrages, aquilegia, ramondia, tiarella, ferns, Omphalodes verna and cappadocica, epimedium, forget-me-nots, etc. I had to dig the soil deeply and put in much broken brick for drainage, and add leaf-soil, sand and small stones to lighten it. At the 3ft. level the soil runs back like a table for 2ft., then the slope continues to the top as a rock bank. Requiring fewer pieces of stone, I was able to select the most shapely, and by burying them well and keeping to regular strata form, the effect is unpretentious and good. The table piece is at such a convenient level, it is just the place for small plants, and they can be coddled with buried pieces of stone at their roots. I have here Kabschia saxifrages, cyclamen with tiny ferns, the shade-loving gentians, campanulas, trilliums, Oxalis adenophylla, pulmonarias, soldanellas, sisyrinchium, Silene alpestris, pyrola, maianthemum, and more primulas, small bulbs and anemones.

The sloping bank is planted with stronger saxifrages, campanulas, hellebores, polygonum, vaccinifolium, iberis, astilbe, Cardamine trifolia, Daphnes Cneorum and Blagayana, small cotoneasters and berberis. At the top there is a narrow border where the sun-lovers are planted, Cytisus kewensis and Andreana compacta, lavender, yucca, santolina, perovskia and other berberis, making a graceful crown to the bank. The bricks used to build the wall were

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old ones I was able to buy locally, so, without much expense and a poor start, I now have a home for plants which are a joy to care for, besides which the altered line has improved the garden. In the middle I made shallow steps of cement, with bricks as risers and the treads marked to look like stone slabs, and on these tiny plants—Erinus alpinus, wee campanulas, thymes and mosses—have made their homes. The steps, and the wall particularly, seem to be the Mecca for the seeds which grow rampageously if allowed. So I have learned not to despair if good stone is unattainable—bricks and odd pieces *can* be used to good purpose.—(Mrs.) A. B. WALTERS, *Sudbury, Suffolk.*

[We congratulate our correspondent in having made what is, according to the description, a very successful garden and one which promises to become more attractive and decorative every year once the plants are established. This account may serve to stimulate and encourage many other readers who find themselves dissatisfied with their present gardens.—ED.]

CHRYSANTHEMUM SOURCE D'OR—A SUPERB OLD VARIETY.

SIR,—In looking through some old copies of THE GARDEN of January, 1926, I came across some interesting references to this splendid decorative chrysanthemum, and I shou d like to add a word of praise to this old variety along with your other correspondents. It is a well known fact that very many beautiful sorts of chrysanthemums have been lost to us, for the reason that they have been superseded by those having larger blooms—but not always better. One in point is Source d'Or, a decorative variety of the Japanese class. I sometimes wonder if there are many among those who grow chrysanthemums, who made its acquaintance, or any who, like myself, within the second year of it being introduced procured plants. I showed blooms from these plants in the following November and they were much admired because of their—at that time, novel colour! It is best described as a bright orange, shaded gold, fading to pure gold. It is a good doer, growing about 4ft. in height, and retains its foliage well to the bottom. At its best in the early part of November, I have on several occasions had flowers for cutting quite late in the month. It created a mild sensation when it was first exh bited.

Someone endeavoured to prove that the more recent introduction, Jean Pattison, was "just as good," but although it is similar in regard to habit, the colour is more a coppery bronze, and in my judgment, does not bear comparison with Source d'Or. I do not think there is any other chrysanthemum quite like it to-day, notwithstanding the immense number of sorts. To those who have not grown it, I would counsel them to do so, as for cutting, especially seen under artificial light, it is really very charming, grown either on the crown or terminal. I lost it for a time, but at last succeeded in procuring plants. Not every dealer in chrysanthemums stocks it, some, indeed, looking upon it as quite out of date, but I venture to say if it had to make its *debut* in these days, it would be received with open arms. Those who make a specialty in good things, like Source d'Or, and recognise the value of a flower whether ancient or modern, continue to include it in their collections. One such firm, doubtless appreciating its unique colour, and the fact that when once it has been grown it is not lightly set aside, list Source d'Or. It is that of Messrs. Keith Luxford and Co., of Sawbridgeworth. I mention this because I am often appealed to, particularly by those who grew the variety years ago and lost it, as well as by those seeing it in flower for the first time, as to where it can be obtained. I would like to add that I have had blooms of Source d'Or in good condition for four or five weeks.—W. F.

THE "ROGUING" OF SEED POTATOES

THE grower who wishes to keep his potatoes as pure as possible and at the same time is anxious to have an early crop, should lose no time in examining the tubers, which are now in the shallow boxes or trays placed in the light for early sprouting.

When the potatoes are sprouting, particular attention should be paid to the colour of the sprouts and the colour and shape of the tubers, so that they can be "rogued" before planting. This "roguing" in the seed boxes is a most important operation and more especially when immune varieties have to be planted in scheduled gardens and allotments. The grower should also take reasonable care to see that each variety purchased is pure and certified stock, this will save much valuable time and trouble afterwards, for, if the potatoes are not pure, what guarantee has he that his crop will be free from wart disease.

The advantage in boxing seed is now an established fact and it must be admitted that "roguing" seed can be best carried out when the tubers are placed in single layers with the rose end uppermost and examined from time to time.

The colour of potato sprouts varies from faint pink to dark reddish pink and from faint blue to dark purple and it is interesting to note that a variety with pink on the skin of the tuber, even although only around the eyes, can be seen on the sprout stem and sometimes in the flower. A blue coloured sprout will show blue or purple on the stem and the colour will sometimes appear in the flower.

To "rogue" seed potatoes successfully, first find out the colour of the sprout of the particular variety, so that those which are slightly different in colour and shape may be removed.

It is frequently found that Great Scot is mixed with Arran Chief. The tuber alone does not help to separate them, as they are both round, but if sprouted, Great Scot develops a faint pink sprout, while Arran Chief has a blue purple sprout.

Although every precaution is taken to keep seed pure, "roguing" during the season of growth must also be carried out.

Meantime what every grower should aim at is the growing of pure and healthy stocks. If, for example, the above mentioned varieties were planted in wart disease infested soil, how is he to obtain a good, clean crop, when Arran Chief is so susceptible to the disease.

Below is given a tabulated list of immune and susceptible varieties of potatoes, together with colour and shape of tuber and colour of sprout as a guide to those who wish to "rogue" their stock in the seed boxes with a view to keeping them pure and healthy.

FIRST EARLY VARIETIES.

Variety.	*Immunity.*	*Colour and Shape.*	*Colour of Sprout.*
Arran Rose	Immune	Rose pink, round	Rose pink.
Di Vernon	do.	Purple, kidney	Blue purple.
Duke of York	Non-immune	White, kidney	Faint pink.
Early Pink Champion	Immune	Pink, round	Pink.
Epicure	Non-immune	White, round	do.
Harbinger	do.	do.	do.
May Queen	do.	White, kidney	Blue purple.
Ninetyfold	do.	White, round	Pink.
Puritan	do.	do.	Faint pink.
Sharpe's Express	do.	White, kidney	Pink.
Sharpe's Victor	do.	White, oval	Blue.

SECOND EARLY VARIETIES.

Arran Comrade	Immune	White, round	Blue.
Ashleaf Kidney	do.	White, kidney	do.
British Queen	Non-immune	White, oval	Pink.
Catriona	Immune	Purple, kidney	Blue Purple.
Clovullin	do.	White, oval	Pink.
Crusader	do.	White, kidney	do.
Dargill Early	do.	do.	do.
Edzell Blue	do.	Blue, round	Blue.
Great Scot	do.	White, round	Pink.
K. of K.	do.	Pink, kidney	do.
King George V.	do.	White, oval	do.
Nithsdale	do.	White, kidney	Blue.
Snowdrop	do.	do.	Pink.

MAINCROP VARIETIES.

Abundance	Immune	White, oval	Purple.
Arran Consul	do.	do.	Pink.
Arran Victory	do.	Blue, round	Blue purple.
Ben Cruachan	do.	White oval	Blue.
Ben Lomond	do.	do.	do.
Bishop	do.	White, kidney	Pink.
Celt	do.	White, oval	do.
Claymore	do.	White, round	do.
Golden Wonder	do.	Russet, kidney	Blue purple.
Incomer	do.	White, oval	Pink.
Irish Queen	do.	Pink, round	do.
Kerr's Pink	do.	do.	do.
King Edward VII.	Non-immune	Pink, kidney	do.
Lochar	Immune	White, round	do.
Majestic	do.	White, kidney	Faint pink.
Norna	do.	do.	do.
Northern Star	Non-immune	White, round	Pink.
Rector	Immune	Pink, round	Dark pink.
Roderick Dhu	do.	White, round	Pink.
South Esk	do.	do.	Blue purple.
Stirling Castle	Non-immune	do.	Pink.
Tinwald Perfection	Immune	White, oval	do.
Up-to-Date	Non-immune	do.	Red purple.

GEO. STUART.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE mild open weather now with us ushers in the busy season of the amateur gardener, and, provided there is a spell of March breezes which are characteristic of the beginning of spring-time, advantage should be taken of week-end and other opportunities to advance the initial operations associated with the preparation of the soil. In favoured districts a start may be made with the planting and sowing of certain vegetables; but not until the advent of April can that work be described as general in Scottish gardens. At the time of writing, heavy loam and clay land are still wet and cold, and only on the light or sandy soils in the vicinity of the coast towns are the conditions suitable and the risks less hazardous.

On the Ayrshire seaboard a large area has already been planted with an early crop of Epicure potatoes, and it is a common practice in private gardens to plant a potato patch in a sheltered border with a southern aspect. Late frosts sometimes cause damage when growth has advanced above the surface, and as a precautionary measure it is not a bad plan to form the drills at the time of planting and thus provide a deeper covering. As an alternative expedient, straw is used to protect the young foliage. In a normal season the crop is ready for digging by the middle of June.

Another vegetable that lends itself to early planting in the open ground is the shallot. The soil should, first of all, be got into a good tilth by raking, and the bulbs may be planted 4ins. apart in rows in a bed, or as an edging to flank a path in the kitchen garden. Plant the bulbs firmly to a depth that enables the neck or pointed portion to remain on the surface. An occasional dressing of soot is useful in promoting growth and keeping away insect pests.

If an early sowing of peas has not been made in a box under glass, two or three rows of an early dwarf variety may now be sown in the border when the soil is workable. William Hurst, English Wonder, Austin's Record and Marvellous are reliable croppers which solve the problem of staking to the small grower, as they only reach a height of 18ins. The old system of drawing a narrow V-shaped drill with a hoe has now been discarded in favour of a shallow trench 6ins. wide and about 3ins. deep, which gives the seeds plenty of room. If taller growing varieties—such as The Pilot and Gradus, 3ft.—are preferred, the space between the rows may be occupied by lettuce.

Towards the end of March, French Horn Carrot and onions for early summer use may be sown outside; while those growers who experience difficulty in raising parsley in the open ground should make a small sowing in a box and germinate the seed in a frame. The resultant seedlings will transplant readily in May, when the soil is moist.

In the flower garden the planting of hardy perennials and roses should be completed by the end of the month at the latest, as these subjects resent disturbance later in the season. In a previous reference to roses I mentioned that common baking soda had been effective as a cure for mildew in America. As readers may desire to give it a trial, both as a preventive and a cure, during the coming season, they should make a note of the formula, which is as follows: Dissolve 1 oz. to 1½ oz. of bi-carbonate of soda in 1 gallon of boiling water, which, of course, is afterwards cooled before use. Soft soap, added to this in the proportion of 2 oz. to the gallon of mixture, is valuable as a "sticker," as it causes the spray to adhere to the foliage.

Stocks, asters, antirrhinums, and a wide range of bedding subjects, including numerous popular representatives of the half-hardy group of annuals, are well suited for early culture in a frame; while autumn-sown sweet peas, pansies, violas and carnations raised from cuttings may now be fully exposed to air and sunshine, only closing the lights when the weather is wet or frosty.

March is generally recognised in Scotland as the best period for taking cuttings of early-flowering chrysanthemums, and the amateur whose glass accommodation is restricted to a single frame will doubtless find it difficult to provide space for his varied requirements. Cuttings in boxes or pots will root at a kitchen or other room window, and another alternative is to transplant violas and carnations when conditions are favourable and use the vacant space for the chrysanthemum cuttings.

While the circuit of spring flower shows in Scotland is numerically small, it is increasing annually. Paisley Florists', instituted in 1782, has the best record, for the members continue to hold a bulb exhibition every year; while older institutions, like the Royal Caledonian and the Glasgow and West of Scotland, were compelled to discontinue their spring shows for want of support. For a number of years the Glenfield Society, Kilmarnock, has taken the lead in encouraging bulb culture among amateurs, and the annual show has no equal in Scotland in respect of the number of the entries and quality of the blooms. Last year Messrs. Austin and McAslan, with characteristic enterprise, instituted a show in Glasgow which combined the exhibition and competitive sections in a most successful manner; and a further example of the increasing interest that is now being taken in bulbs was reflected in the support extended to the experimental show held at Kilmalcolm recently.

ST. MUNGO.

GREENHOUSE NOTES

Repotting Greenhouse Azaleas.

GREENHOUSE azaleas are extremely useful as well as beautiful, useful, because the plants can be retained in good health for many years, and, if well managed, flowered freely every year. During the summer months they cause no more trouble than that entailed by watering and daily syringing during hot spells of weather. Of course, correct treatment is essential and amateurs, who now possess plants and have not had any previous experience, should duly note the following points. Directly the flowers are faded, carefully remove them without breaking off any young shoots. If a vinery or peach house is available, place the azaleas in it and syringe the foliage with tepid water early every forenoon. The object of the syringing is to induce a free and healthy growth of young shoots and to prevent red spider and thrips spreading on the undersides of the leaves. The new shoots grow and mature from late spring until the middle or end of September. The time for repotting plants that require more rooting space is when the new shoots begin to grow. The ideal compost is one made of very fibrous turf (which has been cut and stacked at least four months), and peat, with the fine portion sifted out, in equal proportions. If peat cannot be obtained, use half-decayed tree leaves. Sufficient coarse sand should be added to make the whole porous and the potting should be carefully done. Pots and crocks must be clean and dry and the new compost well firmed with the aid of a potting stick. When all is ready for the work of repotting to be done, turn out the old balls of soil and carefully remove the crocks. The bottom of the ball of soil is shown at *a*; and after the crocks are removed it looks like the sketch *b*. The crocks are shown at *c*. The drainage and rougher material in the new pot are shown at *d*, the new compost at *e*. The top of the old ball of soil *f*, must not be covered with new soil except where the old is badly worn away. Take great care of the young shoots *g* and *h*. When full maturity of young growth comes—as it should by September—the new flower buds will be formed, too, as shown at *i*, then there will be a good prospect for the next years bloom.—GEO. GARNER.

Present Treatment of Old Greenhouse Pelargoniums.

OLD pelargoniums generally pass through a winter season better than young ones because they are well rooted and the wood is firmer. Having cut away some of the longer shoots of the old plants, be careful not to over-water for a time. When the new shoots begin to grow, a thorough watering will be beneficial, and it is at this stage that the old plant can be taken from the pot, its soil around the roots reduced in bulk and the plant repotted in a smaller pot. As the time passes, the plants should be shifted to larger pots, thus causing vigorous growth without having the plants in larger pots than they were when pruned back. The very best compost for zonal pelargoniums is one made up of fibrous loam two-thirds, sweet leaf-soil one-third, and a 5in. potful of bone-meal to each bushel of the combined parts.—HANTS.

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THE FRUIT AND KITCHEN GARDEN

What to Do During the Month.

THE month of March is a very busy month for gardeners. We in the north, who have a few early potatoes sprouted, usually try to get in a few short rows during this month. Provided the weather is good and the ground in good working condition, no harm will result; but, bear in mind, they will need a lot of attention later on. Many ways are tried in the planting of potatoes, but the best way is to open a trench out at one end of the piece of ground and put the sets in the trench. Dig the ground, and every 20ins. make your rows of potatoes. In this way the whole of the piece is made light and in good order for potatoes. Level the bottom of the trench, put a layer of manure in the bottom, plant the sets 15ins. apart, and cover the sets with strawy manure, bracken or anything of a light nature. A row of dwarf early peas sown after every six rows of potatoes may go in now. Do not bury the seed too deeply, and steep the seeds in paraffin or dress with Horticol if mice are numerous. Red lead may be used, but should be used with care. As soon as the seedlings appear, draw a little soil up to them and put short stakes for support and to shelter the potatoes when they come through. Do not be in too big a hurry to earth up the potatoes in care of frost, for we do not get frost every night even in the north. Rather, try to cover them with straw, bracken, or even pea sticks at first, or you will find that in May you have no soil left between the rows to earth up with, and if you cover the tops with soil from the first the tops will be drawn, whereas covering with straw, etc., at night, when there is danger of frost, and uncovering through the day, the tops will remain sturdy.

Shallots will require planting now. All that is necessary is to press the bulbs into the soil in rows a foot apart.

Broad beans can be put in now, dibbling the seed 9ins. apart and about 4ins. deep. Onions can be sown towards the end of the month. A good plan is to mix a little carrot and lettuce seed with your onion seed before sowing. The lettuce can be transplanted along the edge of the path, and saves making a special sowing, and the carrots can remain. Lots of people believe the carrots help to keep off the onion fly, and certainly where I have seen it tried there is less damage by fly to the onions.

Parsnips require a fairly long growing season, and should be sown during the third week in March on land which has not been recently manured. Allow a space of 15ins. between the rows, and thin out early to 4ins. or 5ins. and, later, every other plant. Every one should grow a few leeks, and seed should be sown towards the end of the month, or plants should be secured about the middle of June.

Cabbages, cauliflowers and sprouts will require sowing now, also a pinch of parsley seed. Very little seed of each need be sown, and I am in favour of sowing into boxes of soil instead of making a seed bed in the garden. The boxes can stand on the edge of the path or in a corner, and can be covered over the top with wire netting to keep off the birds. Always make a practice of transplanting all seedling greens, as much better plants are obtained. Keep off your garden as much as possible, as it only makes the ground sad, and worse for the plants, and takes more working during the year to keep it light.—J. P.

Late Pruning of Gooseberries.

IN certain districts, near woods, where birds are numerous, it is an advantage to leave the pruning of gooseberries as late as possible. Some cultivators thin out branches and do not prune at all in the ordinary way, because the birds eat out all buds except those near the tips of the shoots. But, besides the trouble caused by the birds, late pruning does result in late growth and fruiting, thus enabling the tender berries to escape injury by late frosts. Cut off leading shoots to a bud, in each case, that points upwards, so that the next leader will improve the form of the bush or maintain its good shape. The weight of the berries always bears down the branches. Very lightly fork up the soil round and under the bushes and then scatter bone-meal on the soil at the rate of 6 oz. per bush. Lightly rake in the bone-meal afterwards, then all the roots will be benefited.—CHRISTCHURCH.

Current Work with Plants in the Garden Frame.

I LIKE to see, at this time, a garden frame nicely placed on a firmly made hot-bed in an open position, but one sheltered from the north and east winds. The amateur who possesses such a frame is fortunate, because he can bring on so many young plants quite sheltered from the weather. Young onions and leeks raised, perhaps, on the shelf in a warm greenhouse, should be transferred to the frame on the bed now. Hundreds of sturdy lettuce plants can be raised in a small box. The main-crop celery seeds may be sown, too. The atmosphere will be quite suitable for a steady, sturdy growth. Frame cucumbers and the early vegetable marrows should now be raised; plants of the last-named will be about 8ins. high and possess three large, rough leaves in addition to the three or four smaller ones at the top, by planting-out time—early in June. The frame cucumber plants will be ready for planting in the frame itself permanently in due course. In cold districts and where clayey, retentive soils obtain, it is a good plan to sow seeds of runner beans in a box 6ins. to 7ins. deep, filled with loam and leaf-soil in equal proportions. The seeds should be sown 4ins. apart and 2ins. deep. I always raise my early runner bean plants in this way and, being carefully hardened to outdoor weather, they are sturdy specimens 9ins. high by the first week in June, when they are planted in the trenches prepared for them. If staked forthwith and a few branches are also placed to both sides of the row, a check does not occur and the first flowers are soon expanded.

In the case of all seedlings raised in a garden frame, duly ventilated, there is not any weakening of them, as so often occurs when they are raised on greenhouse shelves. Besides being of great use in the case of vegetable seedlings, the garden frame is equally useful at the same time for bringing forward pans, pots and boxes of half-hardy open-air and greenhouse annuals. The general compost to endeavour to procure or make up is one, for vegetables, of sweet loam two-thirds, leaf-soil one-third, and a 6in. potful of old mortar rubble to each bushel. Where it is advisable to shade certain seedlings, shade several squares of glass immediately over them and not the whole of the glass light, or other kinds would be weakened —GEO. GARNER.

Sprays and Their Uses: Lead Arsenate.

ARSENATE OF LEAD depends for its insecticidal properties on the fact that it is a stomach poison and is used against biting insects, such as caterpillars, beetles and sawfly larvæ. It does not affect sucking insects.

The substance is a heavy white powder nearly insoluble in water. It is fairly stable and can be stored with safety.

Owing to its insolubility in water and its weight, when mixed with water it tends to settle rapidly and it is therefore necessary for spraying purposes to obtain it in a form which will give a fine suspension in water in order to insure an even distribution over the article sprayed.

Until recently the best form to use was that sold as arsenate paste or cream, which, when shaken up with water, gave a fairly fine suspension, but on evaporation of the water the suspended particles tended to coagulate, forming lumps on the leaves with consequent irregular distribution.

Latterly, manufacturers have placed on the market a very fine arsenate powder, which gives a very fine suspension in water and does not leave lumps on the evaporation of the water. This form is far superior to the paste or cream and is much easier to handle, and also leaves a fine covering of arsenate particles over the surface sprayed.

The quantity of lead arsenate required depends on the material used and it is advisable to consult the manufacturers directions. Usually two or three pounds of lead arsenate in the form of powder, or four to six pounds in the form of paste to one hundred gallons of water is sufficient.

Mix the required quantity of arsenate required in a pail with a small quantity of water to form a cream, making sure that there are no lumps left. Add this to the container, holding the required quantity of water for the amount of powder used, and stir thoroughly. Stir before spraying.

The spray should be applied from a fine nozzle, with sufficient force to form a fine mist. Precaution should be taken not to overwet the trees, otherwise dripping will ensue and a good deal of the spray material be lost.

Arsenate of lead is very poisonous both to human beings and animals, so every precaution must be taken. Trees, under which vegetables or small fruits are growing should not be sprayed and poultry and stock should not be allowed to feed under trees that have been sprayed.

The following table gives a list of pests which may be wholly or partially controlled by spraying with lead arsenate. It is advisable to spray as soon as the pest is noticed and to follow up with another spraying a week or ten days later. For codlin moth the trees should be sprayed just after the blossoms have fallen, *i.e.*, the calyx stage.

Pest.	*Stage.*	*Time of Application.*
Brown Tail Moth.	Caterpillar	Middle to end of April.
Codlin Moth	,,	Directly the petals have fallen.
Lackey Moth	,,	Middle to end of April.
Tortrix Moth	,,	
Winter Moth	,,	
Raspberry Beetle.	Beetle	
Gooseberry Sawfly.	Grub	
Lackey Moth	Caterpillar	Middle to end of May.
Magpie Moth	,,	
Apple Blossom Weevil.	Grub	
Leaf Weevil	Beetle	
Raspberry Weevil.	,,	
Apple Sawfly	Maggot	
Plum Sawfly	,,	
Pearl Sawfly	,,	

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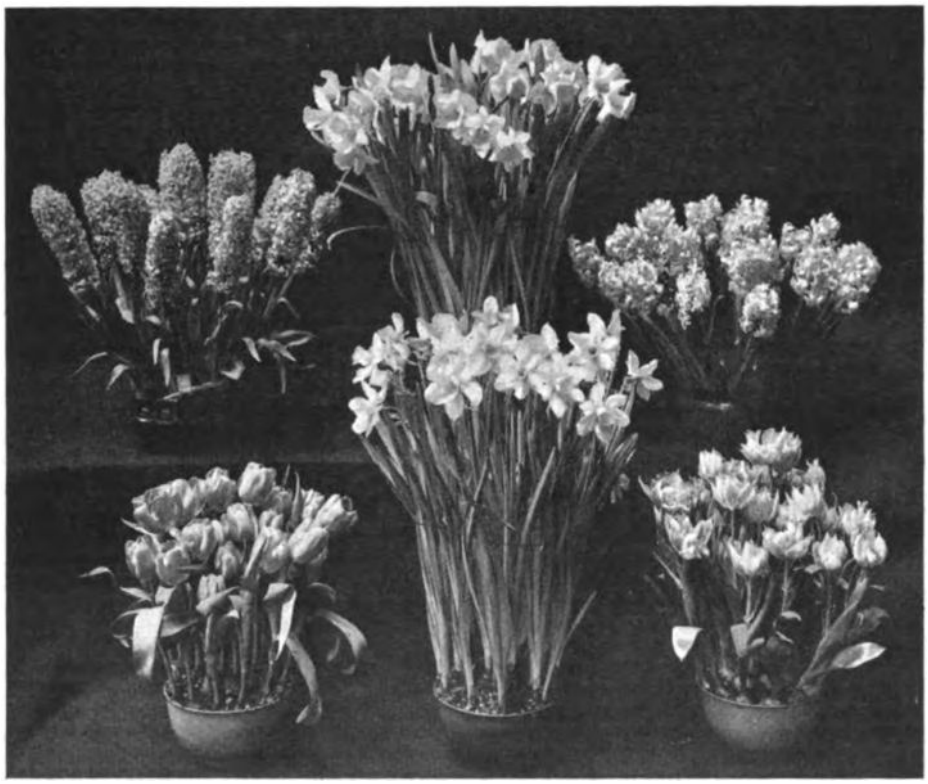
A SPRING SHOW AT GLASGOW

THE amateur element was strongly represented at the flower show held recently in the McLellan Galleries, Glasgow. The event, which was instituted a year ago by Messrs. Austin and McAslan, created widespread interest throughout horticultural circles in Scotland and the support given by competitors, exhibitors and the general public has justified the enterprising venture and ensured its success.

In the sixty-one competitive classes, the outstanding feature was the prize-winning record of Mr. Hector Fraser, Paisley, who excelled in no fewer than thirteen classes and in addition secured the special prize for the best amateur exhibit in the show with six bowls which revealed a very high standard of culture. The bowl of miniature hyacinths contained twenty-five flower spikes of the variety Marconi, while another bowl had seventeen large trusses of the single crimson sort, La Victoire, all uniform in size and at the same stage of development. Mr. John Russell, Newtoun-Mearns, was next in the prize list with seventeen honours, of which seven were firsts, to his credit, while Mr. Claud Jenkins occupied third place with eight first prizes. Competition was keenest in the classes for pot hyacinths and in the class for one pot Narcissus King Alfred. Taken all over the blooms reached a high average of quality and showed a marked advance on that of 1926.

The best exhibit in the gardeners' section consisted of three fine pots of cyclamen staged by Mr. William McCarrell, Deanston House, Doune, who also exhibited an attractive group of cyclamen seedlings.

The decorative side of the show surpassed anything previously seen in Glasgow and was contributed by Mr. Robert Paterson, Stamperland (orchids), Sir A. B. Cayzer, Gartmore (carnations), Mr. H. Erskine Gordon, Aitkenhead, Cathcart (cyclamen), Lady Muir, Deanston (primulas, begonias and cyclamen), Mrs. Stewart Paton, Holmglen, Caronunnock (daffodils) and Lieutenant-Colonel Norman Kennedy, Downholm, Ayr (primulas); while the firm excelled all previous efforts in their examples of terraced and rock gardens, bedding schemes and groupings of pot plants.



THE FIRST PRIZE EXHIBIT OF BULBS IN BOWLS SHOWN BY AN AMATEUR.
The bulbs are particularly well grown, and the varieties are: Top row—Hyacinth La Victoire, Narcissus Van Waveren's Giant, Hyacinth Marconi. Bottom row—Single Tulip Proserpine, Narcissus Sir Watkin and Double Tulip Azalea.

THE GARDENS AT OLYMPIA

THERE is certainly diversity as well as interest in the gardens which are laid out at Olympia in connection with the Ideal Home Exhibition. The exhibitors, despite the many drawbacks, have all attempted to show what may be accomplished in gardening in a small space, and although the tendency seems to be to keep to the stereotyped designs demonstrated in previous years, the gardens in themselves stand as one of the prominent educational features of the exhibition and should prove of great assistance to those to whom garden design and planting prove problems of some little difficulty. It is, perhaps, unfortunate that no nurseryman strikes a novel note in his exhibit—one, for example, where the design and planting would be in keeping with a back garden space such as is so typical of many of our suburban houses. Such a design would be certain to interest thousands of visitors to the exhibition if details of planting and approximate cost were given for the visitors' information. The Gardening Section, like the other sections in the exhibition, must demonstrate progress from year to year, and the method of progress is to cater for the present demand for a pleasant and attractive type of suburban garden.

This year, the general style of the exhibits is on freer and more flowing lines and, from a general appearance point of view, the Annexe provides many beautiful garden pictures. A few of the gardens are particularly good, both in design and planting, and show a finish which is commendable, since such is often wanting in garden exhibits. In these few cases, the central feature or *motif* of the garden is self-evident, but in others it is entirely wanting, due to bad design and planting. Such gardens are unworthy of the exhibition, and it is to be hoped that improvement will be registered in this direction on future occasions. On the whole, more care has been shown—care in planting and in avoiding a note of incongruity, both of which have been lacking in the past. There is still room for improvement in a few cases, and, as it is a point of some importance, it should receive immediate attention from all exhibitors. If a garden is to be exhibited, then let it be done well.

The most attractive garden from an appearance viewpoint is that laid out by Messrs. Carter and Co. in the Italian style. In a way it is a trifle too ornate for the exhibition; but for the person who has means, it indicates how a small and limited area can be transformed into a corner of beauty. The central feature is a quietly designed marble fountain standing on a raised mound and surrounded by tall cypresses, while in the centre are fountains and in the foreground neat beds of pink and blue cinerarias, with beds of Dielytra spectabilis. Daffodils and early-flowering shrubs supply a touch of spring colour, certainly, but are a little out of keeping with the style of the garden. Still, the effect is a very fine display of colour and bloom which undoubtedly makes the exhibit most attractive.

Close by is a garden devoted to perpetual-flowering carnations, planted and designed by Messrs. Allwood Brothers, in which is to be seen a wide selection of the best varieties both of the perpetual-flowering kinds and the hardy Dianthus Allwoodii. Another specialised garden is that arranged by Messrs. Reamsbottom, with their St. Brigid and Caen anemones, with bold patches of the brilliant A. fulgens. The beds and borders make a bright splash of colour, and the exhibit should go a long way in popularising these flowers, which, from the amateur's point of view, are excellent in the small garden for providing an effective floral display. Still another special garden is the small and neat terrace garden planted with violets and Primula Wanda, by Mr. Baldwin Pinney.

In Messrs. Cheal's formal garden full use has been made of forced shrubs in great variety. Japanese cherries, standards of wistaria, brooms, laburnums, magnolias—all are there and make a bright and colourful display along with many other subjects. Mr. George Whitelegg, in his circular formal garden, has laid out a particularly fine collection of varieties of azaleas of the mollis and sinensis strains, showing many of the modern varieties, such as Anthony Koster and J. C. Van Thol, illustrating their use and beauty in the small garden. In addition there are a number of fine specimen shrubs of Magnolias Soulangeana and conspicua, of Daphne Mezereum and Viburnum Carlesii which indicate to the amateur that, with a judicious selection he may have a fine show of bloom during the early spring months in his garden.

The Country Service Association have constructed a rock and water garden which is simple and natural. Mr. Herbert Brook has reproduced a piece of Westmorland fellside. Here, too, weatherworn stone is used, and in the crevices between the stones and in sheltered corners, can be seen a number of choice rock plants.

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THE GARDEN

VOL. XCI.—No. 2886. MARCH 26, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Some Bulbs and Tubers for Spring Planting.

SPRINGTIME is flower time for the bulb world, but it should not be forgotten that there are several species which will keep our gardens gay when the flush of summer flowers is past and gone, and carry on until the perennial asters and chrysanthemums bring their wealth of autumn colour.

Among this group the chief honours must, of course, be accorded to lilies and gladioli, but there are, in addition, several other species which should find a place in every sunny garden.

Ixias and their first cousins, sparaxis, may be obtained in a wide range of colours and thrive in any ordinary soil, but should always be accorded the sunniest possible situation. They are usually supplied as "mixed," but where colour schemes are called for, some of the best varieties are H. crateroides major, scarlet; Mozart, bright yellow; Wonder, a good double rose; and viridiflora, a most interesting variety with bright green flowers; Sparaxis Angelique, lemon with orange centre; and S. Fire King, scarlet with yellow centre. They should now be planted in groups about 3ins. deep and as far apart. They make excellent subjects for pots. Five or six bulbs should be set in a 5in. pot and plunged in a cold frame, giving all air possible during mild weather.

Anemones, too, should not be forgotten. The wide-petalled, richly-hued single de Caen type prove very effective in beds and borders, as does the brilliantly-coloured Anemone fulgens, especially against a background of dark evergreens. A pleasing variant of the Caen is the cushion-centred type, with a full centre of narrow florets and a single row of wide guard petals, of which Sutton's Blue Gown is an excellent example. Many people prefer the St. Brigid type, which is a double or semi-double flower, composed entirely of narrow florets and embraces every possible hue. The secret of successful anemone culture is (1) that the ground should be rich and reasonably well drained, and (2) (most important of all), that the roots should be planted not more than 2ins. deep *and the soil made so firm around them that it will not carry any impress if it is trodden upon.* As a fact, it should be trodden or rolled until it is consolidated to the hardness of a garden path. If anemone roots are examined the little hairy crowns are not difficult to discover; these, of course, represent the top and should face the light. Placed in this position the flattish tuberous fingers spread out more or less horizontally. It does not dig deeply into the soil like a dahlia tuber and if it is planted deeply or in loose soil, where the roots are continually moist and cool, they will quickly decay.

The Royal Horticultural Society's Amateur Flower Show.

THE Amateur Show held under the auspices of the Royal Horticultural Society, is to be held at the Society's Hall, Vincent Square, Westminster, S.W.1, on Tuesday, June 28th next, and it is to be hoped that all amateur gardeners will make a note of the date and will endeavour to support the show by staging exhibits, so as to make it the success it ought to be. There seems little doubt that the show will become a permanent feature in the list of the Society's activities, if the continued and unfailing support of the thousands of amateur gardeners is forthcoming. As yet it is only in its infancy—this is the third year—but judging by the improvement which was registered last year in comparison with the inaugural exhibition, the show should prove more successful every year, as more experience is gained by the arrangements committee and more confidence by the various exhibitors. Many amateurs hesitate to exhibit at Vincent Square because of the high standing of the ordinary fortnightly shows at the Hall, but that should not be so. Experience in exhibiting only comes by continued effort and a beginning must be made at one time or another. As with everything else, one learns by mistakes and there is, therefore, no reason why, in time, an amateur's exhibition should not be as attractive and as skilfully arranged as that set up by our trade firms.

It is to be hoped that this year some effort will be made by those in charge of the show to arrange the exhibits better than on the last occasion. There is no reason why some corners of the hall should be crowded, while others are bare. If material is lacking, then let the exhibits which are present have sufficient space in which to be shown off to advantage. If this show is to become a regular feature of the Society's work, then it seems desirable that something in the way of educational propaganda should be done to instruct and help the amateur in the wiles of show exhibiting. We feel sure that such instruction would be appreciated by a great body of amateurs, and, at the same time, it would indicate that the Society is out to assist the amateur gardener, a criticism which is often levelled at the Society as a whole. There is no lack of material, either in plants, gardeners, or enthusiasm, and it should be the aim of the Society to build up the greatest and finest amateur flower show in the world and so live up to our traditions as the premier gardening nation.

The schedule of arrangements for the show, which has just reached us, is divided into three main divisions. (A) Devoted to all amateurs; (B) Only open to those amateurs who do not regularly employ more paid assistants than one gardener and one boy; and (C) Only open to those amateurs who employ no gardener. It will be seen, therefore, that the schedule embraces all classes and gives each exhibitor a fair chance in competition with his neighbour who is similarly situated. The classes remain much the same as last year, except that the classes for roses have been increased from seven to sixteen—an excellent improvement, as there is no more popular flower among amateurs than the rose. In the open division also, classes have been added, among others, for vases of sprays of hardy shrubs, and pots or pans of alpine plants, a bowl of water lilies, a species of rhododendron, one hanging basket, a new plant species introduced to cultivation since 1920, and a new plant of garden origin raised since 1920.

As in the past, substantial prizes are offered, and also a cup for award to the most successful exhibitor in each division. The Society is definitely out to make the show a success and we urge every amateur, whether he be a Fellow of the Society or not, to support the show and make it one of the most important in the gardener's year.

This Week's Work

Prepare beds for planting gladioli.

Prune hybrid perpetual and hybrid tea roses.

Spray fruit trees with lead arsenate. Spray just before the flower buds break.

Finish planting shrubs and herbaceous perennials.

Fork over the herbaceous border and give it a light dressing of short manure.

Hoe all beds containing bulbs, wallflowers, etc.

Sow hardy annuals outside in beds of prepared soil, and sow vegetables of all kinds in the kitchen garden.

Top-dress lawns with artificial fertilisers and sifted compost.

Thin out seedling annuals now in boxes.

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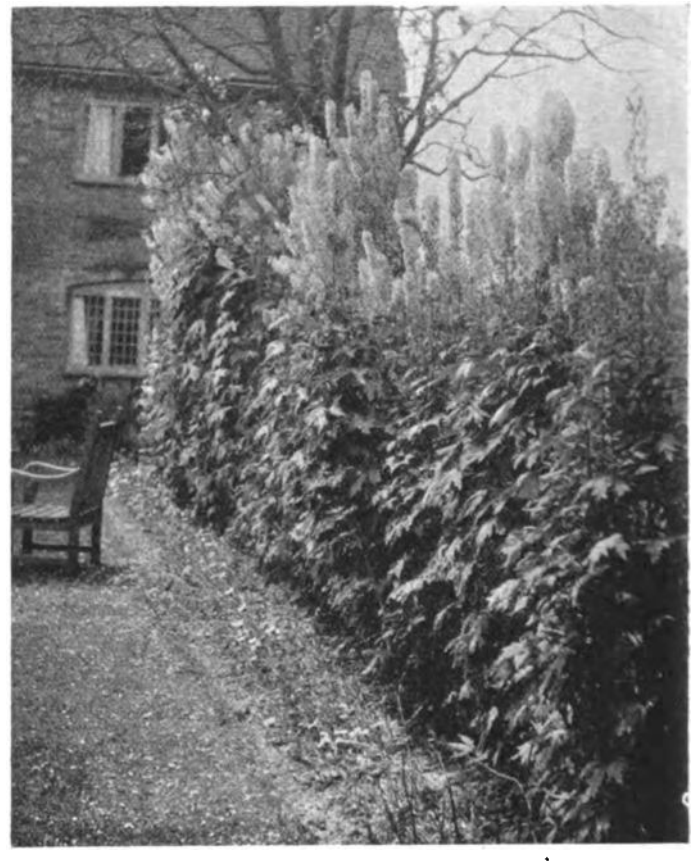
DELPHINIUMS FOR SPRING PLANTING

EXPERIENCE has shown that the best time to divide old delphiniums or to plant new ones is in the spring, preferably in March; but the work can be carried out quite well as late as mid-April or even the end of that month, provided care is taken not to injure the young shoots which by that time will have attained a height of several inches, and that ample supplies of water are given if the weather is at all on the dry side. Delphiniums are anything but exacting as to soil so long as it is not heavy wet clay, but what pleases them best is a rich but light loam, thoroughly well worked and moderately manured; and they like as much sunshine as possible. A light mulch of strawy stable manure in June will be of advantage to them. Slugs, which gnaw off the shoots directly they show above ground, are the worst enemies delphiniums have to contend with, and a vigorous and relentless campaign must be carried on against them. The plan adopted by a leading firm of growers is to remove some of the soil round the collar of each plant and to fill up the hollow so formed with sharp cinders—fine ashes are useless—which, however, are not allowed to touch the stem. A correspondent writing recently to THE GARDEN states that he has had good results from encircling the plants with inch-wide strips of felt soaked in petrol; a ring of Sanitas powder round each is certainly a deterrent; but the easiest, least expensive and probably the most efficacious plan is to water the surrounding ground with a solution of alum—1 oz. to the gallon of water.

In selecting delphiniums there are certain points to be taken into consideration besides that of the depth of one's purse. If wanted for the back of a wide border, those that reach a height of 5ft. or 6ft. should be chosen; if to be massed, they should be graduated as far as possible; while if intended for a narrow border in a small garden, delphiniums of the belladonna class, such as Lamartine, Fanny Stormonth, Muses sacrum and Persimmon, which do not grow more than 3½ft. to 4ft. high, are most suitable. Plants in a variety of shades of colour should be obtained and special care should be taken to lighten the dark purple blues, which are rather heavy in effect if massed by themselves, by a judicious admixture of clear sky blues, of what may be described as opalescent lavenders, such as Statuaire Rude and Kelway's Ladye Faire, and of soft blue mauves of which Horace Vernet may be taken as a good example.

In these notes it is proposed to give a short list of some of the best delphiniums for present planting, including both new and old varieties. Of the former the Wrexham hybrids introduced by Messrs. Hewitt of Solihull are certainly among the most attractive by reason of their immensely long spikes having the graceful taper of the older (and in most ways greatly inferior) type of delphiniums, instead of the blunt, rather clumsy looking heads of the majority of modern varieties. The Wrexham hybrids are beautiful in line, and their florets are not over closely massed as is so often the case, but are set sufficiently far apart to allow their fine shape and colouring to be fully appreciated. The most striking of these hybrids, Advancement, will not be put on the market until the autumn; but among those now offered are Integrity, blue purple flushed cobalt; Rose Marie, pansy purple with a dark eye; Ruffled Beauty, violet shaded mauve; Monarch of Wales, bright blue with reddish mauve inner petals (this has an extra long and very finely tapered spike, and was illustrated in colour on the cover of THE GARDEN in September, 1926); and The Bishop, which resembles the popular Rev. E. Lascelles, but is richer in colour and has a larger white eye. All the foregoing reach a height of 5ft. to 6ft.; but the pretty, rosy mauve Joy-bells, although of the same strain, is only 4ft. to 4½ft. high. The Sylph, another of the Wrexham hybrids, is a welcome addition to the very limited number of white delphiniums; it grows about 4ft. tall and is double.

An attractive new variety of dwarf habit from the Langport nurseries is York Gala, which is a beautiful shade of sky blue slightly flushed with mauve. Other novelties introduced by Messrs. Kelway and Son are: Ultra-violet Rays—its name indicates its colour; Locarno, brilliant blue shaded violet, with very long florets on unusually long stalks (this variety would group well with Jewel of the West, milky lavender, and Kelway's Pageant, sky blue flecked with pink); Wedding Bells, a harmony of sky blue and pinkish mauve; and Josephine Kelway, a single version of an older favourite, the clear blue semi-double Mrs. James Kelway. As has been said above, there are but few pure white delphiniums in existence, but Messrs. Kelway and Son have a particularly good creamy white in Beauty of Langport and a deeper cream in Mrs. Christie Miller. The last-named is of dwarf habit and, combined with the Persimmon variety, Kelway's Blue would fill a large bed charmingly, especially if the latter were edged with a broad band of a blue annual such as Phacelia campanularia, Nemophila insignis or Nemesia Blue Gem.



DELPHINIUMS LOOK WELL BY THEMSELVES IN A BORDER NEAR THE HOUSE.

OR THEY APPEAR EQUALLY BEAUTIFUL WHEN PLANTED IN CLUMPS IN THE MIXED HERBACEOUS BORDER.

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Although not among the latest, The Shah is certainly one of the most desirable of Messrs. Blackmore and Langdon's introductions, by reason of its uncommon and attractive colour, a warm shade of rose lavender; it has a dark eye and is semi-double. Newer varieties from the same source are Countess Cowley, light blue and mauve; R. A. Pilkington, deep violet edged dark blue with a brown eye; Queen Mauve; J. Pitts, sky blue flushed rose; Millicent Blackmore, blue and mauve; and Blue Boy. The last is a very beautiful delphinium with a long, finely tapering spike; its colour is a deep clear blue and it is a giant in stature.

Of older kinds, the following are a few among the many that have proved their worth: The Alake, purplish blue; Edward Bromet, royal blue with a white eye, somewhat similar to the Rev. E. Lascelles; King Bladud, cobalt blue, double; King of Delphiniums, gentian blue shaded plum (this should be obtained from a grower of repute, as there are some poor strains in the market); Lavanda, rosy lavender; Sir Douglas Haig, purple blue; Smoke of War, a curious reddish purple tinged deep violet (should be grown with delphiniums of lighter and brighter shades); Silver Buckle, pretty clear sky blue; Monarch of All, violet purple, brown eye; Queen of Bath, azure blue, dwarf; Blue Bird, deep blue (this has a very graceful spike); Porthos, blue and rosy mauve, semi-double; and Duke of Connaught, cobalt blue flushed violet. R. E. HEAD.

GLADIOLI AND THEIR USE IN THE GARDEN

Suggested Arrangements which will Make Your Garden Bright in the Late Summer and Autumn

THE present-day race of gladioli which have been so popular during recent years, are invaluable in many ways for garden as well as for indoor decoration. With so many varieties to choose from, with their varying time of flowering, it is possible, by planting at different times, to have quite a long display. Where it is desired to have an early display the corms may be placed in pots and started in cold frames, from which they are hardened off and planted out in due course in the sites prepared for them. Where they are required in quantity for indoor decoration they should be grown in a small reserve border in the kitchen garden. There are numerous ways in which gladioli can be used in the garden. With so many beautiful varieties to choose from it is easy to use them in definite colour schemes either alone or, better still, in combination with other plants suitable for the purpose. The large-flowered varieties are most useful for the larger and more imposing arrangements, while the lighter and more graceful primulinus varieties are best suited for more dainty grouping.

Gladioli are very useful for grouping in the mixed border, either in places reserved for them or planted in between early-flowering plants. Peonies, for example, are rather difficult subjects to interplant with late-flowering plants, as their broad leaves give very few plants a chance to develop, and gladioli, with their slender, upright growth, soon push their way up through the foliage without suffering in any way. Of course, one would not grow them in that way for exhibition purposes, but here we are considering their general utility for decorative work in the garden. The large-flowered varieties may also be used effectively for filling vacant spaces in the front of shrubberies, and thus doing much to brighten them when they are out of flower. Not the least of their merits is the fact that they can be planted with almost any class of plants without overgrowing or injuring them in any way.

Their formal habit renders them specially suitable for filling borders or formal sets of beds if they are fairly large in size. Generally speaking, the effect is enhanced if they are under-planted with some suitable subject, which may vary, from a low-growing plant a few inches in height to one attaining a height of 12ins. to 15ins. When dealing with the taller-growing plants for this purpose it is important that they fit. By this I mean that their general outline and shape should harmonise with the gladiolus. This is a detail that is too often overlooked in all sorts of floral arrangements. Antirrhinums in many ways are ideal for this purpose, the intermediate varieties being the right height, while there is a wide range of colours to choose from if one wishes to make definite colour combinations, or, if desired, they may all be safely mixed. The softer pink, rose, buff and terra-cotta shades are very charming used with the more refined primulinus varieties. Where a dwarfer-growing plant is required or preferred for planting with them Phlox Drummondii is very suitable, as there is a wide range of colours, and of all our half-hardy annuals this one has the longest flowering season of any. There are, of course, many annual plants that can be used for this purpose, according to individual taste.

As already indicated, gladioli may be usefully employed for interplanting with the early-flowering herbaceous plants. I have found them specially useful for planting in beds and borders of peonies. They can also be used very effectively along with red hot pokers (kniphofias), but in this case—as some of them at least are likely to be in flower at the same time—the colours must be selected with care. A very effective bed is that fine late-flowering variety War closely under-planted with Rudbeckia speciosa. A very pleasing set of formal beds noted last season was planted with Spanish irises carpeted with blue, white and yellow violas. During the spring the beds were interplanted with mixed varieties of Gladiolus primulinus, the violas afterwards being removed and replaced with mixed varieties of intermediate antirrhinums. Thus, with very simple material and little trouble, a beautiful and prolonged display was secured. One of the most charming periods of the display was when the iris and violas were in full flower and the gladioli just about half-grown, their foliage forming the right setting for the irises, enhancing their effect and giving that elusive air of distinction to the whole scheme which one so often fails to achieve.

ALL LARGE-FLOWERED VARIETIES ARE EMINENTLY SUITABLE FOR BEDDING PURPOSES.

The examples given will serve to indicate the many ways in which this charming class of plants may be grown. Few gardens are so small that room cannot be found for them, for, as indicated, they can readily be interplanted among so many other plants. If no other space is available, I should not hesitate to plant them among roses, as they do not interfere with one another in any way. Much of this may not be in accord with the exhibitor or large grower; but in this short note I do not have them in mind so much as the individual with a small garden who in the past may have been afraid to attempt the cultivation of gladioli. Their cultural requirements are few and not exacting. That, however, at this time is outside my province, as that phase was fully dealt with in these pages last week.

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Although it is not the proper season, I wish to refer to a class of gladioli the cultivation of which is, I am afraid, very much neglected by garden owners generally. Here I refer to the so-called nanus and ramosus groups, which are so useful for pot culture, and includes such beautiful varieties as Blushing Bride, Daliticatissima, Ackermanni, Fire King, Peach Blossom and many other fine varieties. G. Colvillei and its well known white form are also used in the same way for pot work and forcing. Although the nanus and ramosus varieties are grown by marketmen for the cut-flower trade, they in gardens generally are too much neglected, which is surprising considering they can be grown in cold frames and later on, when they require more head-room, in a cold greenhouse; while, if so desired, many of the varieties will stand moderate forcing.

They grow freely in any good potting compost, and should be potted up during October, as they are free-rooting subjects and enjoy plenty of water during their growing season. They should be given fairly large pots, allowing six to eight corms, according to size, to a 6in. or 7in. pot. If required in large quantities, they may be grown in boxes or planted out in frames. In the south and west at least they succeed outdoors in warm, sheltered borders. In such situations they may be planted during the autumn, or planting may be deferred until early in the new year. Garden owners with a small unheated greenhouse should certainly consider growing this section of gladiolus, as they would be a useful addition to the plants commonly grown in such structures.

The gladiolus cult has, during recent years attained immense popularity, not only at home, but on the Continent and America. In spite of the many fine present-day varieties, there is no reason to suppose that any finality has been reached in the production of new varieties, or even of new hybrids, for there are still many beautiful South African species, some of which may have great possibilities for hybridising, especially is this so when one considers the many beautiful varieties that have resulted from the use of G. primulinus and it is not impossible that in the future we may have other sections of gladiolus to grace our gardens. J. C.

HYBRID RHODODENDRONS WORTH GROWING

Hybrid rhododendrons are among the most popular of shrubs by reason of their easy culture in any soil which is lime free and their gorgeous flowering display in April and May. One or two of these splendid hybrids should be planted next month to add brilliance and colour to the garden next spring. A selection can be made from the following list where good all-round garden varieties are mentioned and described.

THERE are few shrubs that have been hybridised more than the rhododendron. The reason for the enormous number of hybrids that now exist is fairly obvious; the hybrid is more amenable to ordinary garden treatment than is the species. Year after year the number of gardeners who are becoming interested in the cultivation of species increases, but, with the exception of the dwarfs, which are suitable for the rock garden, few species will succeed so well as hybrids in the average garden. Considering that most rhododendrons in their wild state prefer to grow either in more or less shade or in countries where the summers are moist and misty, it is surprising that so many hybrids will flourish in the open, but, unfortunately, it is just that supposition of hardiness and lack of objection to strong sunshine that makes gardeners careless over the cultivation of even the hardiest hybrid. In fact, it is safe to assume that 80 per cent. of all rhododendrons in average gardens are not as good plants as they might be.

In many cases gardeners are advised to grow their rhododendrons in peat and to give them other specialised treatment; this is not necessary. They will grow and flourish in any soil that is lime-free, so long as the drainage is efficient. It is natural that as they are plants that prefer a certain amount of shade, they will succeed best in thin woodland, but that is a condition that many gardeners are unable to give them. With a few exceptions most hybrids now in commerce will do admirably in almost full sun, so long as a few simple precautions are taken and assistance is given. As was stated above, good drainage is essential; heavy soils must be thoroughly broken up and lightened with the addition of humus, either in the form of leaf-mould or of peat moss litter, and with sharp sand or even gravel. Light soils may also want additional humus, for it must be remembered that rhododendrons naturally live in woodland, where much of the soil is made up of decaying vegetable matter.

Planting too deeply is a fault that is frequently practised with all shrubs, but it is a grave error in the case of rhododendrons, which are surface rooters with masses of fibrous roots. A rhododendron that is planted too deeply will never make a fine plant. The soil should never be higher than the collar that divides the stem and the root system. I cannot impress too strongly upon beginners the necessity for shallow planting; it is no exaggeration to say that most of the weak and sickly looking plants so often seen are the result of planting too deep in the soil.

Another point that beginners should note is the

A USEFUL LIST OF HYBRID RHODODENDRONS.

Name.	*Flowering.*	*Colour.*	*Notes.*
ALICE	May	Rose-pink	Somewhat similar to Pink Pearl. An admirable plant in full sun. Large trusses.
ASCOT BRILLIANT	April	Red-crimson	An excellent red for the ordinary garden.
BAGSHOT RUBY	May	Ruby-red	Quite good as a standard, and a very floriferous hybrid.
B. DE BRUIN	May-June	Bright red	Rather later than the two previous reds and paler in colour.
CAUCASICUM ALBUM (*b*)	April	White	It is doubtful if this is a hybrid, but it is absolutely hardy and a fine plant. Does not grow very tall.
CHRISTMAS CHEER	February	Pale rose	The earliest hybrid to flower; small trusses, but will stand a good deal of frost without cutting; should not be planted as specimens.
CORONA	May	Deep pink, getting paler.	A very useful hybrid with large trusses.
CUNNINGHAM'S SULPHUR.	May	Pale yellow	A very old hybrid that is again becoming popular; very floriferous and at a young stage, but a slow grower. Should not be planted as specimens.
CYNTHIA (*b*)	Early May	Deep pink	Good truss and large foliage.
DONCASTER	May-June	Bright scarlet	A very fine colour, does not grow to a large plant.
DUCHESS OF PORTLAND.	April	White	One of the best whites.
ESSEX SCARLET (*a*)	June-July	Bright red	One of the latest of the reds to flower. A vigorous grower.
GEORGE HARDY	May	White	Large trusses and dark foliage, a very good hybrid.
GOMER WATERER	Late May	White with mauve tinge.	A good hybrid in all positions.
IVORY'S SCARLET (*b*) (*a*)	May	Scarlet	The best scarlet. Grows to be a large plant.
HANDSWORTH EARLY WHITE.	April	White	A good useful rhododendron
LADY CLEMENTINA MITFORD (*a*).	May	Peach with darker edge.	An uncommon colour.
LODER'S WHITE (*a*) (*b*)	May	White	The most aristocratic hybrid for the ordinary garden, with magnificent trusses that are not so tight as in many hybrids; absolutely hardy.
MRS. E. C. STIRLING	May	White	Exceedingly floriferous.
MOTHER OF PEARL	May	Soft pearly-white	A sport from Pink Pearl with a delicate colour.
PINK PEARL	May	Pink	Probably the best known hybrid; an admirable plant, very floriferous, with large trusses.
ROYAL PURPLE	May	Vinous-purple	An uncommon dark colour.

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importance of planting rhododendrons in a depression, rather than in a raised bed. Although drainage must be efficient, they are plants that abhor drought. Water will run off a raised bed, whereas it will collect in a depression and keep the soil cool and moist. A depression is also useful for the annual spring mulch of leaf-mould, old leaves, or peat-moss-litter, which assists them enormously in their growth and also helps to conserve moisture. If you are in any doubt as to the efficacy of this suggestion, test it with two rhododendrons by planting one in soil that is raised a little above the level of the surrounding ground, and the other in a little depression with a generous mulch added. You will find that the plant in the depression will have leaves of larger size and will make double the growth of the plant in the raised bed. The mulch and the depression will mean that less watering is necessary unless in extreme drought, but when water has to be applied, let it be thorough. A copious watering once a week will do the plant infinitely more good than a little added each day. Watering should always be done in the evening when the sun is off the plant.

Most hybrid rhododendrons can either be grouped in beds, when in course of time they will grow into one another, or be planted as specimen plants. Many of the older varieties can now be purchased as standards by gardeners who like a rather formalised plant on a long stem, but on the whole, ordinary bushes are more suitable, except in special positions. Care should be taken in planting in groups those rhododendrons whose colour is composed of some form of red, whether the shade be rose, pink, salmon, scarlet or crimson. There are few flowers in which such a profusion of red tones exist and, unfortunately, many of these reds have an admixture of blue. It is well known that blue-reds are the most difficult colours to place in the garden, for they clash in almost every combination. Unfortunately, the human eye is unable to take in the exact differences between various shades of red unless they are close enough actually to compare one with another, so plants for mixed groups or beds of

BAGSHOT RUBY BLOOMS WELL AND MAKES AN EXCELLENT STANDARD PLANT FOR A BED ON A LAWN.

LODER'S WHITE, THE FINEST WHITE HYBRID FOR EVERY GARDEN.

pinks, roses and other reds should be arranged, with great care. It is usually a good plan to confine one red shade only in a bed and if a mixture of colours is thought necessary, alternate the red tones with white. If varieties of red shades are required, these can be tested out and colours that clash can be transplanted to other situations, but if possible, rhododendrons should be seen in flower and actual comparison made before red shades are selected for grouping together. It may be imagined that this question of red shades is over emphasised, but the beginner will find that clashing tones are a real danger in planting rhododendrons and a little extra care is well worth the trouble. Reds with an admixture of blue are always difficult to place.

Thus we can formulate certain rules for hybrid rhododendrons:

1.—They prefer a certain amount of shade, but in most cases this is not a necessity.

2.—They like a soil that is not too heavy and has always a certain amount of humus incorporated with it. The soil must be lime-free.

3.—They should be planted at two seasons of the year; October-November and March-April. They have no violent objection to being moved at any time, for they are easy plants to transplant, but these two seasons are the best.

4.—They must not be planted too deeply, and it is better if they are planted in a slight depression.

5.—An annual mulch is of the greatest assistance.

Hybrid rhododendrons can only be increased by means of cuttings, grafts or layers, for seed of hybrids never comes true to type. Layering is probably the easiest method for amateurs, but, unfortunately, some of the hybrids are too stiff in growth to allow the necessary bend on the branches. Grafting should only be resorted to if standards are required, for ponticum stock is so vigorous that suckers are constantly forming. Most hybrids will strike from cuttings if half-ripened wood is taken with a heel attached and inserted in a frame with moderate heat.

So many hybrids are now listed that it is impossible to give even a tithe of the numbers now in commerce, but the selected list given on the opposite page, of varieties of known merit, may be of assistance to those who wish to start a collection. Those which are marked (*a*) are better grown as specimen plants, and those marked (*b*) prefer some shade, at least during the middle of the day.

R. H.

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THE BUSY MAN'S PAGE

Sow China Asters Now.

IT is now time to sow seed of China or bedding asters and we would say a few words in favour of these fine summer flowers. They are so easy to grow and the ultimate result so satisfactory that everyone should try to find a corner for a few at least. The ostrich plume, the Comet and the Californian Giant kinds, with chrysanthemum-like flowers, are probably finest; the Victoria class bears large blooms of compact habit, very fine in the border; the quilled, the peony-flowered and the ray varieties all have their admirers, and the singles, at first despised, are now considered indispensable. We would give particular mention to the Californian Giant, the Late Beauty or Mammoth, Southcote Beauty singles and the Avalanche kinds. At this time sow the seed in a frame—these asters like cool quarters—and transplant the seedlings when they become sizeable; they may even be transplanted outside in a sheltered seed bed and in mild districts they can be sown outside.

MASSED ANNUAL ASTERS PROVIDE BOLD PATCHES OF COLOUR IN THE HERBACEOUS BORDER.

At the same time prepare ground for the plants by digging it over deeply and well; and then add a good dressing of manure or leaf-mould enriched with artificials, or hop manure of good quality. Fork this over late in May, lift the plants from the frame with soil around their roots and plant firmly in dull weather.

Dahlias from Cuttings.

MOST dahlia growers of experience consider that by far the best results are secured by raising these plants from cuttings. This is really a very easy and entirely satisfactory way of securing additional specimens of favourite plants and preliminary steps should now be taken to make sure of sturdy cuttings. Stools or roots that have been in storage through the winter will be showing signs of activity once more. Obtain boxes deep enough to accommodate the roots in an upright position. In the bottom place a thin layer of old leaves, old manure or similar litter. Set out the roots and these may be packed rather closely providing they do not crush one another. Then fill in with loam, leaf-mould, or any fine soil, taking care to leave the crowns or bases of the old stems with not more than half an inch of soil above them. Be sure to preserve the labels of the different varieties.

Give a little water, but not a great deal, and then remove the boxes to a light position in a greenhouse, shed or mild hot-bed. Of course, steps must be taken to see that frost does not reach the young shoots, which will soon arise.

The shoots will grow rapidly and care must be taken to see that these are not unduly drawn; keeping the plants close to the light and as free a ventilation as possible will help to secure sturdy stems. When the growths are 3ins. or 4ins. long they may be cut horizontally below a joint, preferably with a piece of the skin of the old tuber attached. Root the cuttings in soil, which is formed of equal parts of sand and loam or leaf-mould. The cuttings might be inserted singly in very small pots or three or four might be placed round the outer edge of a pot of larger size. Moisten the soil a little and then keep the cuttings in rather a confined atmosphere, such as in a box which is covered with glass. Exposure to direct sunshine is harmful until the cuttings have rooted and some means of shading the glass will be required. Quite soon the cuttings will start into growth and then the more sun they have the better. As required, give more pot room to the young plants and harden off gradually up to the time when dahlias can be set in the open border. Those who have not tried this method will be surprised at the fine plants that result and the abundance of flowers which are produced. Dahlias grown from cuttings in this way come absolutely true to type.

For Planting Under Shrubs.

THE positions under shrubs and trees are so heavily shaded that few plants are able to grow there. One notable exception is the so-called Rose of Sharon (Hypericum calycinum), a species which seems able to keep going with a very small amount of light. One can afford to plant rather thickly, for the Rose of Sharon is inexpensive. Quite often a sufficient number of rooted stems can be secured from a friend, or one can obtain a handful of cuttings. These, if the wood is well ripened, will quickly root in ordinary soil, so that, long before the end of the summer, they are growing freely. A few weeks after setting out the plants it is a good plan to pinch out the tops of the shoots, and this will induce a free branching. The flowers of the Rose of Sharon are large and of a golden yellow colour, and it is astonishing how freely the plant will flower even in very shady spots; and, in any case, the evergreen foliage will soon carpet the ground.

How Far Apart for Thinning.

FOR the proper development of the plants it is necessary that vegetable crops should not be unduly crowded. Experience has shown that the best results are secured if the final distance, after thinning has been carried out, is approximately that given in the table below. The first figure indicates the distance between the plants in the rows and the second figure the space which should be allowed between the rows themselves.

Beans, broad ..	6 by 24ins.
Beans, French ..	6 by 24ins.
Beans, runner ..	12 by 60ins.
Beetroot.. ..	9 by 12ins.
Broccoli	24 by 24ins.
Brussels sprouts .	24 by 30ins.
Cabbages ..	12 by 15, or 12 by 18ins.
Carrots	9 by 15ins.
Cauliflowers ..	24 by 30ins.
Celery	9 by 48ins.
Endive	9 by 12ins.
Kale or borecole .	24 by 30ins.
Leeks	12 by 24ins.
Lettuces.. ..	6 by 12ins.
Onions	6 by 9 or 9 by 12ins.
Parsnips	12 by 15ins.
Peas	Varies with height. Dwarf kinds should be 2 by 24ins.; medium, 4 by 48ins.; tall, 6 by 72ins.
Potatoes, early ..	9 by 24ins.
Potatoes, late ..	12 by 36ins.
Savoys	12 by 15 or 12 by 18ins.
Shallots	6 by 12ins.
Turnips	6 or 7 by 12ins.
Vegetable marrows	Each plant should be allowed a space of 3 sq. yds.

A Wistaria Hint.

ONE of the great faults of the wistaria is its extreme slowness of growth, especially during the first few years. This is especially so in soil which contains a fair amount of clay, and in such positions the plant will hardly develop at all for a considerable time. A great deal may be done to hasten the growth of a young wistaria by preparing the position well at the time of planting. Of course a sunny spot should be selected and a hole of considerable size opened up in the ground. This might very well be three or four times bigger than is really needed for the accommodation of the roots. Fill the hole to about half its depth with loam to which has been added an almost equal amount of sand. Then set the plant and complete the filling with the mixture. In the light warm soil the roots of the young wistaria will be able to grow freely, and the result will be a much more rapid development of the plant above ground than is usually the case.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

How to Prune Your Roses.

LITTLE red and green shoots are already showing on rose bushes, but the wise amateur will have delayed pruning until the end of March. If we examine a rose shoot we notice that it is the buds nearest the tip which have started to grow. If these were allowed to grow on they would most likely be killed by the late frosts, and the flowers, even if they should escape, would be small. To prune, use a sharp knife, or secateurs, and cut back strong shoots to about half their length. Cut away the very thin shoots entirely. Roses newly planted should be pruned a little more severely, say to within three or four "eyes" from the base. Some attention should be given to the symmetrical form of the plant. All old and dead wood must, of course, be cut away. It is important, when cutting back a shoot, to cut off the stem at a bud which points from the centre of the plant.

It will be noticed that some roses make stronger growth than others. This is not the fault of the cultivator, but is due to differences in varieties. Roses which are weak growers require to be cut more severely at the time of pruning. It may be necessary when the shoots have begun to form to remove a few about the middle of May when the flower buds can be seen. The effect of this is to throw the sap into the remaining roses, and finer blooms will result.

These pruning hints apply to roses grown as standards, of the hybrid perpetual and hybrid tea varieties, as well as to bush roses. Climbers require different treatment.

Climbing Roses.

Climbers, such as Excelsa and American Pillar (see illustration), make very long shoots from the base each year. These are retained their full length, and the old flowering wood is cut away. Newly planted roses of this type are best cut back now to one foot from the ground. This will cause young strong roots to grow from the base. Where these varieties are grown as standards young shoots are retained their full length and tied round on umbrella-shaped wire framework in a weeping fashion. Last season's shoots, and also any suckers that spring from the base, are cut away.

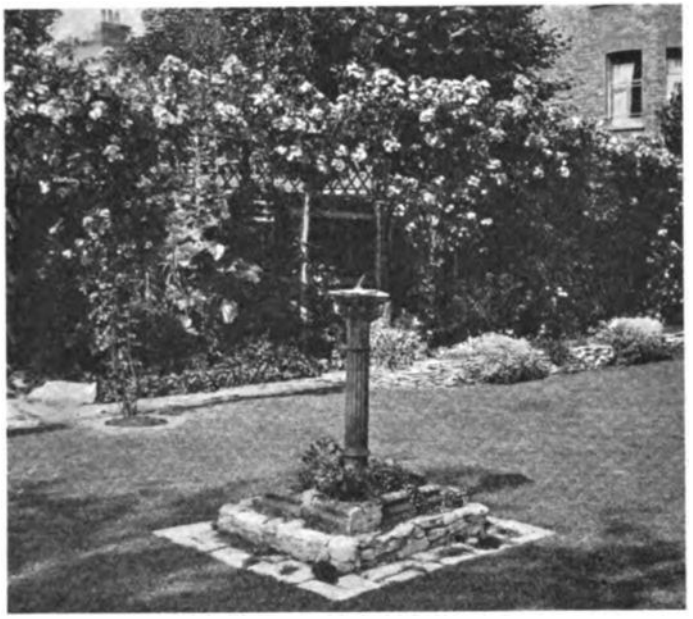
I have had several enquiries regarding the pruning of sweet briars. These should be left about 4ft. high. All old naked roots are cut away, as well as any weak wood. Penzance briars are much more vigorous, and may be allowed to grow 6ft. to 10ft. They throw up long, massive shoots, which may be shortened to the desired height. Where these are used for hedges some of the long shoots should be laid down horizontally to thicken the bottom of the hedge.

The New Sunflowers.

GIANT sunflowers, that turn their yellow "dinner-plate" heads towards the sunshine, are seldom seen in gardens now. Their huge size, and heavy, almost clumsy, heads, make them less pleasing in small gardens than the newer dwarf sunflowers, which have a variety of colourings, and which are just as easily raised from seed. Vivid splashes of colour are appreciated more in the town garden than anywhere else, and those who have not yet made their seed purchases for the year would do well to consider the sunflowers for brilliant effects.

The seed may be sown after the frosts are over, in the position where the plants are to grow; but better results are often obtained by sowing earlier in a cold frame, or in pots protected by a piece of glass. Few amateurs realise how easily seedlings can be raised just by sinking pots into the soil of the border, nearly filling them with soil, and, when the seeds are sown, covering them with small pieces of glass. When the seeds have germinated, remove the glass on fine days replacing it at night until the seedlings are above the level of the rim. Protection at night can be given afterwards by a light covering of straw or newspapers, whenever there is a danger of sharp frost. Great care should be taken when transplanting, to avoid giving a check to the plants.

Varieties.—Carter's Miniature Flowered, Orion and Excelsior are miniature-flowered varieties which are extremely attractive. Mars and Venus are two useful hybrids of Helianthus cucumerifolius and are very suitable for cut flowers. Primrose and Henry Wilde are larger flowered and a little taller in growth.



AMERICAN PILLAR, A BRIGHT PINK CLIMBING ROSE, MAKES AN ATTRACTIVE SCREEN IN A SMALL TOWN GARDEN.

Plants for Shady Places.

I SUPPOSE that the biggest of all problems to the town gardener is the problem of the shady garden. Even where houses do not shut out the sun for the greater part of the day, there are usually neighbours' houses and gardens so near that, in order to get a little privacy in the garden, trees and tall shrubs have been planted wherever possible. These trees, grown to a good size, tend to cast shadows over most of the garden, and as a result it is generally only the very large garden which can boast many hours' sunshine in the day.

The shady garden tends to produce excess of foliage and few flowers. It is, therefore, necessary to exercise caution in manuring, bearing in mind that stable manure, leaves, spent hops and other organic manures are leaf producers. This class of plant food should be reduced to the minimum in the shady garden, but we may use the maximum amount of phosphatic food, which produces flowers. Bone meal and superphosphate of lime are suitable.

Among a very large selection of plants which would grow successfully in the shade, even in the congested parts of a town, we may mention doronicums, the beautiful Campanula persicifolia (Telham Beauty), gladioli in variety, Hyacinthus candicans, tradescantia, phlox, Solomon's Seal, Primula auricula and Meconopsis Wallichii. Even under the drip of trees one or two plants can be grown. Arenaria balearica will carpet stones in such a position. Hardy cyclamens will also succeed under trees.

Bulbs of all kinds will, of course, succeed in the shady garden, such as hyacinths, daffodils, scillas and so on. A few shrubs will also flourish, the St. John's wort, daisy bush (Olearia Haastii) and Sarcococca ruscifolia being specially recommended.

Constant stirring of the surface soil is as important in the shade as in the full sunshine, for it allows more air to penetrate to the roots of the plants. If left alone, the soil in shady gardens tends to become sour, and the plants begin to die off. Another point to remember is to keep the plants clean by constant syringing. The water used should not be too cold, and should be sprayed liberally on to the plants in the evening, particularly after a dry, hot day.

Why Not Plant More Shrubs?

IN spite of the hosts of new and beautiful shrubs that have been brought by plant collectors from the ends of the earth, one very rarely sees them in the average garden. Yet many of these shrubs will grow luxuriantly in town and suburban gardens. Take, for instance, the lovely Chinese shrub, Forsythia intermedia, the golden bell tree. It has been cultivated for many years in this country, and no shrub is more easy to grow, or more charming when in bloom. March is a good planting month for deciduous shrubs, such as the flowering currants, lilacs, etc. The middle of April is better for the planting of evergreens. Planting must be done with every care. Many amateurs buy good shrubs, plant them carelessly and then blame the nurseryman because free growth does not take place. Shrubs require just as much care in planting as fruit trees. Assuming that the ground is already well dug to a good depth, a hole should be made rather larger than sufficient to accommodate the roots. Use the previous soil mark as a guide to the depth at which to plant—not forgetting that the soil will sink slightly after planting. After spreading the roots out evenly, fill in loose soil, and make it firm by treading. Put in a small stake about the same height as the shrub, and tie it securely. This is desirable, even with shrubs which will stand alone when established.

It is quite possible by a judicious selection, to have shrubs in flower every month in the year, even in a small garden. A few which would flower in sequence in a mixed shrubbery would be yellow forsythia, purple Daphne Mezereum, Cydonia japonica, broom (cytisus), lilac, mock orange (philadelphus), Spiræa arguta, ceanothus, Olearia Haastii, Hydrangea paniculata, wych hazel and laurustinus.

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WORK IN THE FLOWER GARDEN

Perennial Lupins from Seed.

THE perennial lupin, Lupinus polyphyllus, is a fine plant for anyone in the unfortunate position of having to fill a large, newly made herbaceous border. No matter what the soil, or how it has been prepared (and in these new borders the work is often scamped), this perennial can be depended upon to produce its spikes of flowers. The present time, when the growth is just pushing through the soil, is a very good time in which to plant. Roots can be purchased from any nurseryman at a fairly cheap rate, which, while making a very effective display in the first season of planting, will surpass itself in splendour in the second and succeeding seasons.

When a very large and long border has to be filled, however, even so cheap a plant as the lupin is apt to come rather expensive if the number runs into a hundred or so plants. Those who are content to wait a season may obtain this number of plants from a packet of seed at only a trifling cost. Against this advantage must be placed the fact that if a colour scheme is being planned, it is not safe to rely upon an uniformity of colour from seedling plants. The flower is so beloved by bees that cross fertilisation of the seed is bound to take place. Of course, in the mixed border this production of hybrids is of no consequence, and a very fine effect can be cheaply produced in this manner, coupled with the possibility of the production of one or two entirely new specimens. This possibility was foreseen by Mr. Downer, who for some years has been hybridising the lupin, until he has now produced a range of colours which the older gardeners never thought possible. They include a rich, deep pink, Downer's Delight, a variety of the pale pinks; light and dark blues; some fascinating shades of mauve, biscuit, yellow, garnet, aquamarine, turquoise and opal blues, together with a number of bicolors in rose and amaranth; pink and white; yellow and purple; and numerous other combinations, which are exquisite both in the border, or as cut blooms.

So unfixed is the lupin with regard to its progeny that seed saved from, say, a deep pink bloom, such as Delight—and one plant will produce some hundreds of seeds—will throw very few plants which truly represent the parent.

The seed is cheap, easily handled and easy to raise without heat. A mixed packet of seed will produce an amazing variety of colours. Drills are drawn an inch deep in an open piece of ground, choosing a sunny position, the seeds being spaced at intervals of 2ins., sowings taking place in April and May. Should the raiser be impatient, and wish to see the colour of the seedlings in the first season of sowing, the seeds may be dibbled into boxes or pans of compost in March, and placed in a cold frame. Germination soon takes place, and the resultant seedlings can be pricked out into a trial bed, or nursery row when about 2ins. high. Most of the seedlings will throw one or more spikes in late summer, when the weeding out of the undesirables can take place.

Those sown in the open ground may be left in position until autumn, cultivation simply consisting of keeping free from weeds. The plants will then be good specimens, having a series of long tap roots which should be placed in a downward direction when planting.

The first season after transplanting will produce quite a fine display of bloom, but this is no criterion of what may be expected in after years. The seedlings should be planted in groups of three, allowing a foot between each plant. In the second season, one of these plants should be lifted and planted in another part of the border. In the third year, only one plant should be allowed to remain at a station, for, by that time it will have so increased as to require nearly a yard of space to permit of its development. When this occurs, the plant should receive a mulch of decayed manure, for the soil is almost certain to have become impoverished by the two preceding years bloomings.

The only objection which can be found to this fine plant is that it leaves rather a gap in the border after blooming. For this reason it is a good plan to keep a few tall dahlias in large pots, which can be planted near the lupins after the seed stems have been cut down. Failing this, one of the tall anchusas can be placed within a foot or two of the lupins. If the seed pods are removed as they form, a further period of bloom can be obtained; but it is not so good in quality as that seen in early summer. It does, however, extend the blooming period, especially when the plants are fed with liquid manure.—CLARENCE PONTING.

A CLUMP OF PERENNIAL LUPINS GROWN FROM SEED.

Nothing looks finer in the middle of the border than a bold group of lupins with their tall and elegant spikes of the most delicate colourings. They can be planted now or else raised from seed.

A Fine Half-Hardy Annual.

PHLOX DRUMMONDI is one of the very finest half hardy annuals, although it is probably less commonly grown than almost any of the bedding annuals used in garden decoration. Its range of colour is extremely wide—from purest white to deepest crimson, with every conceivable intermediate shade.

Although of somewhat fragile growth, this phlox will stand much more buffeting about by summer storms than will the majority of summer flowers. Even if beaten to the ground and the flowers splashed with earth, the return of sunny weather soon induces them to send forth a new crop of bloom. In addition to their usefulness as bedding subjects, these phloxes are also suitable for arranging in vases for indoor decoration.

One great secret of success in the growing of P. Drummondi is to give them the best possible cultivation and not merely sow and leave them to take their chance. With this end in view they should be sown in boxes of light compost in gentle heat during March, or if a heated greenhouse is not available they may be sown in boxes in a cold frame at the end of March. In either case they must be pricked off into other boxes as soon as they are large enough to handle and grown on steadily in a cool position. They should be hardened off gradually until they can withstand full exposure to the sun outdoors. It is a good plan to nip out the top of each plant when about 3ins. or 4ins. high; this ensures a bushy growth and a wealth of bloom.

It is as a subject for filling small beds on lawns that Phlox Drummondi excels, and if the beds are deeply dug and well prepared, such situations, if in full sun, suit it admirably. The plants may be put out at a distance of from 4ins. to 6ins., as the best effect is obtained by close planting, the ground being covered more quickly, and the heads of flowers appearing at a more uniform height. A shady or half-shady situation or a stiff clay soil are not favourable for this plant and under such conditions only poor results are to be expected.

In addition to its value as a summer bedding subject, the annual phlox is also excellent as a pot plant and may also be used for furnishing hanging baskets.—T. H. E.

The Autumn-Flowering Ceanothuses.

Present Treatment to Ensure a Fine Floral Display.

CEANOTHUSES fall naturally into two distinct classes; those that bloom in the spring and those that bloom from July to October. These two groups require different treatment to obtain good results and it is largely owing to misunderstanding on this point that results in amateurs not being successful with their cultivation.

The spring-flowering ceanothuses require very little in the way of pruning and this should be done immediately after flowering; in this respect they differ widely from the autumn flowering group, which produce their inflorescences from the current year's wood in much the same manner as do the autumn-flowering spiræas. This latter group of

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ceanothuses requires pruning in spring, March being a suitable time to perform the operation. Cut the previous year's wood well back; in the case of strong shoots to within 7ins. or 8ins. of the base and when dealing with weak wood cut back to within two buds of the base. Any branches which are weakly should be removed entirely and strong new growths encouraged to take their place. After pruning, a light top-dressing of well rotted manure may be applied with advantage.

It is advisable to root cuttings and commence with a new stock when the old plants begin to fail. Cuttings taken from young shoots early in July and inserted in a sandy compost in a warm propagating case root readily. Remove any bloom which appears during the first year as this assists in the formation of a good plant. A rich, rather light loamy soil is the most favourable for ceanothuses, and the best effect is obtained when they are planted in groups of six or more plants of a variety. As subjects for beds on lawns they are extremely useful, while the stronger-growing kinds may be grown against trellises or walls; it only being necessary to secure the main stems to the supports and allow the young flowering branches to hang gracefully. This latter method of culture is to be recommended for very cold localities, where it is necessary to protect bushes in the open during severe weather.

The best species of autumn-flowering ceanothuses are C. americanus and C. azureus. It is, however, the fine garden hybrids raised from these species which are the most useful and beautiful for garden decoration. Among the finest of these are: Gloire de Versailles, blue, large heads; Perle Rose, rose; albus plenus, double white; Albert Pittet, rosy-lilac; Indigo, dark blue; Bijou, blue; Brilliant, purple; Fleur d'Ete; and Ceres, rose. On reference to nurserymen's catalogues many other beautiful varieties will be found.—T. H.

A Double Use for One Border.

THE beautiful Spanish irises are popular plants in all gardens, their culture is easy, the bulbs are inexpensive and the lovely flowers are delightful for house decoration. Owners of small gardens, however, often find it difficult to afford room for these charming bulbs, for, although very decorative at flowering time, their season of bloom is short, and after it is past, the beds look bare and desolate at a time when all the garden ought to be gay.

This drawback can be easily overcome by sowing a suitable annual to succeed and conceal the remains of the irises, the annual chosen must be of sufficient height to hide all the unsightly stems, as cutting down either leaves or stems would spoil all prospect of bloom for next season.

A very pretty and rather uncommon annual for this purpose is Omphalodes linifolia, or Venus's navel-wort; it has charming white flowers resembling forget-me-nots, and the foliage is glaucous.

In March or early April when the irises have pushed up their slender spear-like growths to a height of 5ins. or 6ins., the seeds can be sown very carefully among them and when the seedlings appear they should be well thinned out to allow them to make vigorous and sturdy growth.

The first illustration shows a long narrow border of irises as they appeared in full bloom in June, and the second picture, taken in August, depicts the good effect and perfect concealment given by the graceful plants of omphalodes.—I. S. T.

AFTER THE IRISES HAVE FINISHED FLOWERING THEIR PLACE IS TAKEN BY OMPHALODES, WHICH CAN BE SOWN IN EARLY APRIL IN THE OPEN BORDER.

A LONG NARROW BORDER OF SPANISH IRISES IN FULL BLOOM IN JUNE.

Renovating Old Borders—An Eleventh Hour Necessity.

IS there any hope for old borders, containing a variety of hardy flowering plants which at the moment are badly in need of overhauling and taking up and dividing, doing well this summer? This is a question one is sometimes asked by those who have been prevented from getting on with the work until the season is advancing. The answer is not easy, and one must make the best of a bad job. As it is not possible to lift many of the subjects, some, at least, that have overgrown can be reduced in size, and thus prevent further encroachment. Such things as solidagos, starworts, achilleas, galegas, may bear portions being cut away, but in the case of deep rooting plants like gypsophila, kniphofias, eryngiums, and peonies, that have now got well into growth, it is unwise to attempt to disturb them. One may, however, afford them temporary relief until autumn, by forking the surface soil, and introducing fresh soil with which a little old manure has been incorporated, but beyond this, one cannot do much without harm following. Borders that are known to be worn out, which in most cases means that they have not been trenched for many years or dug for several seasons, should have the first attention in the autumn, taking a portion up at a time and dividing the clumps and replanting the best with as little delay as possible. What is possible for them in order to tide them over another flowering season can only be of a temporary character, and nothing short of clearance and deep digging should be deemed good enough; still, the help of mulch and forking will benefit, even though it be done at the eleventh hour.—F. W.

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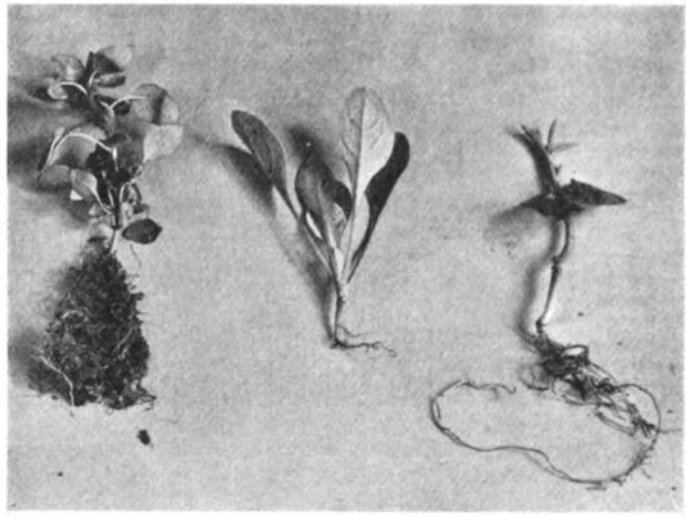
HOW TO GROW HARDY ANNUALS

Sow during the next few weeks in the open ground, if the weather conditions are suitable, for a brilliant summer display.

HARDY annuals are undoubtedly *the* plants *par excellence* for the garden novice to try his hand upon. For one thing, seed is comparatively cheap, and even if failure results with some kinds, the monetary loss is very small. Again, they flower the first year from seed, and this is a consideration with the rather-apt-to-be-impatient amateur. Raising annuals from seed is a good preliminary to the raising of choicer and more difficult plants, and much can be learnt from the sowing of even a packet of the humble nasturtium or Shirley poppy. Almost every type of root system will be met with among annuals, and so practice will be gained in the art of transplanting seedlings. When transplanting, it will be found that annual poppies, eschscholtzias and many others, have long, tapering tap roots, and these plants rarely do much good after a move, unless this is carried out very carefully. Others, nigella and alyssum may be cited, produce masses of fibrous roots, and these kinds may be moved with the greatest ease. Another lesson the growing of annuals will teach is the great value of keeping dead flowers picked off. Take sweet peas alone (though it is true of all other annuals); it is well known that these will go on for weeks and weeks producing fine flowers *if the blossoms are cut regularly*, but once let the seed pods begin to form, there is an immediate lessening of blossom production, and even those that are produced are poor in colour and length of stem.

It may be necessary to define clearly what constitutes an annual plant. This is a very simple matter; an annual plant is one that is raised from seed, grown on, flowered and has died in the course of a single twelvemonth; or, in the majority of cases, considerably less than this, many being sown during April and cleared away as spent and useless by the following October. Annuals are divided into two main classes, hardy and half-hardy (H.A. and H.H.A. of catalogues). Hardy kinds may be raised from seed sown outdoors from March until June, but half-hardy kinds must be sown under glass in early spring, or outdoors during the early part of May. Catalogues always state clearly to which class a plant belongs, and the real novice is advised to try those marked "H.A.," for the first year at any rate. It is true that some confusion exists over certain annuals; dimorphotheca and Swan River daisies, for instance, are variously described as hardy and half-hardy, and in such a case sowings should not be made until the end of April or early in May.



THE DIFFERENT TYPES OF ROOT SYSTEMS.
On the left is a fibrous-rooting subject which will transplant easily; on the right, two tap-rooting subjects which will not transplant successfully, and should be sown where they are to flower.

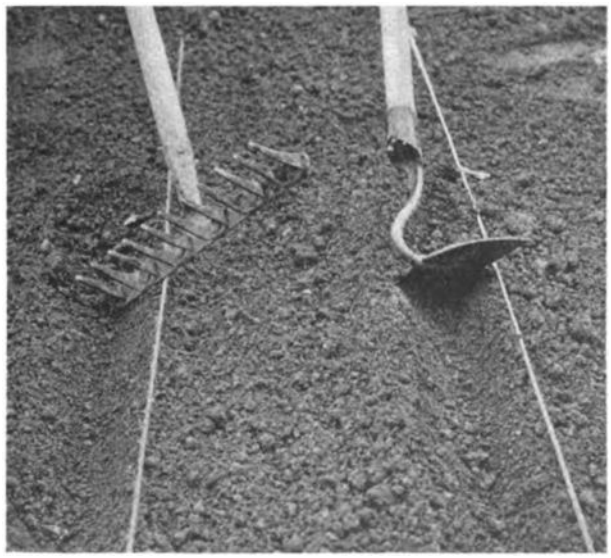
As regards the raising of annuals, it cannot be too strongly urged in the first place that seed be obtained from a reliable firm. A good strain of seed is half the battle in the raising of all plants, and is well worth the slight extra outlay involved. Late March and early April are favourable times for the sowing of all true hardy annuals, but weather and soil conditions must govern this to a large extent, while of course, sowings may be made earlier in the south than in the north. If the ground be wet and pasty, or the weather cold and frosty, time will only be wasted in sowing seed. It will be far better to wait until the end of April

Sowing the Seed.

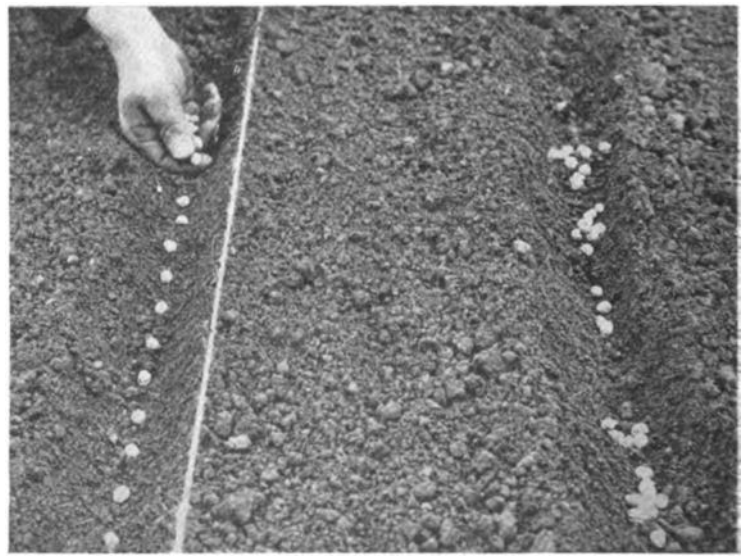
For the beginner, it is usually better to sow the seeds direct in their flowering positions, but all those annuals with fibrous roots will transplant well, and may, if necessary, be sown in a nursery bed of prepared soil, being moved on to their flowering quarters when of a manageable size. A second sowing may be made in early May for a continued display of blossom, while from a third sowing in early June, one often has a bright display in late autumn, but frost is apt to cut this short just at the height of its beauty. As mentioned above, most of the half-hardy sorts may be sown outside in early May, when they will come into blossom rather later than those raised under artificial heat.

The correct depth for sowing is a great stumbling block to the novice, the usual fault being to bury the seeds too deeply. To prevent all possibility of mistake, let it be clearly understood that even the largest seeds, such as sunflower and nasturtium, only need to be buried 2ins. deep, while the smallest ones, poppy and clarkia, for instance, need only the slightest covering of soil. It must be remembered that germinating seeds, like all living creatures, breathe in air, and if they are sown too deeply they are stifled and soon rot off.

Another pitfall for the novice is that of thick sowing. Seed germinates so exceptionally evenly nowadays that there is no need to allow for faulty sprouting. Sow reasonably thinly, so that each plant has sufficient space



TWO METHODS OF MAKING THE SEED DRILL.
With the rake and with the hoe. A line will be found useful as an aid to cutting a straight edge.



THE RIGHT AND THE WRONG WAY TO SOW SEEDS.
Large seeds, like nasturtiums, should be sown about two inches deep, while dust like seeds should only just be covered with soil.

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to unfold its seed leaves, and thin out superfluous plants as occasion arises. In this way, and this way only, will sturdy seedlings be obtained—seedlings that will soon outstrip in size and vigour those that are allowed to remain overcrowded, and fighting one against the other for light and nourishment.

It should, perhaps, have been mentioned before that deep digging is essential when preparing the ground for annuals, and should be attended to some time before the sowing or planting out takes place. The height to which a plant will grow is no criterion of the depth to which its roots will penetrate, and even the dwarfest plants will appreciate a deep root run. Soil dug to a depth of two spits will give very good results, especially if decaying leaf matter be mixed with the bottom spit. Rotted manure must also be included in moderate quantities. Too rich a soil, however, tends towards the production of coarse, sappy growth at the expense of flower production, and should be avoided at all costs.

Having got the seeds duly sown, watering is the next problem that confronts one. If the ground be nicely moist, there is, of course, no need to water artificially, but if the weather be dry, water should be applied through a rosed can during the evenings. It is best to avoid this practice as far as possible however, as continued applications render the ground surface hard and caked. After the seedlings have appeared above ground, much can be done towards the retention of moisture by hoeing between the rows at frequent intervals.

For the final positions, assuming the seedlings have been raised in nursery beds, a sunny or partially sunny spot should be chosen. Very few annuals will flourish where they can get little sun, and it is waste of time and material to plant them in such positions.

Many gardeners are apt to think that as annuals are such short lived plants, they will flourish without any special soil preparation and that they may be poked away in any odd corner. Really, the reverse is true; with such a short life, only eight months or so, it is obvious that they must be grown under the best possible conditions if they are to develop a vigorous root and leafage system, with a consequent plethora of brightly coloured blossom.

The plants must be given plenty of space in their final quarters, otherwise good results are quite impossible. Properly placed, they will flower profusely over a long period, and moreover, will cover the ground far more satisfactorily than if crowded up together. The taller-growing kinds, such as lavatera and sunflower, must be planted at a distance of a least 18ins. to 2ft., while even the smallest kinds should not be closer than 4ins. to 6ins. It is quite impossible to give in a short article the distance each kind should be apart, but a safe rule to follow is to plant each sort half as far apart as it grows tall; *i.e.*, 1ft. tall, 6ins. apart; 18ins. tall, 9ins. apart, and so on, in some cases this plan fails, as with dwarf spreading plants, such as alyssum, which only grow a few inches high, but must nevertheless be planted at least 6ins. apart. When planting out, a dull, cloudy day should be chosen, so that the plants will not flag, while if no rain seems likely, a good soaking should be given with the watering can or hose. If the water is applied to the base of the plants it will do much towards settling the soil round the roots, and consequently these will take a hold much quicker.

Subsequent culture consists chiefly of regular hoeing, which will not only keep the weeds in check, but also help to conserve moisture, as well as allow air to permeate through the upper soil. Staking is also important, and if this is done early, there will be no sign of artificial support when the plants have reached their full size. A good general fertiliser may be lightly sprinkled over the ground, and hoed in, at regular intervals when the seedlings are growing freely. When flowers are produced, attention must be paid to the removal of all dead and fading blossoms, if continuity of bloom is to be kept up.

The variety of uses to which annuals may be put is practically unlimited, and whether it be for bed or border, rock garden or window box, trellis work or edging purposes, cutting or fragrance, there is always a wealth of material available in the annual world. Whatever the colour scheme desired, annuals can always be found that will fit in with the prevailing shades, and they will do much towards keeping up a long display of blossom.

For the garden novice, for the gardener of limited means, and for the owner of the new and as yet rather bare looking villa garden, annuals can be recommended as the cheapest, showiest and most easily grown of all flowering plants. Given proper treatment, they will equal, and even surpass, in brilliancy and length of flowering season, the choicest of our bedding, border and rockery perennials and tender plants.

B. D. S.

PANSIES AND VIOLAS FOR BED AND BORDER

When, How and What to Grow

IN his lecture on "Horticulture at the Cross-Roads," Mr. William Cuthbertson, remarked that the development of pansies and violas has been largely the work of Scottish growers. The history of the viola, as Scottish people probably know, began in 1859, when James Grieve crossed Viola lutea of the Pentland Hills with show pansies. John Baxter started a little later and in 1874 Dr. Stuart of Chirnside crossed Viola cornuta with Blue King bedding pansy and thus began the work which gave us Violetta, Sylvia, Border Witch and many other charming things. They were succeeded by John Smellie, Busby; A. Ollar, Campbeltoun; Alex Lister, Rothesay; and Robert Fife, Edinburgh, and to-day the interest is maintained by the members of the Scottish Pansy and Viola Association. The members, who meet once a month in summer, are not a numerous body, but they are inspired with a degree of enthusiasm which is not equalled by larger societies. They set a high standard in judging the merits of the seedlings submitted at each meeting. The maximum number of points awarded by each judge is, for size, colour, texture and form, 12, and a first-class certificate is only awarded on a net average of 9 points and upwards, while an average of 6 justifies a first-class certificate. The leading raisers to-day are working men residing in widely scattered country towns and villages, and included in that category are Alick Cochrane, Fauldhouse; A. and W. Stevenson, Dunaskin; A. Frater, Kirkliston; William House, Barrhead; Alexander McAlpine, Tollcross; and James Paul, Killearn. Mr. W. Dobbie, Renfrew, the secretary of the society, also deserves mention for he has raised a jet black viola with a silken sheen, and the blooms are probably the biggest ever seen among violas. It will be exhibited during the coming season.

WILLIAM BARR, A FINE WHITE VIOLA WITH WELL SHAPED FLOWERS.

In the successful culture of show pansies and violas there is nothing better than a good heavy loam, well drained and with cow manure incorporated. Dig it in some time in autumn and in spring dig over the ground again and apply a liberal dressing of bone meal. About the third or fourth week of March, before planting, rake in superphosphates, which contribute to the production of short-jointed, hard growth. Avoid if at all possible those big, sappy, leafy plants which never give you good flowers.

The best time to plant is from the third week in March on to the end of April. Arrange the plants 9ins. apart in rows running across the narrow bed, each containing four plants. Keep the plants at the end of each row 6ins. from the side. Keep the surface of the bed on the same level as the path except in the case of sandy soil, where it should be kept a little below that level.

As regards the plants themselves, treatment varies according to the constitution of the particular variety. If the habit of growth is good, allow three stems to each plant, but where growth is weak a single stem is sufficient and, of course, all side growths must be removed as they grow.

September is the best time for taking cuttings. Prepare a rooting medium consisting of equal quantities of loam, leaf-soil and sand with a ½in. layer of sand on the surface. Make the rooting medium firm and water it

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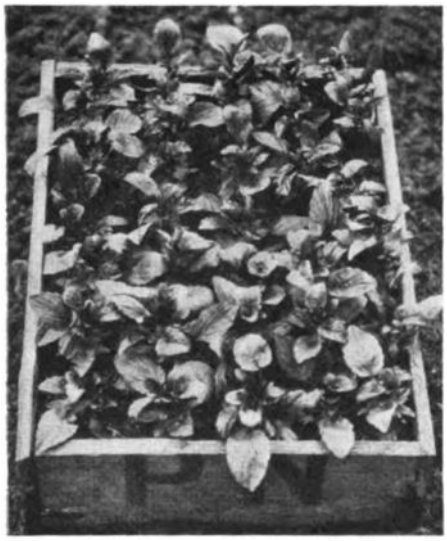


A BOX OF CUTTINGS TAKEN LAST SEPTEMBER READY FOR PLANTING OUT NOW.
The plants are robust and vigorous.

PLANTING OUT IN THE BED.
The plants should be arranged about 9ins. apart in rows. Each row should contain about four plants, depending on the width of the bed.

thoroughly through a fine rose the night before the cuttings are inserted. Subsequent treatment consists principally of providing shade in sunny weather.

While little growth is apparent for three weeks after removal to the open, the plants are making root growth and begin to make progress towards the middle of May. If it is the intention to grow pansies and violas for show purposes, take off the side shoots and flowers in the beginning of June. Give the plants a complete rest and discontinue disbudding a fortnight before the show. Ithemic guano has a beneficial effect when watered in prior to the show, but a good stimulant that will serve the same purpose consists of ½ oz. each of sulphate of ammonia, sulphate of lime and sulphate of iron to 2 gallons of water. The plants also respond to a top-dressing of short manur worked in round the plants about the middle of May.

The pansy maggot is the chief enemy that growers have to contend with from the middle of June until the end of July. Heat and moisture seem to favour the hatching of the eggs, which are laid round the neck of the plants. The usual symptoms of attack are to be seen in the sleepy appearance of the plant, followed by blue discoloration. Finally, it turns over and dies. Even the fibrous growths of deep-rooted plants are attacked at the very bottom of the root system. So far no cure has been discovered.

The following varieties may be taken as representing the best :

VIOLAS.

Dark Selfs.—W. Ferguson, Kathleen Coudry and Milton Jumbo.

Yellow Self.—John Adamson.

White. — William Barr, one of the varieties that has stood the test of time. There are other good sorts, but they do not possess the same substance.

Stripes.—Jack Milner, Mrs. Walter Nisbet and Robert Black.

Marbled.—Mary Spiers.

Rosy Helio.—Chris Littlejohn, big and reliable, the best of its colour.

Banded.—Molly Gibb, Donald McDonald and Edith Cavell (creamy white).

Edged.—Mrs. James Ritchie, Malcolm Milner and Mrs. James Scalley.

Cream Self.—William Gibb.

Reddish.—Sir Edward Grey.

Nondescript.—Peggy Ramsay.

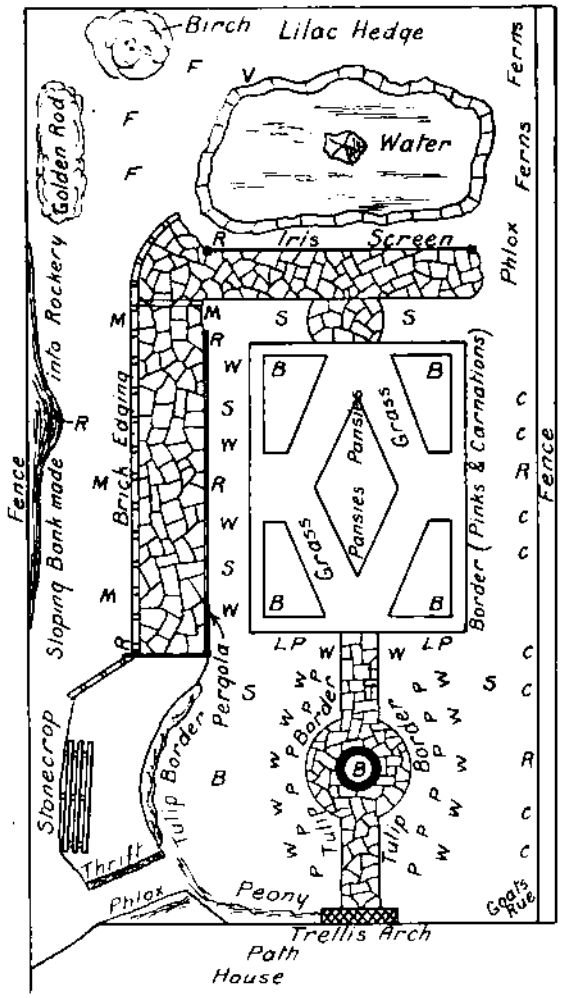
PANSIES.

The best of the 1927 novelties are John Hynd and Mrs. Robert Brooks ; two good introductions of 1926, James Garrow and Mrs. J. Whiteford ; and in general collection, George Hunter is one of the finest pansies in cultivation ; John Greig, Jean Wister, Mrs. Aleck McAlpine, Mrs. A. Frater, Robert Allan, Mrs. Tom Weir and Mrs. A. B. Cochrane.

WHAT OUR READERS SAY

A READER'S GARDEN.

SIR,—I enclose a rough plan of my small garden, which possibly may be of some use to many of your readers. It is roughly 30ft. by 15ft. and gives an idea of what can be done in a small space. This makes a very pretty little garden. The crazy path is made of old bricks and pieces of cement that I found in the garden and an old wall that bordered one part of the garden. The lilac hedge is kept clipped to stop it from growing too high. The brick border is made by standing the bricks on end and sloping them. This is quite an effective border and looks neat. Although the ramblers run practically round three parts of the garden, the two side fences are open ones, so that it gets plenty of air. I mark under the various plants I have at present growing. There are, of course, a number of other plants, especially on the rockery.



B Bush roses, S standard roses, M small myrtle trees, W wallflowers, F ferns, V violets, LP London pride, P polyanthus, C chrysanthemums, R bushes of rosemary.

I will, at a later date, send you photographs of the garden before and after bloom. I send this hoping it will help other of your readers to make their gardens attractive and perhaps suggest new designs for themselves. Wishing your paper every success, I remain a very satisfied reader who has found it a great help. — V. F. WHICHELLO, *Croydon.*

PEAT IN THE GARDEN.

SIR, — While I agree with "A. E. F." (page 174), that peat "is not essential to the well-being even of ericaceous and other peat-loving plants," I should be extremely sorry to do without it. No doubt rhododendrons can be and are grown successfully without a trace of peat in the soil, leaf-mould serving as a very good substitute. But peat has this advantage over leaf-mould that it harbours no slugs or other injurious creatures, whereas every barrowload of leaf-mould contains eggs and larvæ of many species which it is not desirable to introduce to the garden. True peat is chiefly formed through the growth,

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saturation and decay of sphagnum and hypnum moss, and when freshly cut for fuel consists of about 80 per cent. of water and is heavily impregnated with humic acid. To apply it in that state would be highly injurious, but let the sods be stacked and dried, then broken up, pulverised with a riddle and exposed for some weeks to sun and air and you have admirable material for making a compost. Used in this way for seed pans it may be noticed how the rootlets of seedlings attach themselves to grains of peat in the compost.

The substance described by "A. E. F." as lying 2ins. or 3ins. deep in the woods of Berkshire is not peat, but humus, the ordinary forest soil.—HERBERT MAXWELL, *Monreith*.

A SCHOOL CHILDREN'S FLORAL EXHIBITION.

SCHOOL GARDENING.

SIR,—Many of your readers will be interested in the accompanying illustration, which depicts an annual flower show in which the exhibitors are all children. The plants are all given by the L.C.C. to the children attending the school (Kennington Road, Lambeth, London), and soil is also given. The scholars provide their own pots.

On an appointed day in May a procession of hundreds of children, each armed with an empty pot, marches off to the Botanical Supply Depot. Here they are shown how to pot their plants, after which each child takes his or her plant home to be tended carefully until the day of the show. Last season, when this photograph was taken, three hundred and thirty of the scholars brought in their fully grown plants for exhibition, the best cultivated specimens receiving prizes and other awards. The plants included salvias, mimulus, nasturtiums, lobelias, stocks, calceolarias and petunias. This school also holds a bulb show each season, the bulbs being bought in quantity, and retailed to the children at a low price.—R. S.

[This is an aspect of gardening which, in our opinion, should be carefully fostered. It will do much to create a love of flowers and plants and gardens, which is one of our national heritages. The scheme and the workers engaged in it are deserving of every encouragement and material assistance.—ED.]

THE USE OF VITAGLASS.

SIR,—As one of the oldest converts to the new glass which admits the ultra-violet rays of the sun, may I suggest another most useful manner of applying its unique qualities at this season of the year? My wife and I have carried out some simple experiments with seedlings, comparing the growth under identical conditions of seedlings screened by Vitaglass and ordinary glass. The Vitaglass seedlings germinated before the others and showed a much taller, sturdier, growth. This seems to open a field of usefulness in glazing greenhouses where specially valuable show plants are being grown or where it is desired to get very early produce, such as strawberries for market.—W. KERR RUSSELL, *Newcastle*.

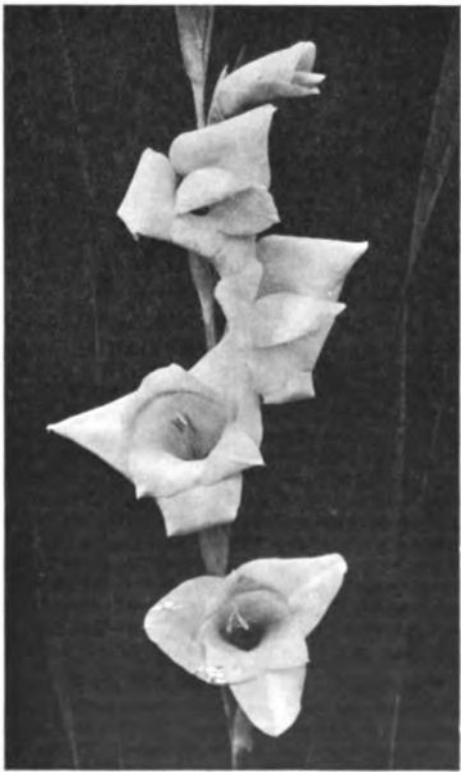
GLADIOLI: VARIETIES for INDOOR DECORATION

OF the two most popular types of gladioli, large-flowering varieties and primulinus hybrids, the latter are the more valuable for general all-round usefulness as cut flowers. Both types may be exceedingly beautiful in their proper spheres when nicely arranged with due regard to their form and colour in suitable vases, bowls or other receptacles. If grace and daintiness are essential, "prims," are, of course, the more effective; but when lightness is of secondary consideration and colour all-important, few flowers can equal the large-flowering gladioli for splendour and sheer brilliancy of coloration. Hints on arrangement were given in a previous article in THE GARDEN of March 19th, and it is proposed in these notes to call attention to varieties of the two types suitable for the purpose.

No varieties of autumn-blooming gladioli catalogued at the present time can justly be condemned as worthless for indoor decoration, but some are very much better than others. In procuring corms (or "bulbs," as they are usually termed) one's choice of varieties must be largely determined by individual taste as regards colours and by their suitability for the particular purposes one has in mind. In these notes, it is impossible to mention many kinds, but I give the following list irrespective of their age or cost; decorative value alone, as I see it, being the only consideration.

LARGE FLOWERING VARIETIES.

As a general rule, my personal taste inclines to "one vase, one colour," but some really charming blendings and contrasts are easily attainable. In white varieties, we have not a very wide choice. *White Giant* is the most popular, but for decorative work I prefer *L'Immaculée*, which is a more refined spike and consistently *pure white*. It is a fine decorative gladiolus when arranged alone or as a contrast to the reds, scarlets and purples. Creams, creamy pinks and yellows are most useful decorative shades, blending admirably with almost all other colours, particularly well with the orange and salmon tones. If arranged alone, these light and delicate shades may be further enhanced by inserting a spray here and there of some dark foliage such as copper beech or the copper-leaved prunus. Good yellows are rare, but both *Yellow Hammer* and *Golden Measure* will be found effective. *Venus* is a first-class decorative kind, a very delicate shade of creamy white, shaded silvery rose.



SOUVENIR, A FINE PRIMULINUS VARIETY OF CLEAR RICH YELLOW. ADMIRABLE FOR INDOOR DECORATION.

There are many pink shades, from light blush to deepest rosy pink, many of them more or less richly suffused with orange or salmon, others enlivened by a pronounced cream or yellow ground colour. In my opinion, most of the pinks appear at their best when arranged alone, and satisfactory blendings are more difficult to obtain than contrasts. The deeper tones, particularly if they have salmon or orange in their "make-up," are very effective under artificial light. One of the oldest and still one of the best is *Early Sunrise*, a charming shade of salmon pink, coming into bloom very early. *General de Wet* is a delicate shade, a light apricot rose with excellent decorative qualities which is certain to become popular. *Apple Blossom* is appropriately named, its colouring closely resembling that of the apple blossom; while a new one of some merit, *Rosabella*, is somewhat similar but deeper coloured. *Ophelia*, another newcomer, is like *Apple Blossom*, but on a cream instead of a white ground. Two which I confidently recommend are *Mrs. Leon Douglas* and *Mr. W. H. Phipps*, both colours difficult to describe; the former begonia rose, lightly striped flame, and the latter La France pink overlaid rose salmon. *Dr. Van Fleet* makes a fine bunch, its somewhat unusual placement enhancing its decorative value. Its colouring, too, is uncommon and most attractive, rose pink deepening towards the edges of petals on a canary yellow ground. Other good pinks include *Pink Perfection*, *Catherine Coleman* (a beautiful rich coral), *Adelaide de Luxemburg*, the well known *Panama* and *Rose Precose*.

The orange shades will be found invaluable in dull positions and all are beautiful by artificial light. Like the orange scarlets, scarlets and bright crimsons, their intensity of colouring is heightened by the inclusion of a few yellow, cream or light creamy pink shades. *Prince of Wales* must, I think,

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be well known to all; it is an old variety now, but still one of the most attractive warm salmon pinks in existence. *Thomas Edison* is uncommon, a most charming light coppery salmon. The quaint markings of *Golden West* appeal to me; it is one of those varieties which need a fairly close inspection to enjoy fully. The colour is orange red overlaid gold. *Majestic* is a wonderful colour, a lovely bright shade of orange pink; the great pity is that it is not more vigorous in habit. *Odin* is dependable and an attractive colour, rich salmon with dark blotch. One of the very best is *Richard Diener*, pure geranium pink with a creamy yellow centre, rather expensive now, but sure to become popular later. *Apricot* is an excellent decorative gladiolus which, I feel sure, will appeal to all; it is a soft and most pleasing tone of salmon apricot.

All the scarlet and red shades need light treatment and careful arrangement. They are a very numerous class indeed. Where bold and bright colour effects are required, the following will be found eminently suitable: *Red Emperor*, large-flowered, with a loose placement, but perhaps a shade too dull except when used in well lighted positions. The colour is deep blood red. *Crimson Glow*, richer than the above but not quite so large. *Dr. F. E. Bennett* I believe to be the best of the fiery reds, a magnificent colour. *Chris* is very distinct, and gives a refined spike, its chestnut red colour appeals to most. For size of bloom and majesty of appearance, *Pfitzer's Triumph* is a wonderful orange red.

Perhaps the rose shades do not lend themselves to decorative work as do most of the other tones, so I will mention two only. *Pride of Haarlem*, distinct salmon cherry red, pleasing only when arranged entirely by itself or with a cream variety; and *Bleriot*, much more amenable to blending with others, a creamy rose, with orange throat.

Good blues, mauves and purples are all too scarce, but the following can be depended upon to give satisfactory results as cut blooms. The old *Baron Hulot* is still one of the best dark blues; while, in my opinion, no light blue is equal to *Mrs. Van Konynenburg*. The colour of *Catherina* comes somewhere in between these two, a lavender blue with darker markings. *Herada* is a nice clean tone of mauve, and *Jacoba Van Beiren* a soft purple self. *Purple Glory* will become the most popular purple maroon, a grand gladiolus; and *Anna Eberius*, too, has a certain future. The latter is a first-rate decorative gladiolus of a distinct lavender purple shade. Coming to lighter tones, we have *Byron L. Smith*, resembling a cattleya orchid in colouring, lavender pink with creamy throat blotch, dainty and attractive.

For those who like uncommon colours, there is no gladiolus which I have seen likely to prove more attractive than *John T. Pirrie*. The colour is much more beautiful than can be conveyed in words, a sort of mahogany brown, with reddish brown blotches and a cream throat.

PRIMULINUS HYBRID VARIETIES.

Lighter and daintier vases and bowls may be used for "prims." than for the large-flowering varieties, and they need different treatment. Perhaps I may best convey this by advising readers to forget that "prims." are gladioli and arrange them, for instance, as sweet peas are arranged, and with a fairly lavish use of suitable foliage. There is one cultural point which has a decided bearing on decorative work. If vigorous-growing primulinus hybrid varieties (such as Souvenir) are given elaborate cultural treatment, the result may be coarseness from the decorative point of view; thicker stems, larger flowers and a more unguinly looking spike.

I like all the "prims.," but these are special favourites: *Souvenir*, the best clear rich yellow, *Citronella*, creamy yellow self, a soft pure and clean shade. These two should be planted in quantity, for they may be mixed with most of the other varieties, the orange, orange salmon, salmon and salmon pink shades, without fear of producing anything but a charming harmony of tone. One of the best, perhaps the best of all, is *Salmon Beauty*, ideal both in form and colouring, a lovely shade of salmon on yellow ground. *Xanthia* is a pure orange, glowing and very vivid, which all should grow. *Jewell* is a little expensive at present, but a real gem, light salmon with yellow throat. *Shell Pink*, too, will surely become popular when its price is lower, a charming tone of shell pink. I like it much better than the well known *Maiden's Blush*, a pink which was introduced several years ago but is still good and very popular. *Scarlet Cardinal* is, in my opinion, the best intense brilliant scarlet; but *Vermilion Scarlet* and *Daphne* are both very nice and more reasonable in price. The colour of *Orange Queen* is unique in gladioli, a warm coppery orange yellow hard to describe but most pleasing. *Salmonea* is a general favourite, salmon flushed glowing orange. If grown rather poorly, *Nydia*, a light salmon rose, is delicate and pretty, but good cultivation will produce thick flower stems out of all proportion to the size of the pips (as the individual blossoms are termed). *Orientale* is still more delicately tinted, lemon lightly flushed salmon rose, exceptionally dainty. *L'Exuette* and *L'Yser* are similar in colour effect, the former cherry red with large yellow blotches, and the latter orange scarlet with a decided and clearly defined yellow throat. *L'Ecaillon* is a most beautiful and distinct "prim."—a pure soft salmon with deep rosy blotch. *Orange Brilliant*, one of the smallest flowered of all, makes an exquisitely rich bunch, a wonderful blending of orange scarlet and yellow, almost a bicolor. The old variety, *Hermione* (orange salmon), is one of the most reliable; so, too, are *Sphinx* (glowing orange). *Rosandra* (rich cerise pink), *Psyche* (salmon shaded cerise), *Athalia* (the best orange scarlet) and *Atalanta* (salmon shaded orange). So one could go on, almost entirely through the list of "prims." which are to be found in up-to-date catalogues, without finding one which is not decorative. I have, indeed, nearly overlooked *Alice Tiplady*, a soft orange saffron which appeals to most flower lovers.

Primulinus gladioli should be planted, not by the dozen, but by the hundred, as they will be when their real value for home decoration becomes known to the general public. C. H. A. S.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Starting Begonias.

Many people find it hard, at this time of the year, to get begonias to start evenly. In dealing with hundreds of bedding begonias, I had generally 20 per cent. later than the rest. Now I find that the best way is to place the bulbs "eyes" downwards on sand in a warm temperature for about a fortnight, with no top covering. By that time all the bulbs will be showing growth; they can then be turned and lightly covered, and all will grow on together.—C.

To Protect Your Seeds.

Strands of black thread will protect seed beds from sparrows, but not from the finch family. But if, before putting on the thread, you get a few feathers from a chicken's wing or tail, you will be able to frighten even the finches. Fasten your thread to a stick, so that it will be about a foot from the ground; then about 4ft. or 5ft. along, make a noose, slip in a feather, and draw it tight. Continue adding feathers at intervals all along the row, fasten thread to a stick at the end, and then make sure, by propping up the thread if necessary, that all the feathers swing clear of the ground. They will be continually moving, as the slightest wind affects them.—E. A.

Weeds on Lawns.

The time has arrived when dandelions and plantains are making themselves noticeable and a great disfigurement on the lawns. Now is the best time to deal with them. Take an ordinary mower oil-can, and apply weed-killer from it direct upon the heart of the weed, and certain death will follow. The weed will die away, and before the summer the bare patch left by the plantains' departure will be re-covered by the grass. Place a piece of stick into the spout of the oil-can so that the weed-killer drips out about as fast as you can count. I have found this method an unfailing remedy, and thousands can be done in a few hours.—W. H. L.

Violas for Late Bloom.

When planting out violas grown from cuttings which have been growing in boxes in cold frames, take cuttings where possible from these, plant the cuttings in boxes of soil and put back again into the cold frame. It will be found in a few weeks' time that these will have made good rooted plants and, planted out, will make a fine show of bloom during the late summer and autumn. Where one wishes greatly to increase his stock of violas, this will be found a very excellent method.—J. H. H.

Gilia coronopifolia.

This is a plant that attracts attention in the herbaceous border, but which is very seldom seen. I found it very difficult to flower at one time, treated as an annual. Of late years I have taken to growing it in pots until the flower spikes are well advanced, and then plunged in the border without any disturbance. A light soil and plenty of drainage is essential for this plant. Sown in heat in early spring, grown on and finally potted in 6in. pots, and planted out in July, it will flower in late summer.—F. W. D.

Sowing Valuable Seeds.

When sowing scarce or valuable seeds, sow each seed separately and cover each indention in the seed-box, after the seed is sown, with sharp sand instead of soil, thereby ensuring the air and drainage so vital for successful germination. A larger percentage of big flat seeds will germinate if the seeds are sown edgewise instead of laid flat, when they are much more likely to rot, especially where slow germinating species are concerned. It will be found advantageous for bringing on seedlings quickly to make the lower half of the compost of seed boxes richer than the top half. When giving delicate seedlings their first shift, an egg-spoon can hardly be bettered for moving them with a minimum of root disturbance. In this way quite small seedlings can be transferred to pots without undergoing any apparent check.—C. S.

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THE FRUIT AND KITCHEN GARDEN

How to Grow Good Leeks.

LEEKS are among the most wholesome and easily grown vegetables, being subject to few enemies, and when planted out in prepared ground, need less attention than most things. Notwithstanding this, it is hard to understand why so many amateur gardeners are content with indifferent crops, or fail to give leeks the attention that they merit. The average amateur thinks about sowing seed late in March or early April, and, as a consequence, fails to get those tall blanched stems, which only time and good culture can accomplish. This note is not written with the idea of deprecating sowing the seed of leeks even at this late date, as, on the principle that "half a loaf is better than no bread," I would be an advocate for getting seed in, if possible, under a frame light in boxes on light soil, pricking off the young plants when about 2ins. in height into a bed under the frame in which mellow loam and old manure is found. These plants, got out subsequently into their final quarters, will provide something useful at least for the table in late winter and early spring. But why be satisfied with a poor crop, when one may at this time purchase a score or two plants, which are usually sufficient to meet the needs of the average small grower? Nothing pays better as a winter crop in my opinion—based on many years experience, than an early batch of leeks. We are apt to say concerning some vegetables that when they get large, then they become coarse. This is not so in reference to leeks, as the larger they can be grown and well blanched, the more profitable they are for the table.

Preparation of Ground.

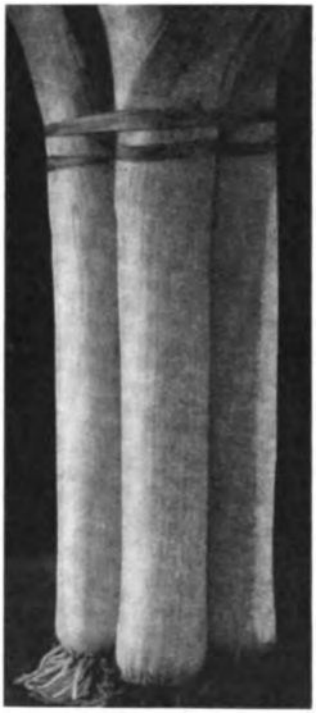
Here again I would utter a word of friendly criticism as to the place and condition of ground for leeks. They are worth something more than the out of the way corner, and indifferent soil some gardeners give them. They deserve the best soil, deep and rich. It is scarcely possible to make the soil too generous for them. Let those who pride themselves on the culture of celery, go to as much trouble in digging out trenches for leeks, say a couple of feet, breaking up the base with a fork, and incorporating with the soil, in filling the trench, what animal manure is possible, planting out the young plants in April or May in single or double rows a foot apart, if leeks of super quality are desired. In getting them to their final quarters, a blunt dibber should be used, into which the plants can be dropped, first pinching out just the tips of the leaves. It is not necessary to fill up the holes with soil, as it will filter in, neither need one be particular about "almost burying" the plants. If the soil has been generously manured they will soon "find their feet" and speedily establish themselves. In the summer when the stems rise well above the surface of the trench, arrangements can be made for—

Earthing up.

This can be done by simply drawing the soil about them, being careful not to allow it to get between the leaves, or they can be "collared" with stiff brown paper, much in the manner that celery is done. Pinching the tips of the leaves two or three times in a season will be the means of thickening them.

Stimulants.

Leeks appreciate stimulants and make good progress. To this end, the manure tub in some convenient place in the garden should have supplies of horse or sheep droppings from time to time, with a bag of soot placed at the bottom, but no stimulant should be applied in dry weather until plants have been well supplied with clear water. The grower is not troubled with insect pests, as is the case with onions and parsnips, for instance, and when once his leeks show signs of growth, he may rest assured that it is up to him to supply their needs in the matter of stimulants, and failures may be left out of count. The biggest stems will give him certain satisfaction that he was wise in getting early sown plants, but the smaller plants from a late sowing will be appreciated too when in the vegetable dish. Between the largest and smallest, it is a question of time-table only, and the earliest sown stand the first chance to show what they can become with good culture. If I may give an incident from my own experience last year for the benefit of someone, perhaps, growing leeks for the first time, it is this. In January, I sowed seed of Sutton's Aquisition in the greenhouse. Plants were pricked out, and in due course were planted in



SUTTON'S PRIZETAKER, A LARGE LEEK OF GOOD FLAVOUR.

prepared trenches in the following April. A friend calling on me when I was dibbling them in, made the remark that they were small, and "lost themselves" in the holes. I asked him to come again in November, when I dug up for him a couple of those same leeks with 15ins. of blanched stems. He could hardly believe that the tiny plants could have developed into such big specimens!

Varieties.

There are leeks—and leeks. It is always best to grow only those with a reputation, as for example, the Lyon, Musselburgh, Sutton's Acquisition or Prizetaker. There is always more satisfaction in taking in hand varieties that have proved their worth.—W. F.

Vegetable Marrows: Preliminary Preparations.

IN days when it was possible to obtain stable manure at a much cheaper rate than now, it was no uncommon thing to find after the garden had been planted in spring, that a heap of manure was left over, and in order to make some use of it, until such time as it was wanted, two or three vegetable marrows were planted thereon. This, I think, gave rise in some quarters to the mistaken idea that a quantity of stable or other manure was necessary for their cultivation. We have learnt different since. The market gardener, who has to keep his eye strictly on economy, grows marrows with very little manure from a stable or farmyard, but he makes use of all the vegetable flotsam and jetsam he can, and digs this in where he proposes to plant. A little stable manure is helpful, but excellent results can be had with Wakeley's Hop Manure also, at much less cost than it takes to procure stable manure. At the present moment, attention should be given to making up beds for the reception of plants a little later. Raised beds have their advantage in a season when wet predominates, but made on the ground one reaps a certain advantage in a dry period. In any case, the position for vegetable marrows should be sunny, away from overhanging trees. May usually is the time for getting plants into their quarters after they have been hardened off, but one must be guided by the weather as to the actual time of making the change to the open ground. In any circumstances, night protection should be afforded the plants for a time by covering them with boxes or pots, as they are the first to feel the ill effects of cold weather. Varieties noted for their small growth, such as Moore's Cream and Epicure, are often as profitable and of better flavour than coarse, large growing sorts. No liquid manure will be needed until after the first fruits have set.—W. K.

Growing Celery in Small Gardens.

TO grow really fine celery taxes the ability of the cultivator to the utmost. In a small garden, where other kinds of vegetables are grown, there is not much space available for celery, but even if there is space, unless the household requirements are great, only a limited number of plants should be grown, but grown really well. Begin by sowing seeds now, or a little later on. Do not wait until the resultant seedlings are grown sufficiently to be planted out before you prepare the shallow trench. Do this work now also. When the trench is ready for the plants it should only be about 9ins. deep, but the prepared soil in the trench should be quite 18ins. deep. First remove the top soil, placing it on one side of the trench, then the lower layer. Return the soil to the trench, mixing with it some well rotted manure, leaving out a portion of the extreme bottom soil for earthing-up purposes in due course, but replace the good soil last for the young celery to be planted in. Sow the seeds very thinly in a mixture of loam and leaf-soil, cover them lightly with fine soil and, finally, with a sheet of glass and paper. But be sure that the resultant seedlings are fully exposed to the light. Water by immersing the seed pan. Transplant the seedlings at an early stage and select those that are equal in size. The young plants should be grown in a nursery bed in a cold frame prior to their final planting out. Allow a 6in. space between the plants in this bed and 1ft. in the trench outside.—HANTS.

Plant Cut or Whole Potatoes?

OPINIONS differ on this point; but there are decisive factors to be considered. Seed sets of a large size will produce stronger plants than small sets. Whole sets will be less liable to contract disease; and, in the case of sprouted tubers it is certainly advisable to plant them whole. Small potatoes do not

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Produce better crops than large sets. The only advantage about undersized tubers is due to the fact that they are not perfectly mature. If potatoes are quite ripe when lifted, they are not so good for seed purposes. That is why seed potatoes from Scotland, and especially from the far north of Scotland, are of greater value as seed than potatoes grown in a warmer and earlier climate. The Scottish seed has not reached the fully ripe stage when lifted, and it consequently has latent powers for growth which over-ripe tubers do not possess.

Tubers over 2 oz. or 3 oz. in weight may be cut if it is desirable to make the seed spin out as far as possible. If tubers are under 2 oz., or pass through a 2in. to 2¼in. riddle they need not be cut, except in the case of any exceptionally scarce variety.

Large tubers can be cut at the time of planting, but it is undesirable to cut some time before planting. On no account ought cut potatoes to be allowed to become too dry from exposure to drying winds; and they must not be bagged and stored in a place where they will be liable to heat or ferment. Some people dust the cut tubers with lime and sulphur, but no advantage as to growth accrues from it.

Sprouted sets are best planted direct from the boxes they are usually placed in to sprout. They should neither be cut nor bagged.—J. W.

Garden Pests to Kill Now.

EVERY spring, when we look forward to the growth of the young shoots, the early flowers and the formation of the young fruits, we meet with their enemies, too. In some seasons, when we have spells of hot sunshine and cold east or north winds at the same time, many insect pests seem to thrive and multiply all the more. But there are some pests that have been in, or near to, the garden all the winter, and I strongly advise amateurs to turn their attention to them first. I am now referring to shell snails, slugs and woodlice, mainly. In many districts—my own included—shell snails are very numerous. They winter in clusters in old pipes, pots, under boxes, boards, slates, bricks and gravel heaps. All such places should be closely inspected and the shell snails forthwith destroyed. I have destroyed many hundreds of them recently, and it means less damage for young greenstuff a few weeks hence. The same remarks apply to slugs and woodlice. It is astonishing to find so many of these hiding away under odd pieces of boards, bricks, tiles and other objects. Hunt them up and destroy them now. Later on it may be necessary to hunt for them late at night with the aid of artificial light, whereas now we can destroy them wholesale in the daylight—and before they have had a single bite at our tender lettuce leaves, sweet peas and young carrots. Indoors, there are the growing shoots of roses and peach trees: quite clean and free from green or black aphides to-day, almost hidden by them a few days hence. The best remedy is to fumigate the house at regular intervals. Fumigate directly the first few aphides are seen; fumigate on a calm night, and repeat the dose the following or the night but one afterwards. Then, probably, a weekly fumigation will keep the foliage clean. The leaves should be dry at the time, but the floor may be moist.—G. G.

Space Saving Tips.

A MISTAKE too often made in small gardens, especially, is to sow peas and beans in rows alongside of each other. Where space is precious, the beans and peas should be well distributed throughout the vegetable garden, so that other crops may come between. For example, if tall growing peas are sown in multiple rows in a clump, from 5ft. to 6ft. must be left between the rows. Of course, a row or two of radishes, parsley, spinach, lettuce, etc., might be sown between the pea rows. But it is a better plan to make a sort of plot division, hedge, or background, with single rows of peas or beans. Each row should be about 6ins. or 7ins. wide, the peas or beans being scattered broadcast or planted at intervals of about 2ins. or 3ins.

This affords shelter to whatever crops may be growing between. Peas should be sown to come on in succession. If the peas are soaked in soot and water before sowing, the sparrows will not eat them.

In sowing root vegetables, like beets, carrots, parsnips, turnips, etc., see that the ground has been dug deeply or trenched, so as to enable the tap-roots to get down into the soil easily, and so avoid forked or badly-formed roots. A generous dressing of compound fertiliser will generally answer best.

Cabbages, cauliflowers, broccolis, savoys, curly greens, leeks, etc., are more or less gross feeders, and it is well to treat these crops generously. Besides a good dressing of dung when the soil is dug in the winter time, these crops will take an additional good dressing of artificials at planting time. The cabbage tribe will take about 2oz. of superphosphate, 1oz. of muriate of potash and 1oz. sulphate of ammonia per square yard. Leeks may be given 3oz. supers, ½oz. of muriate of potash and 1½oz. sulphate of ammonia per square yard. When planting cabbages and cauliflowers, reject any plants having a knot on the stem. It is well to puddle the roots in soot and liquid manure before planting. Ground for vegetables coming on to be planted out later on should now be got ready and well manured. They require a good dressing to bring them to a full crop.—W. O.

Treatment of Pot-Grown Strawberries.

A FEW early strawberries, especially if they are grown in one's own garden, are very welcome and much appreciated. I never have heard anyone regret the labour bestowed upon the plants when the reward has been a satisfactory crop of luscious fruits. The first part of the work consists of layering and then the potting of the rooted layers. Throughout the winter months the plants do not require any attention if they have been packed in tree leaves, litter or ashes. Under glass, from January onwards, watering, syringing and feeding are the main points needing attention. But there are a few minor details which should not be overlooked by the cultivator. Clear water only is the best for the plants up to the stage when the majority of the fruits are set. If the soil is allowed to get so dry that the foliage wilts badly, the fruits, when ripe, will be, to some extent, deficient in flavour, and very poor in flavour if over-dryness occurs several times. The plants must not be watered with liquid manure when the soil is rather dry, but always a few hours after a watering with clear water. Then there is the work of fertilisation. This can be done at noon with the aid of a rabbit's tail, camel-hair brush, syringing (especially so during sunshine), or shaking the trusses of flowers. Occasional doses of clear soot-water will feed the fruits and help to keep off red spider. Remove the tiny berries and the others will benefit. —HANTS.

Vine and Peach Borders Under Glass.

THE vine rods, the branches and flowers of the peach trees can be seen every time the cultivator enters the houses. Just for the time being the inexperienced cultivator may feel quite satisfied with the general appearance of the trees. If the border soil is in good condition things will be satisfactory. But is the soil all right? The experienced grower satisfies himself on this point early in the year; in fact, he knows its condition all through the winter months. Although the general appearance of the trees may be pleasing now, trouble will come later if the soil is too dry or in a too saturated state. If extremely dry, young peach and nectarine fruits may fall off wholesale and, in the case of the vines, shanking of the berries may be the result. Test the soil now; this can be quickly done by driving in an iron rod down to the drainage material. When withdrawing the rod, do not turn it round, but pull it straight out. If the loam is very dry it will adhere to the rod in the form of crumbs of soil; if it is too wet the rod will be clean and wet and practically free from soil particles. The necessary treatment in each case is obvious. The too dry soil must be watered, not once only, but three times, on alternate days. The very wet border must not be watered again until it is in a normal state, and to help matters lightly ease up the top 4ins. with the garden fork without turning over the soil, or the roots there will be broken. The water-logged border must be dealt with outside the house. If there are drains, see that any blocked pipes are freed from obstruction. In the absence of any system of drainage by pipes, make a hole deeper than the base of the border, but close to it, so that surplus water can drain into it and be taken away.—CHRISTCHURCH.

Protecting Wall Peaches from Frost.

This must be done at once if the fruit crop is to be safeguarded, as the trees are now breaking into blossom.

THE peach is one of the earliest of our fruit trees to come into blossom, and its blossom appears at a season when frosts are prevalent. It is no unusual thing to have the promise of a splendid crop of peaches destroyed by frost.

Peaches in this country are usually grown as trained trees against wall, so that it is possible to protect them from the ravages of frost by covering them up during nights when frost is imminent. Fish netting, old curtains, strawberry netting and similar articles make excellent materials for this purpose.

An easy and fairly inexpensive method is to take an old curtain or curtains of the right dimensions to cover the blossoming portion of the tree and suspend it from the top of the wall after the fashion of a window blind.

Two wrought-iron brackets with notch at end to prevent rod slipping form suitable supports. They should be driven securely into the wall at the required height and distance apart. The curtain should be attached at one end of its length to a rigid iron rod about ¾in. in diameter, or a piece of iron piping will do. To the other end of the curtain a wooden pole or lath should be attached. This is merely to keep the curtain from being blown about by wind, and must not be too heavy, otherwise the curtain will tear.

The curtain can be rolled up easily, and to secure it in position place the iron rod in the sockets provided in the brackets and unroll gently, care being taken not to damage the blossoms. The brackets must project far enough from the wall to allow the curtain to hang freely.

Such an arrangement will keep out quite an amount of frost. During the daytime it should be taken down, allowing the light and sun to get to the trees so that pollination is not interfered with.—H. B.

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THE
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Vol. XCI.—No. 2887 Saturday, April 2nd, 1927 Price TWOPENCE

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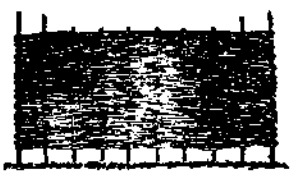

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THE GARDEN

VOL. XCI.—No. 2887. APRIL 2, 1927. PRICE TWOPENCE.

PRIMULINUS GLADIOLI: ARE THEY THE MOST POPULAR?

BEFORE attempting to reply to such an intriguing question, it may be interesting carefully to weigh up those qualities and characteristics of both the large-flowering type and the primulinus hybrids which seem likely to enhance, or detract from, their present and future popularity. Any types other than these two may be left out of the question.

As for the present, it is generally known that the gladiolus is rapidly gaining favour among all classes of gardeners, more particularly among amateurs, who are beginning to realise how easy this exceedingly beautiful flower is to grow, how adaptable, and how useful for decorative purposes in the garden and the home. Its culture demands little or no experience, one simply procures the corms, plants them in the spring, keeps them free from weeds, and in the autumn a satisfactory show of bloom is almost a certainty.

As far as cultural requirements are concerned, neither type under discussion has an advantage, for the same treatment should be given to both. It is in their appearance and their respective value that we must look for differences which really matter. As its name implies, the large-flowering section has large blooms, with wide-open petals, the individual flowers being placed closely together, completely hiding that part of the thick and fleshy stem to which they are attached. The flowers face more or less in one direction, and the larger number of them open at the same time the better.

The primulinus hybrid is very different. Its blooms are much smaller and, instead of the petals being wide open, the top one curves over, forming the "hood" so characteristic of the type. The flower stem is (or should be in representative varieties) thin, but wiry and strong, and the individual flowers, although facing almost the same direction, are spaced fairly widely apart.

There seems to be little difference in their respective value as garden plants or bedding subjects. If anything, there is a slight "credit balance" in favour of the prims., for what may be lost in actual mass of colouring given by the larger flowers and spikes of the large-flowering type, the "prims." more than gain in other directions. In the first place, the large ones are heavy-headed, needing stakes, especially in open positions. On the other hand, "prims." are not so heavy, presenting a smaller surface to the wind and rarely needing other support than that of their own strong, wiry stems. Then again, "prims." (from top size corms) invariably send up two, sometimes three, flowering spikes from the one corm; further than this, these main stems will often branch out, sending out a smaller spike after the main one is over, thus giving a longer flowering period. In the border, the individual spikes of all gladioli are quickly past their best as soon as the bottom floret has faded, but primulinus varieties perhaps present less of a bedraggled and untidy appearance as they are "going off" than the large-flowering.

All gladioli excel as cut flowers, their brilliant colours and wonderful lasting qualities being quickly appreciated. For this purpose there is little doubt as to the merit of the two types. If the lady of the house is consulted, her vote will be for the "prims." nine times out of ten. Their elegant daintiness renders them as adaptable and suitable for indoor decorations, by day or by artificial light, as sweet peas.

A point which must not be forgotten is their comparative cost. On the whole, the primulinus types are the cheaper, for they propagate very quickly and bloom earlier from bulblets than the large-flowering varieties, type for type.

Where the large-flowering class has a distinct and very decided advantage is in its much wider and more comprehensive colour range. One doubts whether there is another flower in existence which possesses so many beautiful and varied hues; but will they always have this advantage over the "prims."? We may expect improvements in colour and new colours in the primulinus section in the near future that are real advances, especially if one has regard to the rapid development and improvement which has taken place during the last few years. We now have an orange self of the same intensity as the Sweet Pea Royal Sovereign, a "white" Souvenir, pinks such as are found in carnations, velvety purples, and many shades of salmons and oranges new to "prims." The large-flowering type has been "worked" for many years, and is logically nearer its particular standard of perfection than the comparatively new primulinus hybrids. Who can tell whether there may yet be evolved a more pleasing form than "prims." exhibit at the present time? We shall surely get "ruffled" or wave-petalled "prims." as in the large-flowered, and hybridists are not likely to neglect wild species in their endeavours to evolve more charming and useful varieties combining the quality of fragrance. In THE GARDEN of March 13th, 1926, a contributor mentioned several African species likely to be of service in this direction. Of a particular species the writer said, "Its stem is as fine as a harebell's," and again, "A quantity of these flowers in a large crystal glass bowl was a sight I shall never forget."

In summing up, and taking all points into consideration, it would seem evident that the "prim." will become *the* popular flower, and this opinion is based, not so much on what they are to-day, but what they are likely to be in a few years' time. Although it may be many years before there is as large a quantity of "prims." grown as large-flowering varieties, there does not seem to be the slightest likelihood that the measure of public esteem enjoyed by the latter will be reduced by the "prims."; indeed, there is little doubt that the popularity of both will increase, *but at different rates*. There is, and will be, no such thing as rivalry between the two; one type will help, not hinder, the other. Their appeal is quite distinct and different, and those who grow one will wish to grow both. Of late years there has been an advance in the purely decorative forms in other flowers such as roses and dahlias, and this apparent tendency of the times is just one other reason why it seems probable that primulinus hybrids are destined to play a greater part in the great future which seems assured to the gladiolus.

This Week's Work

Prune hybrid tea and hybrid perpetual roses.

Mulch raspberries and strawberries with light strawy manure.

Plant gladioli.

Pot up dahlia cuttings now in the greenhouse.

Make further sowings of carrots, beet, onions, celery, broad beans, cabbages, lettuce and radishes.

Roll and then mow your lawn, and trim all lawn edgings.

Sow herbs in shallow drills of prepared soil.

Plant potatoes.

Start taking cuttings of violets in frames.

Stake securely all new-planted trees and shrubs.

We are indebted to Messrs. Sutton and Sons of Reading for the coloured illustration of eschscholtzias which appears on the front cover of this issue. The bowl shows a number of varieties raised by this firm.

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CALIFORNIAN POPPIES FOR PRESENT SOWING

Some Up-to-Date Varieties and Novelties of Eschscholtzias

IT is often remarked that eschscholtzias are only flowers suitable for the border and are no use for cutting. But such is not the case, as this pretty little flower makes a very attractive subject for small bowls and vases. Eschscholtzias should be cut early in the morning before the sun has caused the flowers to expand, and if gathered when young they will last for several days in water in a cool room.

The wide range of colours available at the present time make this easily-grown annual (strictly speaking, perennial) a very desirable subject, and as they only grow from 9ins. to 12ins. high, they are useful for small as well as for large gardens.

One of the greatest drawbacks to growing eschscholtzias, and indeed this applies to most annuals, is that they are very liable to get knocked about in bad weather and, consequently, their beauty may be sadly marred during a severe spell such as we only too often experience in the north of Ireland. This defect is more especially serious where the plants are used for bedding purposes, as then the general scheme may be spoiled for at least part of the summer. It is probably wiser not to sow them in very rich soil, as they then become too rank and soft and, consequently, more susceptible to damage. I would, however, strongly recommend readers who have not as yet grown them not to be deterred from giving them a trial, as they are certainly well worthy.

It may not be out of place to mention a few of the many fine varieties offered and in each case the catalogue descriptions are given :

The Geisha.—Inside of petals brilliant golden, outside orange crimson ; the petals are prettily fluted and it is a really beautiful sort.

The Mikado.—Brilliant orange-crimson ; received an award of merit from the R.H.S.

Mandarin.—Bright orange, shaded with crimson.

Vesuvius.—Bright wallflower red, both inside and outside the flower.

Gaiety.—Petals prettily fluted, very pale cream cup, backed crimson.

Lovely.—Bright pink suffused with salmon, satiny sheen.

Carmine King.—Rich carmine rose.

Mauve Beauty.—A beautiful pure mauve.

Robert Gardiner.—Double orange with fluted petals, compact growth.

Ruby King.—A deep rich ruby, dwarf habit.

Queen of the Buffs.—A pretty shade of clear apricot buff.

Rose Queen.—A rich rose, flowers very freely produced.

The foregoing give a very varied selection of up-to-date varieties, and should provide colours to suit every taste.

The following novelties are offered this year, and I will give their introducer's description for the benefit of those who are on the look-out for something new :

Oriental Queen (Dobbie and Co.).—The inside of the flower is a beautiful shade of pale buff, while the outside is rich raspberry red. The blooms are very large and when fully expanded often measure 4ins. in diameter.

Winsome (Carter and Co.).—Clear coral pink on cream ground, flowers of good substance and charmingly fluted.

Enchantress (Carter and Co.).—Semi-double, rosy carmine on cream ground, strong grower.

There is one other eschscholtzia entirely different from any of those mentioned to which I should like to draw attention, and that is a miniature variety growing only about 6ins. high and producing small yellow flowers in great profusion. This eschscholtzia is offered by Messrs. Sutton and Sons, and is appropriately named Miniature Primrose. It is recommended for rockeries and edgings, and is certainly a delightful little subject that is worthy of increased popularity.

Although the list of varieties given above is fairly representative, it is by no means complete, but it is sufficiently lengthy to show what a wide field there is from which to choose. For those who do not care to trouble with named varieties, the mixed selection of hybrids offered by most of the leading seedsmen may be recommended.

With regard to hints on cultivation, no very definite instructions or recommendations can be given, as so much depends on the locality, nature of the soil and earliness of the season. In cold bleak districts with heavy wet soil it would be inviting failure to risk early sowing outside ; but, generally speaking, advantage should be taken of a fine spell anywhere from the latter part of March to the end of April or early in May.

It is unfortunate that so many annuals are such difficult subjects to transplant, and the eschscholtzias may certainly be included among the number, for in this district it is difficult to be sure of even results, and in some seasons almost complete failure may be experienced, due to an unexpectedly cold or wet spell following the sowing of the seed, and to the ravages of slugs. This year I am experimenting by sowing a few seeds in "T.P. Raisers," placing them in the conservatory until germination has taken place, and then removing them to the shelter of a cold frame. In this way I hope to be able to transplant without unduly disturbing

AN ATTRACTIVE EDGING OF ESCHSCHOLTZIA QUEEN OF THE BUFFS.

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the roots of the seedlings, and thereby obtain better and earlier results.

Last Spring I used a light covered with the glass substitute, "Windolite," for one small frame, and found that seedlings flourished amazingly well under it and seemed indeed stronger and healthier than those under glass.

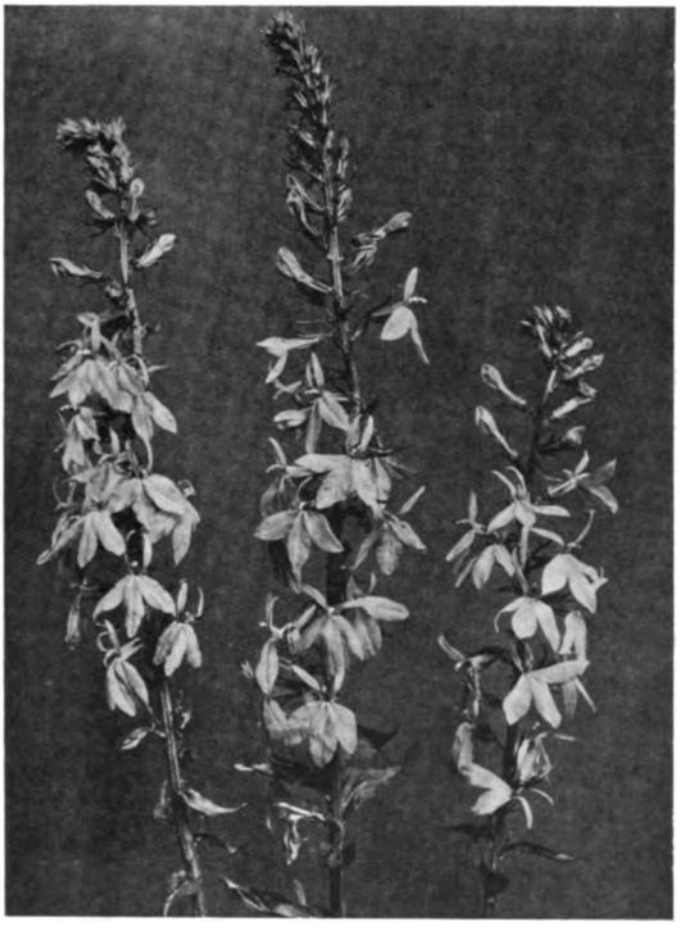
I hope in the foregoing remarks that I have not over-emphasised the troubles and difficulties of the would-be grower, and that, in consequence, some may be deterred from trying this charming little flower. To any such I would say: The outlay for a trial packet either of a named variety or a good mixture is small, and that success will mean a display of colour in the garden and a generous supply of flowers for small vases and bowls that will last over a considerable period. Where it is decided to risk sowing the seed direct in the flowering quarters, I would advocate caution in the selection of the site and would recommend the choice of small clumps in the front of herbaceous borders where any gaps that might occur could be easily filled with other subjects. Remember that the eschscholtzia belongs to the poppy family and, thrives best and is most effective when planted in situations which derive full benefit from the sun. CECIL M. BAILEY.

HARDY HYBRID LOBELIAS FOR THE BORDER

VISITORS to the Holland Park Show last year were favourably impressed by the brilliantly beautiful hybrid lobelias shown by Messrs. Ladhams of Southampton. These hybrid forms are perfectly hardy, and are of the utmost value for massing by the waterside, where their brilliantly coloured flowers make up a picture of rich and unusual beauty. They should also be extensively used for planting in the border, in preference to the half hardy cardinalis and fulgens, with their many varieties. The selected forms of pure L. syphilitica species are good for the wild garden, and for naturalising in moist spots, or even in the border. They are totally unlike any other herbaceous plants, their densely packed spikes of pure white, light or dark blue flowers surmounting the rich masses of broad robust foliage, being very attractive, especially when seen in some semi-wild part of the garden.

Early Planting Essential.

The planting of these lobelias should be carried out in early spring, April being a good month for this job. All perennial lobelias delight in a rich moist soil, so it is necessary to dig in plenty of well decayed manure and leaf mould, or cow dung in a very light soil. Copious supplies of water should be given in droughty periods. I have grown L. cardinalis very successfully in a dry spot by sinking a fairly large pot between every three or four plants, and filling this up with water once a day, or twice per day during very dry weather. In this way, the water goes straight to the roots, and there is not the surface caking that occurs when overhead watering is practised. Lobelias are not averse to a weekly dose of liquid manure once the flower spikes have appeared, but always give clear water first, unless the soil is in a naturally moist condition. It is necessary to transplant the hardy lobelias regularly each spring, as soon as they are starting into growth, but on no account should they be divided in autumn or winter, or loss is bound to result. As a small number of plants are likely to be ravaged by slugs during the dead of winter, ashes or sand should be thrown over them in late autumn.



LOBELIA B. LADHAMS WITH VIVID SCARLET CRIMSON BLOOMS.

A Selection of Varieties.

B. Ladhams is undoubtedly one of the best of the hardy group, with huge spikes of the most vivid scarlet crimson flowers, rising in splendour above the bright green foliage. This variety is of especial value on account of the many side branches it throws out, each with its due proportion of flower spikes.

Mrs. Humbert is a pretty variety, growing into a bushy plant, and simply smothered with masses of small rosy pink flowers at the right season. It is one of the cheapest of them all, and would look well in bold clumps in the water garden, to say nothing of its great value for brightening up a shady border.

Salmon Queen is somewhat similar to the preceding, but with paler blossoms that are, perhaps, a trifle larger than in Mrs. Humbert. There is a need for a better plant in this shade, for Salmon Queen is not free enough, neither is it as bushy as Mrs. Humbert.

The purple shades are rich and sumptuous, one of the finest in this colour being Purple King, with well balanced spikes of the most intense shade of purple; it is a variety that should be found in every collection, large or small. Delight is of a much paler shade, but nevertheless, it is a charming variety, and should not be overlooked. An added attraction is the dark foliage, which, generally speaking, is lacking in these hybrids. Mauve Queen is of an attractive aubrietia purple, the flowers being of medium size. It ranks second to Purple King among those of this shade, in my estimation, but probably not everybody will agree with this opinion. Bluebird has comparatively massive spikes in quite a good shade of blue, and the individual blossoms are not too large. This variety I should certainly place among the best six for garden decoration, for it is undoubtedly the best blue form I have seen.

Carmineus has medium sized flowers of a bright cerise colour, and can be strongly recommended for general planting. As it only reaches a height of 2ft. or so, it will be found of value for planting round the rockery pool, where some of the taller growing sorts would look rather out of place.

Of a distinctly deeper shade of cerise than the preceding is Rose Queen, and the foliage is very dark. It is of sturdy branching habit, and in freedom of blossom leaves nothing to be desired.

Shirley Beauty is a fine sturdy plant, with quantities of large, rich crimson flowers, and having dark plum-coloured foliage. The blossoms are many shades deeper than those of B. Ladhams, and the plant grows a full foot taller than this variety, reaching a height of 4ft. to 5ft. In habit it is ideal, being sturdy, free flowering and erect in growth.

Kimbridge is a new variety that will make a name for itself as soon as it gets known. It has a tendency to crimson foliage, while the rich purple maroon flowers are individually as large as Shirley Beauty, and produced in massive spikes.

Besides the sorts described above, there are about half a dozen other named varieties, and they are all reasonable in price, so there is no need to run to great expense when making up a representative collection. For those who wish to try these plants, the following six may be recommended as representing the cream of the collection: B. Ladhams, Mrs. Humbert, Purple King, Bluebird, Shirley Beauty and Carmineus; to these may be added Kimbridge, for it is unique in shading, stature and foliage.

The only drawback to these hardy hybrids is that they lack the richly coloured foliage of the more tender species, with one or two exceptions noted above. Mr. Ladhams seems optimistic about correcting this fault, and it is rumoured that he already has some promising dark-leaved seedlings of the hardy type.

A point that should have been touched upon before is the great value of these lobelias for permanent bedding. The half-hardy forms are brilliant plants for growing in a shady bed, but they must inevitably be superseded by the less troublesome hardy sorts when these become more generally known. Readers who are already acquainted with the tender perennial lobelias will need no urging to try their even more brilliant hardy cousins, and to those who know neither, my advice is that they lose no time in making a first acquaintance. B. D. S.

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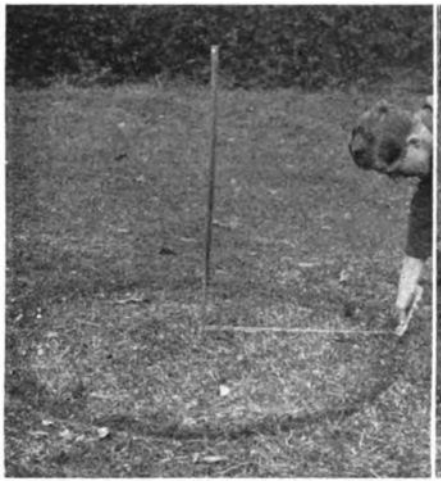
PLANTING EVERGREEN SHRUBS

Select, if Possible, Showery Weather for Planting

THE planting of hardy shrubs is a subject requiring some care and forethought, from the fact that on it depends to a considerable extent the future health and welfare of the bushes. In such a very large and varied family of plants, gathered together from many parts of the world, the best time for moving the different subjects, as one would expect, extends over a considerable period. With a fairly representative collection, planting can proceed almost uninterruptedly from September to May when ground and weather conditions permit.

More care is necessary in the planting of evergreens—shrubs which retain their foliage throughout the year—than with shrubs which are leafless in winter. With evergreens, breathing and transpiration of moisture are active throughout the year. In midwinter the leaves are dependent on the roots for an uninterrupted supply of nourishment, whereas deciduous shrubs can carry on in winter if the root system is checked.



1.—MARKING OUT THE RING BEFORE PLANTING A SPECIMEN SHRUB ON A LAWN.

2.—THE SHRUB PLACED ON A SLIGHT MOUND AND THE ROOTS CAREFULLY SPREAD OUT.

3.—PLANTING COMPLETED. NOTE THE COLLAR OF THE SHRUB IS AT SOIL LEVEL.

September and early October, or April and early May, are the best seasons for planting evergreens. At either of these times, and particularly in spring, when new growth is beginning, the roots are very active and recover more quickly at these two seasons from the disturbance and loss of roots in transplanting. To compensate to some extent for the check in the supply of moisture and nutriment through disturbance and loss of roots, it is worth while shortening the branches considerably in an endeavour, as it were, to balance matters. I have seen hollies and yews which have suffered badly at the roots reduced by pruning to half their original size and quickly recover from the check, whereas if left their full size, with a sadly depleted root system, death was almost inevitable.

Preparation of the Ground.

Unlike the planting of annual and perennial plants, which is a periodical operation, the intention when planting most shrubs is that they shall remain undisturbed for years. Hence the preparation of the ground is of the first importance. Begin by breaking up or trenching the soil to a depth of 18ins. to 2ft. The nature of the ground must be the chief guide in its preparation. A good loamy soil need only have a dressing of farmyard manure or bone-meal. To a light gravelly soil add some fairly heavy top-spit loam in addition to the manure. Heavy clay soils are improved by the addition of plenty of coarse grit and builders' lime with leaf-mould, if available.

The unsatisfactory appearance of shrubbery borders can, in nine cases out of ten, be traced to neglect in the preparation of the ground previous to planting. We read much more frequently about the trenching of the ground 2ft. or more in depth for sweet peas and roses than in the planting of shrubs, though of no more importance in their successful cultivation.

Likewise, when preparing stations for single specimen plants on lawns and elsewhere, dig adequate holes both in depth and width. There should be every hope of success in transplanting fairly large evergreen specimens with good balls of soil attached to the roots from one part of the garden to another.

In well managed nurseries the stock is transplanted at least every second or third year. The idea of this is to confine the roots to a comparatively small area, as all long straggling roots are cut off, inducing the formation of a mass of fibrous roots. This must tend very largely towards success in planting.

The deep planting of many shrubs is very harmful, as the soil round the bark tends to start decay at the "collar" or ground level, leading to the ultimate death of the plants. Subjects most likely to suffer from deep planting and burying of the stems include rhododendrons, lilacs, hollies and brooms.

Another important point is that shrubs succeed very much better when the feeding roots are near the surface in warm aerated and sweet soil than when buried deep down in, it may be, poor ground. Some shrubs are able to overcome the defect of deep burying of the stems by developing new roots from the buried portion. This is a matter that is only learned by experience. The safe way is to plant the shrubs no deeper than is evident was the case in the nursery. Should this not be sufficient to hold the bushes firmly, support with a stake, rather than bury deeply.

Always dig holes wider than the length of the roots to allow of them being spread out to their full extent. Work fine soil among the fibrous roots as the hole is filled in so as not to damage the feeding roots of evergreens more than is unavoidable. Tread or ram light soil firmly, heavy soils need only moderate firming—it will gradually settle more firmly.

Avoid planting in heavy clay soils during wet spells. A very good practice is to lay a stick across the hole when the plant is placed in position and before filling in the soil. It is then readily seen whether, when filled in, the stem will be buried or not, and the plant can be lifted or lowered accordingly. I find a 10ft. or 12ft. wooden rod useful for the purpose.

The watering of evergreen shrubs as soon as conveniently possible after planting is very important, whether the weather is wet or fine. Should the weather be dry, a good watering three or four days before transplanting home-grown bushes is worth while. If the roots of the plants are at all dry on arrival from the nursery, thoroughly saturate with water; while, if the ground is not ready for immediate planting, heel the roots in soil temporarily without undue delay.

Planting Evergreen Hedges.

Readers who have recently moved to a new house and garden will be interested in the planting of hedges. The second half of April and early in May is a very good time to plant Cupressus macrocarpa, the evergreen oak (Quercus Ilex), Berberis stenophylla, B. Darwinii, Escallonia macrantha, Pyracantha Lalandei, Lonicera nitida and laurustinus (Viburnum Tinus), all of which are valuable subjects to form evergreen hedges.

For at least ten days or a fortnight after planting evergreens, spray the bushes each evening after hot dry days.

These newly-planted shrubs, particularly those of any appreciable size, should be watered until they are established. This not only assists in settling the soil around the roots but makes available an abundance of moisture for the disturbed roots. A. O.

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THE HARDY ANNUAL MALLOW.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

THE CHINESE LANTERN.

Lavatera (Mallow). THE annual forms of lavateras are becoming more widely grown every year. They are extremely showy for planting in large beds, and to see them to the fullest advantage they should be given ample room. They grow 3ft. and more in height, and flower-stems may be cut with 12ins. or 18ins. of blossoms, which are of service for the decoration of large vases, set off as the flowers are by handsome foliage. They are hardy annuals, which are best sown in April in the place where they are wanted to bloom, as they do not take kindly to transplanting, and this involves the seed being sown very thinly, the weakliest plants being pulled out. As they take up a deal of room when fully developed, 18ins. of room from plant to plant is not too much. A sunny position and a well drained, fairly good soil are necessary to grow the lavateras successfully. They bloom from July to September.

Pentstemon. ALTHOUGH a perennial by reputation, the pentstemon is often found to be too tender in many districts for one to winter them out of doors, and the safest plan is to lift old plants in autumn and winter them in a cold frame, or—what is often practised to-day—to take cuttings in September, dibble them in a bed of sandy soil and keep them in the frame until spring. Pentstemons can, however, be treated as annuals, raised from seed sown in pans of light soil in a greenhouse in warmth at once, and plants from such a sowing will be ready for getting out of doors by the end of May. They grow about 2ft. in height, are prolific in blossoms, and make effective displays planted in groups or beds. A sunny position and a well drained loamy soil to which well decayed manure and leaf-soil have been added before planting out is what suits them.

Helianthus (Sunflower). THE day of the giant sunflower is largely a thing of the past, and in its place a race of comparatively dwarf varieties with dainty blossoms suitable for cutting for table decoration has become popular. They comprise both double and single forms. Some are perennials, some annuals, and are from 2ft. to 6ft. in height. Both are easy of cultivation. They do best in a rich deep soil, as they are gross feeders, and a sunny aspect is necessary for them. Some of them commence to bloom in July, and the garden will not then be without them until October. Perennial forms propagate from division of roots, which may be carried out in late autumn or March. Annuals can be sown either in warmth of a frame then, or out of doors on a warm border in April. Transplanting should take place as soon as they are large enough, and they must be given ample space in their blooming quarters.

ONE OF THE BEST OF THE PERENNIAL SUNFLOWERS, HELIANTHUS RIGIDUS.

Physalis (Chinese Lantern or Winter Cherry). THESE are very popular, not because of any attraction in the plants themselves, or of the flowers, but owing to the pods, or calyces, which succeed the flowers, being highly ornamental and appreciated for their value in a dried state for indoor decoration. Physalises present no difficulty of culture to the amateur, as they will succeed in any ordinary soil, either in a sunny or partially shaded place in the garden. They vary in height from 1ft. to 2ft. They are hardy perennials which can be propagated (1) from seed sown in any light soil either in the open ground or cold frame in April, (2) from cuttings taken from the plants during summer, treated similarly to seed, except that it is often necessary to afford them shade for a time until rooting has taken place; and (3) by dividing the roots in spring or autumn. Stems should be cut with pods intact as soon as they colour.

Aconitums (Monkshood). THESE are hardy perennials which thrive best in a shady or half shady position in a garden, and any ordinary soil that is moist, answers for them. The dwarfest grow about 3ft. in height, others attaining 6ft. to 8ft., bearing flowers of varying shades of blue and white and yellow. Propagation is by division of roots in late autumn or spring and from seed sown out of doors in a shady border. Flowering time is July and August. While the aconitum is an attractive plant in bloom, it has one bad trait in its character and this is, that roots, leaves and flowers are poisonous.

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THE BUSY MAN'S PAGE

April Reminders.

A FINAL sowing may be made of broad beans. Dust a handful of superphosphate to the yard run along the drill before sowing.

A row of dwarf French beans may be sown in a warm spot towards the end of the month. Put the seeds in 4ins. apart and cover with about 3ins. of soil.

A sowing of the turnip-rooted beet may be made at the end of the month.

Carrots may be sown for the general crop.

Cauliflowers may be planted out from boxes towards the end of the month.

Young celery plants should be transplanted to 4ins. apart and a sowing made for a late crop.

Towards the end of the month transplant onions raised in boxes to the open ground after enriching the soil and making it firm.

Make the main sowing of parsnips.

Sow mid-season and late sorts of peas.

Complete the planting of potatoes.

Raspberries may be mulched with short manure. Newly planted canes should be shortened to within a foot of the ground before growth starts.

Strawberries will also benefit by a mulching with straw manure.

Hardy annuals of many kinds may be sown out of doors. Asters, stocks and other half-hardy sorts should be transplanted 3ins. apart in boxes as soon as they develop their true leaves. Roses may be pruned.

Gladioli may be planted 3ins. deep in well dug soil early in the month.

Any renovations of the lawn, such as sowing or turfing, should be taken in hand.

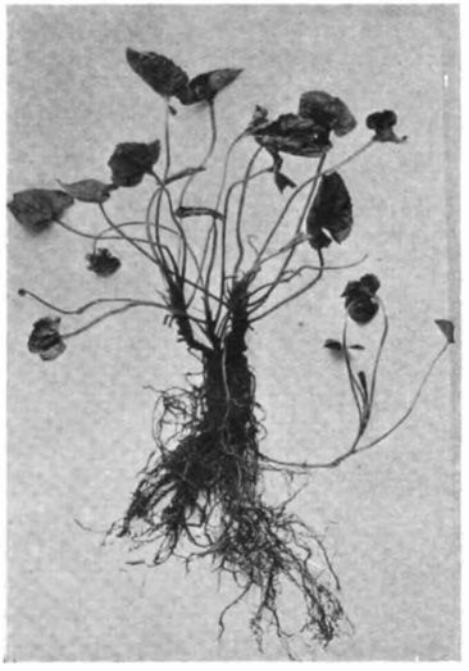
Potting Rooted Cuttings.

CUTTINGS of heliotropes, fuchsias and other semi-shrubby plants which were inserted some weeks ago will now be rooted, and no time should be lost in getting them potted off. Generally it is advisable to give each a pot about 2ins. in diameter for a start, and, from thence, transferring them into larger pots as growth proceeds. In any case the pots must be clean and well drained, and, for the first potting, use a soil with a larger percentage of sand than that employed for the final potting. Such young plants usually need their tops pinching out in order to induce them to branch. On no account should this be done simultaneously with potting. Either do it a week before the removal or ten days afterwards, by which time the specimens will have recovered from the shock of transplanting.

A VIOLET PLANT AFTER FLOWERING, READY FOR DIVIDING.

How to Propagate Your Violets.

DURING this month and in May, violets must be propagated, for, although this plant is a perennial, vigour and a high standard are only ensured by raising fresh stock. This may be done by means of runners or suckers; such runners are freely produced by old plants, but each plant should be allowed a limited number for obvious reasons. Either plant the runners in boxes of rich compost or, when well rooted, direct into their summer bed. Another plan practised is to divide up the old plants and replant them in April. An early opportunity may be taken to prepare the bed for these new plants. A medium loam is best; too porous a soil has to be improved by the addition of turf and manure or, at least, manure, while heavy borders must be ameliorated by incorporating much gritty matter as well as a liberal dressing of manure; light soils, like cow or pig manure best, but, for heavy land, use horse litter. If the garden has a "fiery" light soil, plant the new plants in a north aspect; if the soil is stiff and retentive, let it face south, while in the case of medium soils, an east or west or an open border will serve. Give the plants lots of room in a rich soil; the singles must be 12ins. to 15ins. apart; the doubles 10ins. to 12ins. Get the planting done as soon as possible and water the soil nightly if the subsequent weeks prove very dry. In a light soil mulch some litter or short manure round the plants and always keep the soil in good tilth by hoeing.



A PORTION REPRESENTING THREE CROWNS.

Hardy Annuals to Sow Now.

NOW is the time for the sowing of many of our most popular bedding plants, such as asters, ageratums, East Lothian stocks, lobelia, etc., where artificial heat is available.

DIVIDED PORTIONS, EACH AN INDIVIDUAL CROWN WITH ROOTS ADHERING.

RUNNERS DETACHED FROM THE OLD PLANT.

Those who have not the advantage that a heated house affords need not be deterred from the sowing of flower seeds for the decoration of their gardens in summer. There are dozens of the most beautiful flowers from which to choose which can be raised without the aid of artificial heat, some of them only requiring the protection of a cold frame in the months of March and April. In fact, the bigger part of them may be sown on the spot where they are intended to flower; many fine bold, artistic and floral effects being thus obtained. The attached list may be of some assistance, although it could be much enlarged upon. Among the tall or medium plants there are the following: Alonsoa Warscewiczii, scarlet, tall, 18ins.; Bartonia aurea, yellow, 18ins.; Coreopsis Drummondii, yellow, 18ins.; centaurea (blue cornflower), 2ft.; clarkia varieties, 20in.; candytuft in variety, tall, 12ins.; godetias in variety, 12in.; larkspurs, from 1ft. to 3ft.; nigella (love in a mist), blue, 18ins.; nasturtium in variety, tall; mignonette, 12ins.; Phlox Drummondii in variety, 18ins.; and sweet peas in all colours. Suitable dwarf plants for edgings to the above mentioned are as follows; Alyssum minimum, white, 3ins.; Linaria aurea, yellow, 10ins.; candytuft, dwarf (any colour); nemophila, blue or white, 8ins.; Nemesia nana compacta, 9ins.; verbena in self-colours, 10ins.; and Virginian stocks.

All the above seeds may be sown on the open ground in April, making an exception, perhaps, of larkspurs and nemesias, which are better raised in a frame to allow of them coming into flower earlier.

The main cultural attention they will require will consist in thinning out of the seedlings of the taller plants to from 7ins. to 9ins. apart and the dwarfs from 4ins. to 6ins., and in keeping them all entirely free from weeds.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Distinctive Shrubs.

SUBURBAN gardens frequently show a feast of blossom weeks before the open country puts on its spring dress. The more sheltered position has a little to do with this, but it is also due to the fact that the early-flowering shrubs and trees are much favoured by the suburban gardener. Almond and peach blossom are well known in London gardens, and also the Japanese quince (Pyrus japonica) bird cherry (Prunus Padus) and purple-leaved plum (Prunus cerasifera var. Pissardi). None of these grows too rapidly or attains too great a size for average gardens, and even a single specimen adds distinction and character to its surroundings.

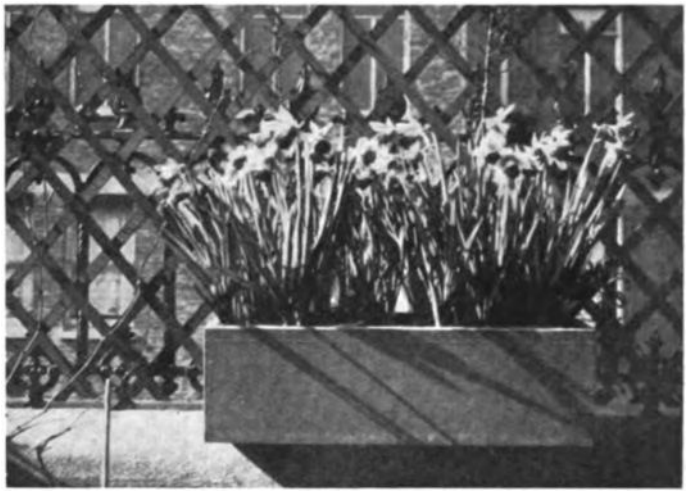
Among the flowering shrubs that can be relied on to succeed in town gardens, the deciduous kinds—*i.e.*, those which shed their leaves in winter—are in the majority. But there are a limited number of evergreen shrubs which will grow well, and will also produce blossom. Among these, Pieris japonica (illustrated) can be relied on to succeed if given the same treatment as that demanded by rhododendrons. That is to say, it prefers either a peaty soil or a light loam to which has been added a few decayed leaves. Lime should not be given to the soil prepared for these plants. Pieris is sometimes cut down by severe frosts, and it should therefore be grown in a sheltered position, preferably facing west.

Planting Evergreens.

April is the best month for planting new evergreens in the town garden. Planting must always be done with great care. There is inevitably a certain amount of damage done to roots when a shrub is moved. This temporarily deprives the plant of part of its water supply. Evergreens are particularly affected by this, as their leaves continue to give off moisture while the roots are unable to keep up the supply. For this reason, newly planted shrubs should be syringed daily unless the weather is showery, until they have established themselves. If this is done, and if the plants are put into prepared, deeply dug soil, and not planted too deeply or too shallow (use the nursery soil mark as a guide), they will speedily recover from the shock of removal.

Among evergreen shrubs particularly suited to town conditions the following is a useful selection: Golden aucuba, laurustinus, Euonymus japonicus, Fatsia japonica, Olearia Haastii, Pyracantha coccinea, Veronica Traversii, Ruscus aculeatus (Butcher's Broom). The last-named is specially useful for planting in dense shade where few other evergreens will thrive. The plants are mostly unisexual, and because it is seldom that plants of both sexes are grown, the fruits are not often seen. But when they do appear they are very ornamental and also interesting because of their curious position, growing in the "leaf" centre.

PIERIS JAPONICA, A FINE EVERGREEN FLOWERING SHRUB FOR THE TOWN GARDEN.



WINDOW BOXES NOW CONTAINING DAFFODILS SHOULD BE REFILLED THIS MONTH WITH SUMMER FLOWERING PLANTS.

After the Daffodils.

NODDING daffodils are in full flower in many a town window box this week. Our illustration shows a similar box, one of many that form a beautiful roof garden. It is now time for the cultivators to consider what plants they will use to follow the spring bulbs.

When the flowers have actually died down, it is best to lift the bulbs carefully, without injuring the roots, and to replant them in an odd corner of the garden. If no garden is available, they can be laid into a box, and their roots covered with a quantity of soil. Give a very little water occasionally until the tops are quite yellow, and then allow the bulbs to dry off completely. The empty window box should be thoroughly renovated before the summer planting is done. Turn out the old soil, see that the crocks or stones put in for drainage are replaced so that they are effective, and if repainting is needed, do this while there are no plants in the box, if you are not able to use entirely fresh soil, replace the old, but add a couple of handfuls of bone meal, mixing it well into the soil. A layer of leaves between the crocks and the soil will be a help in retaining moisture.

For a sunny window such plants as the following can be used: Canary creeper, tall nasturtiums, Cobæa scandens, and Morning Glory for the sides. These can be trained up over the window, trained up the window sides, or allowed to trail down the front. Geraniums, petunias, stocks, asters, snap dragons, sweet alyssum, lobelia and almost any of the fairly compact summer bedding plants are also useful in the sunny window box. For a shady box, auriculas, calceolarias, tobacco plants, fuchsias and violas are all suitable.

Syringing the leaves of the plants every evening during the warmer months is advisable. This not only keeps the leaves clean and healthy, but helps to counteract the excessive dryness of the atmosphere which nearly always affects pots and boxes that stand on sills where winds sweep past. One way of retaining moisture in the soil of the window box is by covering the surface of the soil with coconut fibre. This serves a double purpose, for it does away with the nuisance of rain splashing soil from the box on to the window panes. Watering the box is another duty which must be performed regularly. If once the box is allowed to become over-dry the soil cakes hard, leaving a space between it and the box sides. Water given when the soil is in this condition merely runs away down the sides without reaching the plant roots. One other point in connection with the renovation of the window box: Do not forget to raise it from the window sill. Wedge-shaped pieces of wood screwed to the bottom will do this satisfactorily. Boxes raised so that surplus water drains rapidly away are not harmful to the sills, and can be used without fear of damage.

Plants for a Windy Passage.

BETWEEN semi-detached houses, there is nearly always a passage in which it is difficult to cultivate plants. Sunshine is lacking, and often cold draughts sweep through making the culture of tender plants impossible. In such a situation I would suggest the use of tubs, painted green, and filled with fresh soil. Take care to put plenty of broken crocks or bricks at the bottom of each tub. Plant these with any of the following: Golden aucuba (Aucuba japonica), evergreen euonymus (Euonymus japonicus ovatus-aureus, E. radicans and its variety Silver Gem), funkia (ovata marginata), ivy, Solomon's seal and male ferns. A suitable rose for training on a fence in such a situation would be Félicité-et-Perpétue.

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NOTES ON THE FLOWER GARDEN

The Alpine Edelweiss.

THE widespread but quite erroneous belief that edelweiss grows only in Switzerland, and that even there it grows only in its wild state, refusing to submit to cultivation, has been responsible for the exclusion of this interesting little plant from our rockeries. The variety so keenly sought after by tourists in the Alps is Leontopodium alpinum, a pretty plant with silver grey leaves and yellow flowers surrounded by a ring of silver grey bracts. This variety, given certain conditions, succeeds well in this country, seed being procurable from any of the well known firms of seedsmen. This should be sown under glass any time from March to May in boxes filled with sandy soil. When the plants are big enough to handle they should be potted up singly and placed in a sheltered place out of doors. By September they will be ready for transplanting to their permanent positions in the rockery or, if preferred, they may be kept in a cold frame during the winter and planted out in March or April.

Success or failure in the cultivation of edelweiss lies very largely in the preparation of the rockery. It must have a very sunny, sheltered exposure, and it is advisable to arrange the stones in such a way as to afford additional shelter to the little plants from cold winds. The most important factor of all, however, is drainage, which must be perfect. Unless this is attended to with the utmost care the plants will not survive, for damp is a much greater enemy to edelweiss than frost. It is always well, if at all possible to protect the plants from excessive rain by covering them with glass. Edelweiss blooms about a year after sowing. Although in the Alps it is perennial, it is best to treat it in this country as a biennial. It can, if desired, be grown successfully as a pot plant.—EDINA.

The Shasta or Ox-Eye Daisies.

UNDER the heading of Chrysanthemum maximum will be found several varieties of first rate border plants, but it should be borne in mind that they are all white and some of them bear a striking resemblance to each other. In spite of this, however, the giant shasta daisies ought to be represented in the borders by two or three kinds, and they should be planted at once to get the best results during the forthcoming summer. They are invaluable for cutting purposes, and the large single snowy white flowers are produced in quantity, so they are exceptionally showy in the garden and especially effective when grouped near more brilliant flowers, the contrast being most pleasing.

Mayfield Giant is a grand variety and is considered the finest and most prolific among the numerous forms of C. maximum, its large blooms, beautiful in shape, are produced on stout stems. This plant is at its best in mid-July. A little later flowering is Mrs. F. Daniels; while Autumn will prolong the flowering period till October. There are a few which have the effect of being more or less fringed, and the snow white Kenneth is characterised by the distinct laciniated petals, the variety Langford is somewhat similar, being most attractive and moreover a free and continuous bloomer.

These daisies will thrive in any ordinary soil, and may be had in bloom from June to October. For exhibition purposes they are ideal, and are also excellent for market work.—W. B.

Dwarf Conifers in the Rock Garden.

These can be Planted this Month.

THESE delightful little shrubs add greatly to the charm of the rockery be it large or small. They are quaint, interesting, and are always a source of interest to the visitor and owner alike. Easily grown, they require

A ROUNDED HUMMOCK OF PICEA EXCELSA GLOBOSA NANA.

no special treatment in the matter of soils or pruning, and need no winter protection; they appear to be immune from the effects of summer drought or winter's most intense cold. They play an important part during the winter in keeping the rockery "alive," and are for that purpose unsurpassed among rock plants.

When once planted and established, they should not, unless it is absolutely necessary, be again disturbed, as they do not transplant very successfully.

A FINE CLUMP OF THE SHASTA DAISY FLOURISHING IN A BORDER IN HALF SHADE.

Being of many forms and habits and differing in colour, the area of selection is a wide one, and plants may be had to suit all purposes. This list gives some idea of the varied characters of these charming little shrubs:

Thuya occidentalis Rheingold.—A little shrub of rare golden colouring.

Thuya occidentalis ericoides.—Heather-like foliage of a brown hue with glaucous tips, one of the best.

Picea excelsa globosa nana. — Prostrate growth which takes the shape of the stones over which it may grow.

Juniperus prostratus.—Flat-growing, foliage glaucous.

Cupressus obtusa pygmæa.—A quaint shrub.

Juniperus horizontalis.—Horizontal branching, glaucous foliage, brown stems.

Tsuga canadensis Sargentii.—A habit similar to that of a weeping willow.

Cupressus pisifera aurea.—A pendulous shrub of distinct form and colouring.—S. R. D.

A Fine Autumn-Flowering Shrub.

Caryopteris mastacanthus.

THIS is a distinct autumn-flowering shrub which forms a somewhat spreading bush from 3ft. to 6ft. high, but with judicious pruning it can be kept down to 2ft. or 3ft. where such a height is desirable. It has silvery green and scented leaves 1in. to 3ins. long, and the bright violet-blue flowers are produced in compact clusters in the axils of the upper parts of the shoots, the main or principal stem being useful for cutting purposes. It is a native of China, and was re-introduced to cultivation in 1880. Sometimes called the blue spiræa, it is a good subject for light warm soils where it can get every ray of sunshine, and in such a position it will thrive and put forth its pleasing blue flowers in September and October, a time when flowering shrubs are scarce. It is a suitable plant for the rock garden, especially if an elevated spot can be provided; while for the front of the shrubbery it is quite at home.

Although this pleasing shrub is hardy, it is liable to be killed back by sharp frosts if grown in a damp and shaded situation, but as a rule this only affects the last made growth. Even if this happens it is no real loss, because during March or April the previous year's shoots should be cut back to within an inch or so of their base. This treatment encourages strong growth, and keeps the plants within bounds. It is not at all difficult to propagate: if non-flowering shoots are made into cuttings during August and placed in sandy soil they will readily form roots, either in a little heat or a cold frame.—W.

The Californian Poppy Mallow.

THE Californian species of the poppy mallow (Callirhoe involucrata) is welcome in any rock garden where a prostrate plant of good colour is wanted. It is an attractive perennial with large crimson flowers, which continue to open for a very long period. Some seedling plants raised here (Thorpe Hall, Essex) last year commenced to bloom in June and made splendid colour until late in October.

It should be planted in full sun, and seems to thrive in any soil. To be seen at its best this mallow should be planted where it can ramble over a large rock.

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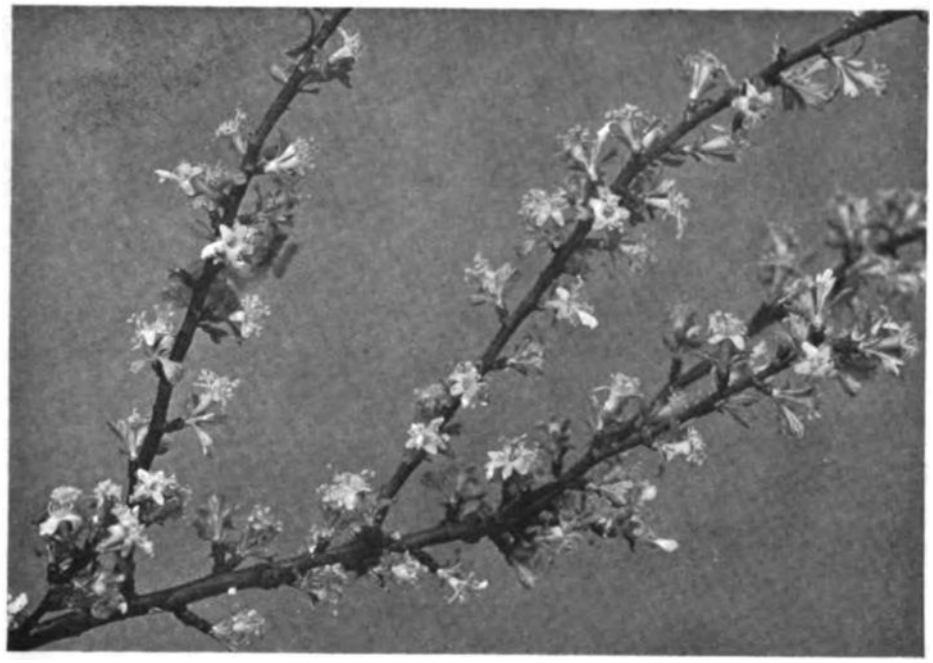
Callirhoe involucrata has proved to be of easy culture, and can be propagated by cuttings rooted in August or raised from seed sown in the spring. It is an excellent plant for any rock garden, both large or small.—R. MOORE.

An Attractive Gooseberry.

ONE of the most graceful and attractive gooseberries in cultivation in Western North America, is Ribes leptanthum. It usually flowers in most gardens during the last weeks of April, and the slender shrubs are richly covered, as may be well seen in the accompanying illustration, with white or pinkish flowers, standing one to three on a slender short stalk. The plant grows up to 5ft. or 6ft. The branches are smooth or bear short nodal spines up to almost an inch long. The leaves are broadly shield shape at the base, three or five cleft, with toothed lobes. They have a diameter from about ½in. to ¾in., and are smooth and hairy. They develop after the flowers, which are followed by lustrous black ovoid berries. This species was introduced into cultivation in 1893, but it is rarely met with in our gardens. It certainly deserves a place in the small garden on account of its pretty flowers, which are somewhat fragrant, but not so much so as in the closely related R. quercetorum from California, that is not quite so hardy and has distinctly yellowish flowers.—C.



THE SLENDER BRANCHES OF RIBES LEPTANTHUM STUDDED WITH ITS WHITE BLOSSOMS WHICH ARE TINGED WITH PINK.

An Interesting Japanese Cherry.

THE cherry of which the accompanying illustration shows a flowering branch has been quite a puzzle for the tree specialist. According to E. H. Wilson it is abundantly planted in Tokyo and Yokohama and also in other places in Japan. When, in 1901, the famous Japanese botanist, Matsumura, described it first as Prunus yedoensis, he regarded Oshima Island in Idsu province as its native home. When, however, Wilson made his investigations of the cherries of Japan, he found that the native cherry of this island is the wild form of P. Lannesiana, and he believes that P. yedoensis represents a hybrid between this wild form and P. subhirtella var. ascendens. It was introduced to the Arnold Arboretum in 1902, from whence it came to the then famous arboretum of Späth, near Berlin. Here the attention of the late Professor Koehne was called to it, who described it, in 1909, as P. paracerasus. When I published the part of my large handbook in 1906, containing the genus prunus, I had no good knowledge of Matsumura's plant. The last word on the origin of this cherry is not yet said, but Rehder in his new book on trees, seems to be of the same opinion as Wilson. But be it as it may, P. yedoensis is one of the finest Japanese cherries when in flower. It is perfectly hardy and grows well wherever I have found it. It deserves to be planted in every garden where there is sufficient space, in spite of its being apparently a rather short-lived tree. I have never met with a large specimen, but according to Wilson it becomes a tree up to 50ft. in height, with a broad flattened head from 50ft. to 60ft. in diameter. In April it is covered with masses of snowy white or somewhat pinkish flowers, which are slightly fragrant and appear shortly before or sometimes with the leaves in clusters of from two to six along the branchlets as the picture well shows. The small globose, shining black fruits are of no ornamental value. Wilson has described a form with pendulous branches, var. pendens, which has also been found in Japan.—C. S.

PRUNUS YEDOENSIS WITH ITS DECORATIVE FLOWER CLUSTERS.

Zinnias: Why They Sometimes Fail.

I HAVE met with people who have attempted to grow zinnias and through repeated failures have given up doing so. The mistake they made was not in the manner or time of sowing the seed, but in persisting in treating them exactly in the same way as ordinary half-hardy annuals. As a matter of fact, they were led away by their robust look and forgot that they are annuals which need to be nurtured and kept under glass until all fear of frost has passed away. No annual belies its looks more than the zinnia, and it is their apparent robustness which is their undoing. Rather wait until June in getting plants from cold frames to the open ground than run risks by planting them out in May, which is often a treacherous month on account of extremes of temperature, a state of things these tender annuals cannot stand.

Preparation of Ground.—Supposing it is intended that zinnias shall occupy a bed to themselves (a very satisfactory way of growing them to see them at their fullest advantage), then it is worth while to go to some trouble in its preparation. Should the soil be at all heavy, lighten it by the introduction of a little leaf-mould and sand, and incorporate with it some rotted manure. They will thrive in this. The position for them should be the sunniest one in the garden, and in getting the plants out of pans or boxes their roots should be disturbed as little as possible. A thin stick or cane will be needed for each plant, and this can be put out at the time. It will give them support in time of rough wind or rain, without which it is almost certain some of them will be bruised or broken, when it is remembered the stems of zinnias are hollow. They are plants which love heat, and do well on a south border other things being satisfactory. Seed sown in the warmth of a greenhouse any time now up to the end of April will, with the advantage of better weather conditions, not be far behind.—L. L.

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SOME EFFECTIVE ORANGE FLOWERS

FLOWERS of orange colouring are exhilarating; they are cheerfully bright under leaden skies, and under the the influence of bright sunlight they do not "look hot," as do scarlet or red blossoms; while an additional merit is their ready and complete harmony with the majority of other colours. Especially well do they combine with blue and yellow flowers, and a vivid and most effective arrangement is a scarlet and orange border or bed.

Orange-hued blossoms of intense pure colour are not too plentiful, but a sufficiency of easily grown subjects are obtainable with which to create a very brilliant summer feature, and an old favourite, the pot marigold, or Calendula officinalis, comes readily to mind. It is difficult to imagine more intense coloration than that exhibited by the variety Prince of Orange, and the flowers are a perfect double form. Seeds may be sown at the end of March or early in April where the plants are required to flower, ultimately thinning the seedlings to 8ins. or 9ins.; or a stock may be raised in a greenhouse or frame and later transplanted; but the former method is, I think, preferable.

An orange zinnia of a reliable strain will create a fine display, and seeds may be raised in a little warmth and will well repay the trouble of being grown on in pots, using a rich but open soil. They must be thoroughly hardened preparatory to planting at the end of May or early in June. The seeds may be sown in late March or early April. Zinnia Haageana is infrequently grown, but is a quite good dwarf species with orange flowers of good colour.

A somewhat uncommon but very beautiful plant is Tithonia speciosa, somewhat zinnia-like in appearance and producing flowers of the most intense orange-scarlet; this half-hardy plant is easily raised from seeds and thrives in light soil. A Mexican annual, T. speciosa was introduced to cultivation so long ago as 1833.

Orange hollyhocks are not plentiful, and so Prince of Orange, offered by Messrs. Suttons, should receive a great welcome; it is of neat and comparatively dwarf habit, with flowers of the finest form, and is a good true stock.

Such antirrhinums as Orange King and Bonfire, perhaps not strictly orange, create a distinct and decidedly orange effect when massed, and they should most certainly be prominently featured where such an effect is desirable. Antirrhinums are hardly surpassed for garden effect, and the two varieties under notice are the best of a wide selection.

There are one or two pompon dahlias of fine orange hue, and for late summer and autumn effect they fulfil a useful purpose. This particular section has a dwarf, bushy and stiff growth as a strong recommendation.

Such lilies as croceum, umbellatum and its varieties, tigrinum in variety, Hansonii and Henryii will, naturally, occupy a prominent position or positions in an orange scheme. The species named behave, as a rule, very satisfactorily, and are not fastidious as to soil or position.

Gazania splendens is a particularly fine plant for a hot summer and will create a fine display in the forefront of a border or in a flower bed; except in favoured localities it is not hardy, but cuttings are easily procurable in the autumn and will winter in a cold frame or greenhouse. The flowers do not open in dull weather, but only the pessimist will foreshadow a prevalence of such conditions.

The day lilies (hemerocallis) are fine permanent subjects with orange flowers, and an additional inducement to plant them is the effectiveness of their grass-like foliage, a splendid foil to other plants; the blooms are somewhat ephemeral, but are successively produced. Trollius Orange Globe is a good June plant, very telling when massed.

It is scarcely possible to over-estimate the value and beauty of montbretias, of which a suitable selection would be Star of the East, Prometheus, George Davison and His Majesty; these delightful bulbous plants enjoy a well drained sandy loam and a sunny position. Planting can be carried out now.

In conclusion, I may accord brief notice to Alstrœmeria aurantiaca, fine for cutting; some of the orange or nearly orange Oriental poppies; Kniphofias of like colouring; and Senecio Clivorum.

I have treated the headline in a somewhat elastic manner, but all the plants mentioned are very near to orange in colour, and, judiciously used, all are capable of brilliant effect, pregnant with latent possibilities in the production of a variety of "harmonies and blendings."

R. A.

A BRILLIANT BORDER OF MONTBRETIA STAR OF THE EAST.

THE FUMIGATION OF GLASSHOUSES

FUMIGATION is essentially a chemical process and is the saturation of the atmosphere of an enclosed space with a toxic vapour. There are two classes of substances in use for the fumigation of glasshouses, *viz.*, those which depend on nicotine for their toxic properties, and those in which hydrocyanic acid gas is the killing agent.

The first essential for successful glasshouse fumigation is that the house must be airtight. All the cracks and crevices should be filled with paper or some other material and the keyholes of the door should be covered as well. The ventilators should be capable of being tightly closed and, if possible, should be so arranged that they can be opened from the outside after the fumigation has been given.

For nicotine fumigation, small heaps of tobacco shreds, say about a handful, are placed on the walks and side-walks at intervals of 10–15ft., and, starting at one end of the house, light the heaps, moving rapidly from one to the next, finally closing the door when the last heap has caught alight. The fumigation should be done in the evening, and the house should be fairly dry. Open the house early the next morning and allow the remaining fumes to escape.

As nicotine is not exceedingly poisonous except in large doses; its use can be fairly generally recommended against aphides, but it is not nearly so good a general fumigant as hydrocyanic acid gas.

By far the best fumigant for glasshouse purposes is one which depends for its toxic acid on the production of hydrocyanic acid gas. As hydrocyanic acid gas is very poisonous both to insects and to human beings, a great amount of care must be taken when using it, and the door of the glasshouse should be securely locked after fumigation.

In the past, fumigation by hydrocyanic acid gas was carried out by placing potassium or sodium cyanide in a porcelain dish and adding oil of vitriol to it. The gas was evolved by this chemical action, and the result was a high concentration of the gas for a short while. Of later years there has come on to the market a product called calcium cyanide, which in the presence of moisture only slowly evolves the gas. This gives a lower concentration of gas over a longer period, and, in addition to being much more easily handled, it is rather more efficacious than the older method. The killing agent is the same in both cases.

In order to know how much of this fumigant to use (too high an amount will cause severe

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injury to the plants), it is necessary to find out the cubic capacity of the glass-house. The amount to be used is usually referred to in terms of ounces per 1,000 cubic feet. The cubic capacity of the house may be calculated in the following way :

For a lean-to, the measurements of length, breadth, height at back and height at the eaves should be taken. The average height of the house is then calculated by adding together the two heights of the house and dividing the sum in half. This average height should then be multiplied by the length and the breadth, and the result will be the cubic capacity of the house. For example, if the measurements of a house are 10ft. in length, 7ft. in breadth, 7ft. 6ins. in height at the back and 4ft. 6ins. in height at the eaves, the average height will be 6ft., and the capacity of the house will be 7ft. × 10ft. × 6ft. = 420 cubic ft. The cubic capacity of an equal span-roof house can be calculated in a similar way, by dealing with the house as if it were composed of two equal lean-to houses, with an imaginary back wall running down the middle of the house. In this case the two heights and length of the house are measured as before, but only half the breadth of the house is taken. From these measurements the cubic capacity of half the house can be estimated, and by doubling this figure the total capacity is thereby ascertained.

Having obtained the cubic capacity of the house the next thing to do is to remove from it plants which are liable to be injured by the fumigant. Asparagus plumosus, marguerites, sweet peas, antirrhinums, heliotrope and ageratum have been found to be injured by small doses of the fumigant and should be removed.

The house should not be watered for twenty-four hours before fumigation to ensure the foliage of the plants being dry. If the plants are in pots the side-walks may be damped down about two hours before scattering the calcium cyanide, as the presence of a certain amount of moisture is necessary to decompose the calcium cyanide and ensure the evolution of the gas.

The calcium cyanide is spread evenly over the walks about one hour after sunset. It is best to choose a still night for the fumigation as this precaution minimises the amount of gas lost by leakage.

The calcium cyanide should be in granular or powdered form and used at the rate of ½–¾oz. per 1,000 cubic ft. The house should be closed and locked. The temperature should be from 55°–70° Fahr., and it is better to have a rising temperature than a falling one, as a falling temperature would allow some of the moisture to condense on the surface of the plants. Several fumigations at intervals of from ten to twelve days may be necessary to rid the house completely of a pest, as the hydrocyanic acid gas does not kill the eggs and larvæ of insects effectively, and these hatch out afterwards, the adults being caught by the second, third, etc., fumigation. Ventilation after fumigation should take place early in the morning before the sun is too powerful.

The following insect pests may be successfully controlled by the use of calcium cyanide fumigant : Greenhouse white fly (adult), thrips (adults), aphides, mealy bugs and scale insects.

The following plants may be fumigated with the concentration given above without injury, provided always that precautions relative to temperature and moisture are observed : Azalea indica, begonia, carnation, chrysanthemum (not above ½oz.), cyclamen, freesia, fuchsia, geranium, gladiolus, marigold, palms and roses.

It is possible to use more than the amount stated with some of the above plants, and the grower should carefully note the effect of the dose on the plants and pests, and increase or decrease the amount accordingly.

H. D. BENNETT.

WHAT OUR READERS SAY

PIERIS FLORIBUNDA.

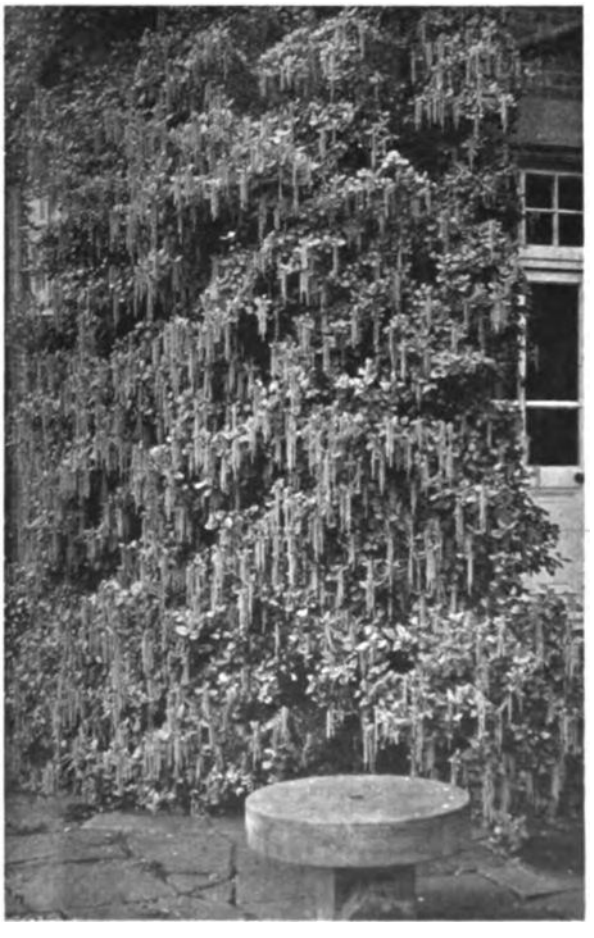
SIR,—That great gardener, Sir Herbert Maxwell in his book "Flowers" depreciates Pieris floribunda at the expense of P. japonica, and says plainly that P. floribunda is unworthy of cultivation where P. japonica can be grown. This, in my view, is unsound advice. Pieris japonica is, admittedly, a lovely species, beautiful alike in foliage and in flower, but it can no more take the place of P. floribunda than could Rhododendron Pink Pearl take that of Rh. Cynthia. Except that both species have white campanulate flowers, there is, in fact, little superficial resemblance. The upright spikes of P. floribunda often begin to expand their blossoms in October and November, and continue to do so, when the weather is not too severe, right through the winter. So far from discarding this shrub for any other species, I should myself include it in a list of shrubs for any small garden where ericaceous plants thrive.—V. G., *Warwick*.

A GOOD WINTER-FLOWERING WALL SHRUB.

SIR,—I have read with interest the note (February 26th issue) on "Garrya elliptica," and enclose a photograph of this excellent winter-flowering shrub which grows on my house wall. We are situated six miles east of Edinburgh, and so should not be considered to be in a warm climate!—C. M. COWAN, *Musselburgh, Midlothian*.

ROOTING CUTTINGS IN SAND.

SIR,—I was interested in the article by "W. F. R." (page 95) on rooting cuttings in sand, also the internode cuttings. For a number of years I have rooted marguerites in pure sand, placing them in boxes with a sheet of loose glass on top, and can usually rely on getting a 100 per cent. strike ; also, mine are established in pots before those struck in pots and soil are rooted. This year I have rooted all my chrysanthemums in sand with an average strike over all varieties of at least 95 per cent. ; this all happened by accident. On several occasions I have put "mum" cuttings in sand in pots and put in a covered frame with no particular success ; but late in November I was taking some plants into the dwelling-house with most excellent cuttings which would not have been of the slightest use when the plants came out again, so I just hacked them off, some below a node, some through a node and some halfway, and no leaves were trimmed off ; they were just pushed into the sand in a propagating case with no glass on the top, intending at the time to put them in properly, but they got overlooked for about ten days. When I pulled one out it was callused, so I let them alone, and every one rooted—about fourteen. Taking the lesson, I prepared boxes of clean pit sand and put in all my "mum" cuttings, with the above result. I should like to point out that *no* glass was put on top of them, and that boxes were used, *not* pots. As some sorts root more quickly than others, it is an easy matter to dig up the rooted ones first ; in fact, all mine were taken out three times before the lot were cleared off, and the longest only took just over three weeks, some only fifteen days.—W. P. W., *Stevenage*.



GARRYA ELLIPTICA DRAPING A HOUSE WALL.

SOME LOW-GROWING ROCK PLANTS.

SIR,—Your correspondent, "G. J." (March 12th, page 178), asks for the names of some creeping or low-growing plants for a rockery. May I add the following (all of which I have found good in a situation such as he describes) to the list you give ? Mentha Requieni ; Veronica Teucrium Royal Blue, V. prostrata and V. incana ; Arenaria balearica ; Dryas octopetala ; Herniaria glabra ; Helxine Solierolii (this is an encroacher and will smother things with its pretty close green carpet unless checked) ; Dianthus neglectus ; the golden, silver and crimson flowered thymes ; Phlox reptans and P. subulata ; Hutchinsia alpina ; Hypericum reptans ; Draba aizoides ; Acæna microphylla and A. inermis ; Campanula garganica, C. pusilla and C. Portenschlagiana. "G. J." asks for the names of perennials only, but

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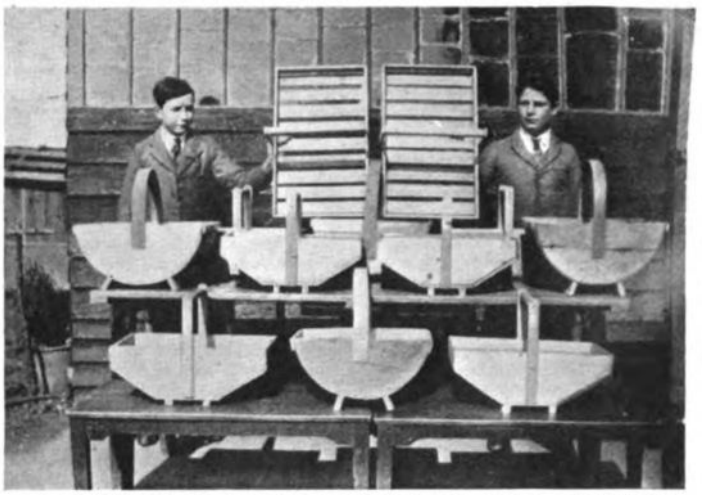
may I suggest that he sows a few annuals to cover bare places during the first summer? He will find Ionopsidium acaule, Sedum cæruleum, Saxifraga cymbalana and Limnanthes Douglasii all suitable for the purpose. Campanula Loreyi (both purple and white varieties) is another pretty, although seldom seen, annual for a rockery, but this grows about 9ins. high. The purple-leaved Oxalis corniculata, although a perennial, will flower the first season, if sown early.—R. E. H., *Bath*.

MAKING GARDEN BASKETS.

SIR,—I wondered whether you would find the enclosed illustration suitable for publication. It illustrates some garden "trugs" made by boys of the Bethersden Council School Woodwork Class for use in the school gardens. They were constructed from instructions and diagrams contained in THE GARDEN a few weeks back. No difficulty was experienced in following out the details given in the article, and we now have a good supply of cheaply constructed serviceable trugs, including several made from cheese boxes given to us by a local grocer. Needless to say, I am an enthusiastic reader of THE GARDEN, and find its articles and attractive illustrations of great service in school.—C. W. MARTIN, *Headmaster*.



A COLLECTION OF GARDEN BASKETS MADE FROM DIRECTIONS GIVEN RECENTLY IN "THE GARDEN."

GENTIANA ACAULIS.

SIR,—I was much interested in your "Mersey Valley" correspondent's note on Gentiana acaulis, and wonder how far from a town and what kind of atmosphere your correspondent lives in.

I have grown G. acaulis for years in different aspects and in different soils, but on the few occasions it has flowered with me it has always been in the spring following a really good summer. I remember remarking to a friend that my gentian had five blooms the March after the good summer of 1921 and she told me that hers had fourteen and she knew of it blooming in other gardens that year. This makes me think that Mr. Farrer was right when he said that if you live near a town you will have difficulty in blooming G. acaulis.

I live eight miles from Manchester and three from Stockport, so the light is not as strong as it would be in purer air.

This makes me wonder if your correspondent lives higher up or in a less smoky district, as I am only three miles from the Mersey.—M. E. KENYON, *Cheadle Hulme, Cheshire*.

THE WINTER TREATMENT OF VERBENA CHAMÆDRIOIDES.

SIR,—In spite of its creeping habit, Verbena chamædrioides is one of the most striking of plants by reason of its rich scarlet flowers. It would be quite impossible to pass it by unnoticed. But, unfortunately, it is not generally found to be hardy, and unless cuttings are taken and protection given during the winter, it has hitherto been necessary to replace it every year.

Last winter the following method was tried and found to be most successful: In the autumn a number of cuttings were taken and struck in the sand frame. There is no difficulty in striking this plant, but, as with other things, the sand induces a very strong root growth. The rooted cuttings were potted up in rich compost and the pots sunk to the rim in the ground. They were given no protection whatever, and were in a very exposed, windswept situation. In spite of this every plant wintered well. The success of this method is possibly due to the encouragement given by the rich soil, the young plants being in such good heart that they withstood the prolonged damp and frost. The fact that the parent plants on the sunny slopes of the rock garden have all been killed rather strengthens this suggestion.

Next autumn it is proposed to plant the rooted cuttings direct into the rock garden in pockets prepared with rich soil for their reception. Hardy young plants so grown should flower weeks before those transplanted to flowering quarters in the spring. As this plant flowers continuously till the winter rains and fogs set in, it seems possible that it might be encouraged to become one of the longest blooming plants in our gardens.

Verbena chamædrioides planted in a dry wall with Zauschneria californica and big clumps of silvery foliaged, fringed white pinks in close proximity present an arresting picture, combining as they do an unusual contrast in colour, as well as in texture and form of foliage. The latter point is not given the consideration it deserves in garden planting for good all-the-year-round effect.—GWENDOLYN ANLEY, *Woking*.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

NUMEROUS reports have reached me regarding a scarcity of chrysanthemum cuttings over a very wide area of Scotland. Some varieties, it may be pointed out, have a better reputation than others in regard to the annual production of basal shoots. The members of the Massy family, for instance, are very free in that respect, while the representatives of the Thorp group are, as a rule, shy. Private gardeners who rely on nurserymen for their chrysanthemum plants in May should therefore place their orders early. Opinions vary as to the cause of the scarcity of cuttings. One view is that it is due to chrysanthemums being grown too long on the same soil, while another explanation is that in consequence of the early and severe frosts in autumn, many plants were nipped in the open, before the owners had time to put them under the protection of frame or greenhouse.

The problem of growing fifteen, twenty or twenty-five flower spikes of hyacinths in an ordinary bowl of fibre or 7in. pot is puzzling to the uninitiated, when they read the reports of our spring shows, yet it is all very simple. According to the modern method of cultivating tulips, hyacinths and daffodils for exhibition purposes, the bulbs are planted in layers one above the other and arranged so that the upper bulbs rest between those underneath. Sometimes as many as four layers of miniature hyacinths can be accommodated in a 7in. or 8in. pot. Tulip bulbs are comparatively small and lend themselves to this system, but daffodils of the trumpet sorts, such as King Alfred, Emperor and Tresserve, require 10in. or 12in. pots.

The formation of rockeries or stonework as distinguished from the more extensive rock garden, has been stimulated, in recent years, by the enterprise of Municipal Authorities in creating housing schemes and also by the speculative builder in erecting the popular bungalow type of residence. In both instances a small rockery frequently forms part of the general lay-out, but the owners are sometimes perplexed when it comes to the selection of suitable plants with which it is to be clothed. Many householders of these classes are in possession of a garden for the first time, while others, who have passed through the elementary stages, have little or no knowledge of alpines and rock plants, and are, therefore, in search of knowledge. With the object of helping them I have prepared the following list of hardy specimens and as cost is a consideration it may be stated that the fifty plants which are intended to form the genesis of a collection, can be purchased for 40s. or 45s. If that sum is beyond the average purse, then a selection may be made from the list and each plant may be estimated at an average of 9d. to 1s. each.

Achillea argentea; Æthionema Warley Rose; Alyssum saxatile; Androsace languinosa; Anemone Hepatica; Arenaria montana; Aster alpinus; Aubrietia (in variety); Campanulas pusilla, muralis, turbinata and pulloides; Cyclamen neapolitanum; Dianthus cæsius and D. neglectus; Dryas octopetala; Gentianas sino-ornata and Farreri; Geranium lancastriense; Helianthemum (in variety).; Hypericums polyphyllum and reptans; Iberis Little Gem or saxatilis; Iris cristata; Linaria alpina; Lithospermum prostratum; Œnothera missouriensis; Oxalis enneaphylla; Papaver alpinum; Phlox setacea (in variety); Potentilla Tonguei; Primulas Juliæ or Wanda, marginata and secundiflora; Ramondia pyrenaica; Saxifragas apiculata, Burseriana Gloria, Boydii alba, lingulata lantoscana, longifolia, pyramidalis, Bathoniensis, Wallacei and oppositifolia; Sedums spathulifolium and kamschaticum; Sempervivum arachnoideum; Silene Schafta; Veronica prostrata; Viola gracilis.

In addition bulbs may be planted, especially under the dwarfer growing plants to act as a carpet to the bulbs when in bloom, *viz.*:

Anemone blanda; Crocus Sieberi, C. Tomasinianus; C. versicolor and C. susianus for spring. Crocus speciosus and C. zonatus for autumn. Narcissus Bulbocodium conspicuus and citrinus; Iris reticulata; Scilla sibirica and S. bifolia; Tritelia uniflora; Eranthis hyemalis and E. cilicicus; Chionodoxa Luciliæ; Muscari in variety.

The present ideal spring weather has favoured operations in the garden. The temperature is high for the time of the year, as it is seldom that we experienced a range of 40° to 48° during the day in March.

ST. MUNGO.

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THE FRUIT AND KITCHEN GARDEN

Scale and Black Aphides on Peach Trees under Glass.

BOTH pests are very destructive, the first-named, if allowed to increase freely, will cover the young fruits with excrescences which soon make them look unsightly and certainly interfere with the proper swelling of the skin. The black aphides cause the leaves to curl up—as they suck the juice from them—and then to shrivel and fall off. Syringing in this case is quite useless when once the aphides become established. I will first deal briefly with the scale. In the autumn trees infested may be cleaned; in fact, they should be thoroughly cleaned then. But however well the operation may be carried out at that time, odd scale may be found now owing to the great difficulty experienced in getting rid of the pest in one season. If a few old scale be left in the axils of branches or any small holes in the old stems, soon hundreds of minute scale will be found now on the last years shoots. At least several times each week the trees should be very closely examined and all scale seen destroyed by just touching them with any approved insecticide. A small brush is the best tool to use. In this way hordes of scale will be prevented from getting established on the trees this summer, and next autumn it may be possible practically to clear the branches. The best remedy for black aphis is fumigation. Do not wait until the black fly can be seen, but fumigate lightly once a week. If, however, aphides are found, fumigate on two successive evenings and then once a week. The trees should be dry and the borders moist at the time.—CHRISTCHURCH.

Two Useful Seed-Bed Levels.

THE two tools illustrated by Figs. 1 and 2 will be found most useful for making the surface of seed beds level and firm. Seed beds, such as for the growing of onions, need to be firm, and the tool illustrated by Fig. 1 and in detail Fig. 3 A, will be very suitable.

The seeds are sown in the usual way and then the bed is levelled up by lightly drawing the level (Fig. 1) over the surface, after which the bed is made firm by gently pressing with the same tool. A much better surface will be made in this manner than by the old method of treading with the feet.

A suitable size for the base is 12ins. square, and this is made of good wood, the bottom being made quite smooth by polishing with sandpaper. Any suitable shaft will do, and this must be made to drive into a slanting hole in the base, and made quite secure by means of a screw as shown in view A, Fig. 3.

The small tool shown by Fig. 2 is useful for using in the same way on small seed beds. A suitable size base is 8ins. square, and this is provided with a handle, details of which are given in view B, Fig. 3. The handle is of wood, the hand hole being easily cut out by means of a keyhole saw, and is fixed to the base by screws.

The tools should only be used when the ground surface is dry, in order to gain the best results.—W. J. S.

Temperatures in Fruit Houses.

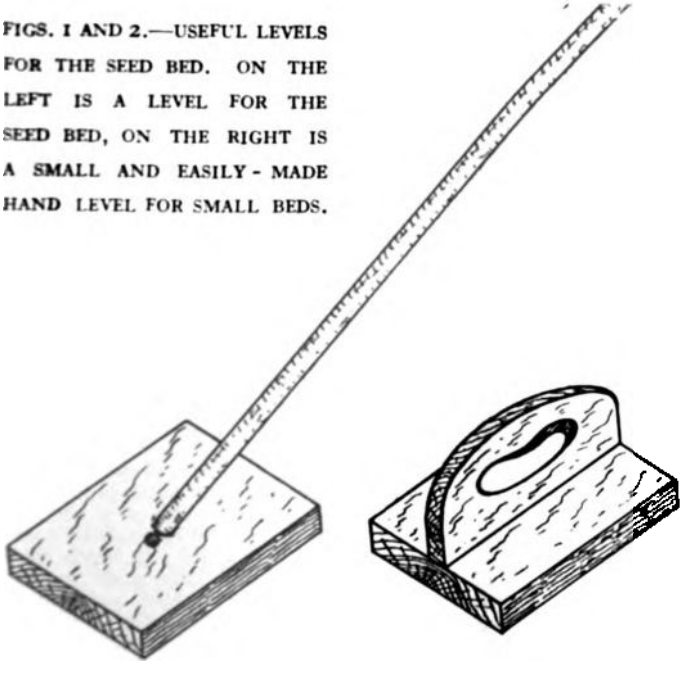
AT this season of the year the temperature in glasshouses rises or falls considerably in a few minutes, mainly owing to general weather conditions. Economy in artificial heating may be effected now if the cultivator is wise and husbands as much sun heat as possible. Heat from a furnace may be great in a fruit house and do more harm than good; whereas heat from the sun may be great and do more good than harm. Very often an inexperienced cultivator will keep up a sufficiently high temperature early in the day, not realising the fact that the sun, if it suddenly shines clearly on the structure, will cause the temperature to rise too high for the benefit of the fruit trees. To open ventilators rather wide to cause a drop in temperature also does harm, because the air at this season is often very cold, though the sun may shine brightly, and its rush into the house will chill and check the young growths and fruits. It is well to study the weather conditions very closely early in the morning and shut off artificial heat early, too, so that the necessary temperature may be obtained direct from the sun whenever this is possible. To lower a temperature suddenly is harmful; it should be reduced very gradually and when the heat, internally, is rather high, see that there is plenty of atmospheric moisture in the house, too, then the new growth will be healthy, though rather hard forced. Always begin early on bright mornings to ventilate and, if necessary, increase it gradually. Be equally watchful in the afternoon, when closing the ventilators, damping paths and borders judiciously, then healthy growth will result. Peaches require the lowest temperatures, vines a few degrees higher and melons the highest. At closing time the latter may be subjected to a temperature of 90 degrees from sun heat, mainly, if the atmosphere of the structure is kept moist.—G. G.

How to Grow Fine Parsley.

IN the first place it is necessary to sow seeds of a good strain. However good the cultivation may be, if a poor strain of plants be raised they will be extra coarse of leaf and practically useless. The finest curled varieties are vastly improved by good cultivation, except in some cases, where parsley will not succeed and it will not in certain soils. Where readers have experienced much trouble in growing parsley in their gardens, I advise them to sow some seeds in a box 6ins. deep and filled with fibrous loam, two-thirds and rotted leaf-soil, one-third. Place the box in a cold frame, or, failing a frame, cover it with loose squares of glass and shade from bright sunshine. Seedlings should appear in four weeks' time. Before they become too crowded, turn them out, soil as well, and transplant them carefully in rows, 6ins. apart and 12ins. from row to row. Water several times until they are established, then they will soon form fine specimens. Plant in deeply-dug soil. It is always advisable to sow seeds in several borders, wide apart, in the same garden when any difficulty is experienced in growing parsley freely in any given border. Furthermore, transplanted seedlings often form the finest plants. Overcrowding is always responsible for weaklings. —HANTS.

Early Spraying for Clean Fruit.

WHEN fruit trees awaken to activity at the call of spring, parasites of all kinds also resume a more active existence and begin their evil work upon the trees. This, then, is the time when spraying should commence



FIGS. 1 AND 2.—USEFUL LEVELS FOR THE SEED BED. ON THE LEFT IS A LEVEL FOR THE SEED BED, ON THE RIGHT IS A SMALL AND EASILY-MADE HAND LEVEL FOR SMALL BEDS.

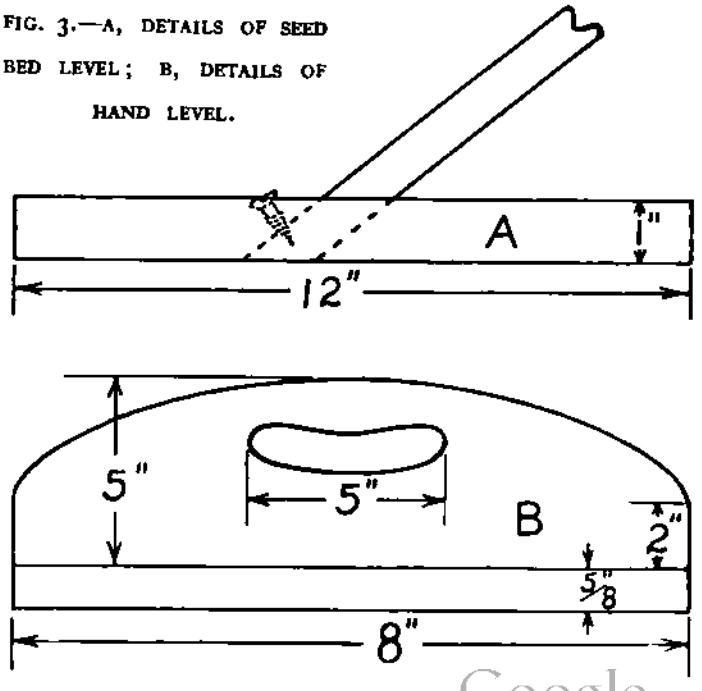


FIG. 3.—A, DETAILS OF SEED BED LEVEL; B, DETAILS OF HAND LEVEL.

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to eradicate these pests, not merely because the trees are semi-bare, but because the pests are more easily dealt with and less numerous. Fruit growers realise that early spraying is a first guarantee of successful and satisfactory cropping, and the work is an essential part of the routine in all large and small orchards. First of all, we have fungus diseases such as scab, leaf blotch, mildew and the like; after living on the twigs all winter in a dormant state, these spring into active life now and creep over the new leaves and shoots. Then we have sucking insects like the aphides, American blight and so on, which pierce the soft tissues of the tree and suck sap therefrom, crippling growth and so reducing the chances of a good crop. Again, there are the leaf-eating maggots and caterpillars—those which attack the flower beds and, finally, those which eat into the fruits, like the larvæ of the codlin moth and the sawfly.

It is, of course, essential that the grower should gain some idea of the pest which is doing the damage; then he can act against it in the most efficient way. Against fungi one may use Bordeaux mixture or lime sulphur, the latter being advisable when the tree under question is liable to suffer from the spray. Against sucking insects, a "contact" insecticide is employed; the newest and most efficient substance to use is nicotine, diluted as directed when the concentrate is purchased. Leaf-eating caterpillars are killed by using something which poisons their food, like arsenate of lead; 2 oz. are stirred into 3 gallons of water and a fine spray is applied so as to coat every part of the tree with the poison. It is useful to note, too, that nicotine and lime sulphur may be used together, or nicotine and arsenate of lead. One spraying with any one wash is not sufficient for many reasons. Briefly, I may state that the safest plan is to spray three times: first when the buds are as yet unopened, second when the petals have fallen, and third some three weeks later. Spray on a calm day, the best time being in the evening; apply the wash so that every portion of the tree or bush is thoroughly wetted, but do not spray when the flowers are open and awaiting fertilisation by bees.—CLYDESDALE.

April Strawberry Planting.

STRAWBERRY plantations may be made in northern districts in April. A crop of fruit cannot be obtained this season from an April planting, but the plants will be well developed before next season, and the plot can be intercropped this year with cabbages, sprouts, lettuce, onion plants, etc. The strawberry rows may be 24ins. to 30ins. and the plants in the rows 15ins. to 18ins. apart. The rows can be either flat or in the form of a low ridge. Some of the best runners this season may be layered or potted for planting in the autumn, or to fill up any vacancies next spring. A good tip was that of a gardener who, having obtained a few choice plants and, wishing to make the most of them, planted them on a plot at double the usual distance apart. From the best of the next season's runners he got quite as many good plants as was required to complete the plantation. He intercropped the plot with shallots and onion sets.—JOHN WIGHT.

Fruit Garden Notes.

A JUDICIOUS thinning of fruit-buds if they have set too thickly is advisable at this season. This job ought to be done early to be very effective. Fruit blossom may also be thinned out. It often happens that the one flower is injured by the other when too close together. Newly-planted trees and bushes will require some sort of mulching, and also an occasional soaking with water or weak liquid manure if there is a spell of drought. Fruit trees may be grafted during mild, soft weather.

Round and Wrinkled Seeded Peas.

EVERY gardener who grows peas should study varieties and soils closely. A very fine pea is seen, probably, at a show, and so this particular variety must be grown in the future, irrespective of soils. Where a sandy loam obtains, the wrinkled marrowfat peas will thrive generally early in the year—the pea season. But if an attempt is made to grow them in a cold, clayey soil, failure will result in most cases. It is certainly advisable to grow only the round-seeded sorts in such retentive soils for early use and, also, for the latest crops, as in late summer almost the same soil conditions obtain as in the spring. The only difference is in the temperature of the soil—it is warmer in the early autumn. The atmosphere is moister, the temperature gradually gets colder, and then the marrowfat peas become mildewed and the pods do not fill. Here we find the naturally early, round-seeded sorts much the best; their pods may be small, but they fill, and the peas in them are sound. So, before sowing the pea seeds indiscriminately map out the season, as it were, and thus reap the highest yield from each variety. To assist the growth of marrowfat varieties in heavy soils, even when the seeds are sown in June, it is advisable to use some drier, finer and lighter soil as a mere covering of the seeds before the ordinary heavy garden loam is put on.—G. G.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

At the Bottom of the Garden.

Instead of the narrow border which ran along the hedge at the end of our suburban garden and which was too shady to grow many flowers, we have built a low dry wall of the large, hollow, concrete blocks which are being used locally for building. These can be bought fairly cheaply and are quickly placed in position, a row only one block deep making a pretty edging to the formerly uninteresting border. In the centre a gap 3ft. wide has been left, and the blocks built up on either side to form ascending steps, one block deep in front, three at the back. Between the two top blocks behind a plain seat is fixed. The blocks are planted—both in their hollow interiors and in the cracks between adjacent blocks—with aubrietia, golden alyssum, thyme, lithospermum, pinks, arabis, saxifrages and sedums. The result is extremely pleasing.—J. M. H.

About Pergolas.

Wood posts always decay where they emerge from ground, even if creosoted, etc. To preserve indefinitely, cut sheet lead 8ins. wide, long enough to encircle post and overlap 1in.; along one edge of lead smear "Ferotax" (or other plastic preparation for repairing leaky roofs) 1in. wide. Wrap lead round post with "Ferotax" edge upwards and inwards and 4ins. above the ground. Use copper nails round top edge and overlap. Hammer edges close to wood. New posts: Sink in ground 9ins. old drain-pipes, top edge 6ins. below surface. Place post down centre of pipe and fill in cement, trowelling to a cone from top of pipe upwards and inwards to post. The lower edge of lead band should overlap this cement cone. I have a pergola twenty-five years old, built in wood in this way, and not touched in the meantime and quite perfect now.—G. M.

Humus for Shallow Chalk Soil.

Each year, in early spring, I sow, very thinly, a few rows of cress, which is allowed to run to seed (I generally harvest about half a gallon of seed). Between such crops as potatoes, peas, beans, and in any vacant space as crops are cleared, I sow cress. This grows very rapidly (while young it may be used as salad), and when 4ins. or 5ins. high is dug in. The result is very beneficial. The greenstuff quickly decays and adds considerably to the "holding power" of my shallow chalk soil.—E. S.

Celery Fly.

My experience with this pest is that the trouble begins when air is being admitted after the seedlings have been established in the frames. Last season, instead of dusting the little plants with soot, which is soon washed off when they are watered, I put a teaspoonful of chloride of lime in the front of the frame on a piece of slate, and the result was I had a perfectly clean batch of plants to put out. (The frame must not be closed entirely afterwards.) With dustings of soot occasionally during the season, the whole of my crop was kept practically clean, and I have been digging this winter and spring—W. J.

Seed Guards.

Simple but quite effective seed guards may be made by using willow twigs. These are bent to form a hoop and the ends stuck in the ground at the ends of the rows. Black cotton may be rapidly passed from one to the other along the row.—H. B.

Slugs and Chrysanthemums.

Slugs have a great liking for young chrysanthemum shoots, and not infrequently make destructive attacks upon them even before they appear above ground. When the old stools are laid in and the cuttings are slow or weakly, slug trouble may be suspected. In a 2-gallon can of water put half a teaspoonful of permanganate of potash and half a teaspoonful of salt. Use this to water over the plants. It will do the chrysanthemums no harm; it will not even kill the slugs, but it brings them to the surface in a few seconds, and they can then be collected and despatched.—H. D.

How to Use a Garden Line.

A garden line incorrectly fixed leads to the making of crooked drills of uneven depth, and these can be avoided by taking a few simple precautions. First, set the free peg of the line very firmly and leaning slightly back from the direction of the bed. Then walk across the bed, unwinding the line and at the same time break down clods or push on one side with the feet any stones in the course of the intended drill. Arrived at the other side of the bed, pull the line tightly, loop it once or twice round the peg which passes through the reel and then push peg hard into the ground with a slight backward tilt. In the case of a long bed there is a tendency for the line to move, and this can be prevented by sliding one foot backwards on the line while cutting out the drill.—W. H.

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THE APR 16 1927

GARDEN

THE IDEAL GARDENING PAPER

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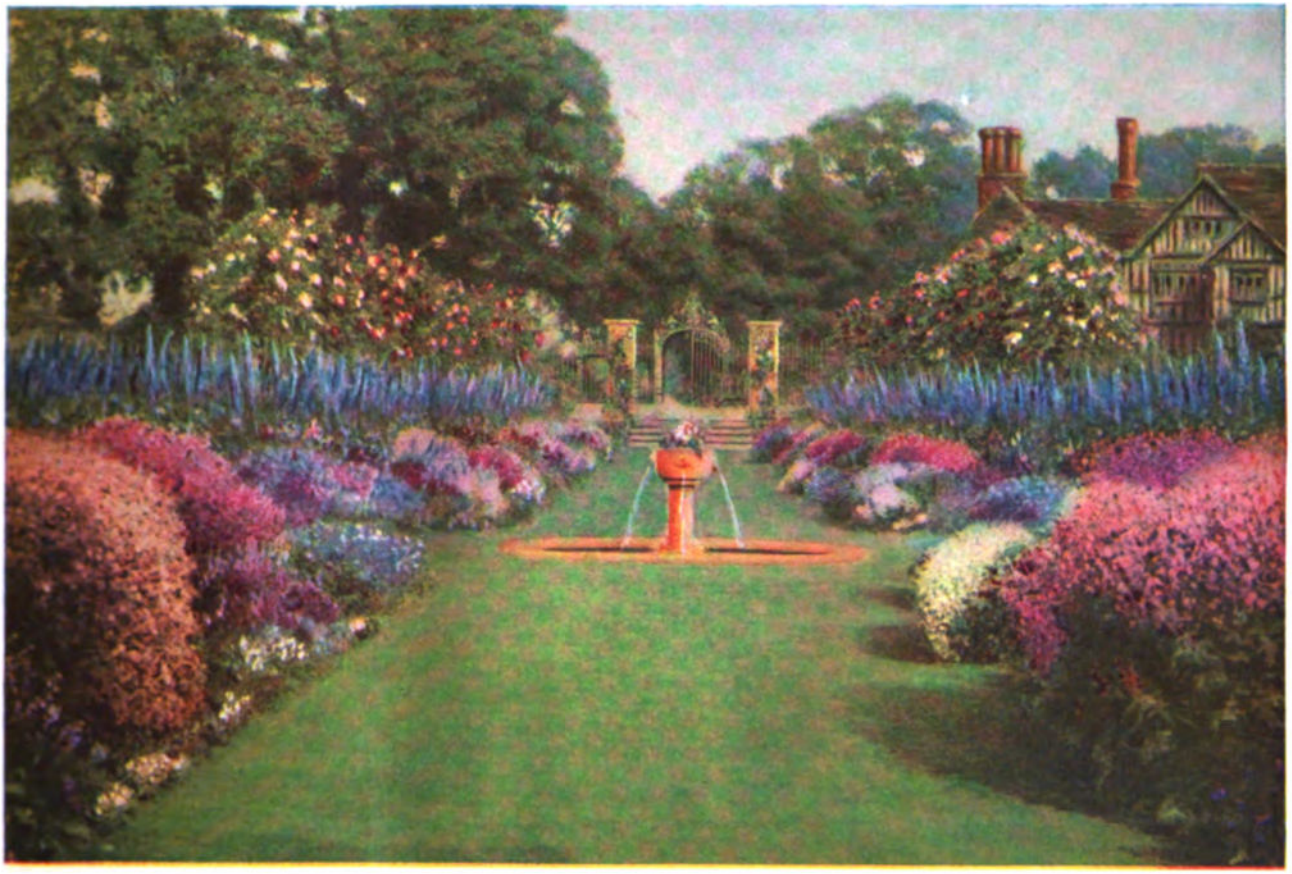

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THE GARDEN

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NOTES AND COMMENTS

Easter Flowers at the Wisley Gardens.

DURING the last few days of brighter weather many plants are now adding to the general interest of the gardens. This, naturally, is the season of the early alpines and, apart from the new alpine house, which is gay with pots and pans of numerous saxifrages and primulas, plants on the rock garden are beginning to show fine masses of colour. In the wild garden and on grass banks in the surroundings charming groups of the dainty Narcissus cyclamineus that have seeded and naturalised in the damp moss are most attractive. Among shrubs in the woodland is Pieris japonica with its large clusters of drooping white flowers giving the whole plant a lace-like effect. Rhododendron præcox has so far escaped frost, and is a plant worth planting more extensively even if we do not enjoy the flowers every year. Camellias are beginning to open their flower-buds. It is indeed strange that these handsome flowering evergreen shrubs are not more freely planted in the open, as they are quite hardy.

The new shrub garden beyond the woodland containing the large collection of heaths is always of interest. There are some varieties in flower practically every month of the year.

Forsythias and prunus in many varieties also contribute to the interest of this part of the garden at this date. Prunus Pissardi Woodii with its pink buds and deep-coloured foliage should be made a note of as one of the best. Cornus Mas, although an old plant, is not to be despised at this time when covered with its yellow flowers, so conspicuous on the leafless wood. A plant that makes its presence known by its fine fragrance rather than by its multitude of small yellow flowers is Azara microphylla. In the trial of daffodils, in which over a hundred varieties are represented, many are now in bloom, although the earlier varieties are ten days later this year.

AN EASTER GARDEN PICTURE.
Daffodils in drifts in the woodland. These can be now seen in all their spring beauty in the woods and in our parks and gardens.

Our Photographic Competition.

WITH the increasing popularity of gardening there has grown up alongside an intense interest in garden photography and it is with a view to encouraging this mushroom growth still further, that we propose running a photographic competition among our readers during the coming summer season. This competition will commence next month with our issue of May 7th, and will continue through the summer months, when the garden display is at its best. Readers are invited to send in photographs illustrating some aspect of their own garden, a picture of a border, an attractive bed, or clump of a particularly fine herbaceous plant, a group of shrubs, a portion of the rock garden or a collection of plants in their greenhouse. There are any number of garden pictures which may be made and all of them of interest.

In order to assist readers as much as possible and those who have not before attempted to take garden or flower photographs, we publish in this issue the first of two articles on the use of a camera in the garden, giving helpful hints on the taking of garden photographs and we hope that they will prove of some use to those who are keen photographers as well as keen amateur gardeners.

Many of these garden pictures, apart from their sentimental value in recalling to mind pictures of the garden at different seasons of the year, have much to teach. They may suggest ideas to others of how to arrange a border or group shrubs or how to obtain the most effective display in a small space. Photographs undoubtedly have a definite teaching value and we hope by this competition to bring together the ideas of many of our readers and make them available to all. Full particulars, giving the rules governing the competition and the prizes will be given in our forthcoming issues. This early announcement, we hope, will encourage amateurs to get out their cameras for Easter and take a few pictures of their own garden to send along for our competition.

This Week's Work

For Gardens in the South and Midlands.

Plant out gladioli in prepared beds.
Sow hardy annuals in the open ground.
Plant border carnations and Allwoodii pinks.
Prepare ground for planting evergreen shrubs.
Spray fruit trees with lead arsenate wash in order to keep down attacks of insect pests.
Prune all bush roses except tea varieties.
Plant out autumn-sown sweet peas and stake the young plants at once.
Make succession sowings of onions, carrots, cauliflowers, cabbages, parsnips, dwarf beans, beet, etc.
Transplant celery seedlings.

This Week's Work

For Gardens in Scotland and the North.

Prune bedding roses of the H.T. and H.P. types.
Top-dress the beds with old manure and fork in carefully.
Sow sweet peas in shallow drills in the open ground.
Transplant pansies, violas and calceolarias raised from cuttings.
Make a sowing of onions, leek, carrot (short horn), peas, parsley and lettuce.
Sow a pinch of Early Milan or Golden Ball turnip for early summer use.
Plant sweet williams, Canterbury bells and aquilegia.
Prick out half-hardy annuals into other boxes.

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THE UPKEEP OF A LAWN

THE actual construction of a lawn must be so well understood by now that it can no longer contain any mysteries and, as a limit has been placed on the length of this article, I intend practically to concentrate on weeds.

If there were no weeds, or if they could be killed easily, all lawns would be more or less perfect; but, alas! there are many weeds, and they are such stout fellows that they cannot be killed easily unless one takes the trouble to study them, and then it is more or less a simple matter to convert a mass of weeds into a perfect grass lawn in a year or less.

Weeds may roughly be divided into three classes: Surface rooters like daisies, Prunella vulgaris or self-heal, chickweed, pearlwort, creeping buttercup, moss, yarrow, clover and others. Weeds that root to a medium depth, of which the plantain family is by far and away the worst. The common plantain is very difficult because, although

A LAWN PARTLY TREATED WITH "CARTERITE," AND WITH PART UNTREATED.

it naturally grows erect, it can adapt itself to the mowing machine by keeping its leaves and seed heads so close to the ground that it not only escapes injury but it can produce and ripen seed in abundance, and is thus able to colonise large areas with extraordinary rapidity. The rapid spread of the plant is particularly noticeable in turf used for vigorous games, the seeds being spread all over the ground by the feet of the players. Apart from this the common plantain loses its foliage when the frosts set in, and so, by invisibility, enjoys protection from the autumn until the spring.

The third class is chiefly represented by dandelions and other deep-rooting weeds that can adapt themselves to a new habit of growth.

Many regard the common dock as a noxious weed, and so it is in fields and pastures, but as it cannot alter its growth from an erect to a prostrate form, like the dandelion, it cannot long survive being regularly denuded of its foliage by the lawn mower.

Mass Treatment.

Should a lawn contain so many weeds of all sorts that it is impossible to treat them separately, it should be given a broadcast dressing of "Carterite" or lawn sand at the rate of 4, 6 or 8 oz. to the square yard, according to the nature of the soil and the number of the weeds.

For light soils use about 4 oz. to the square yard, medium soils 6 oz. and heavy soils 8 oz. The lawn sand, being highly caustic, will burn everything, including the grass, temporarily, and will kill at least 80 per cent. of the weeds, only the very strong and deep-rooting varieties escaping.

Turf so treated will look like nothing on earth for a week or two, but about fourteen days after the treatment the lawn sand will lose its caustic properties and then, functioning as a fertiliser, will stimulate the grass to such an extraordinary extent that in many cases the turf will heal and close up without any help. In other cases, particularly if the turf is weak and the soil light, it may require renovating, but this will be discussed later.

The Spot Treatment of Daisies and Other Surface-Rooting Weeds.

Divide up the lawn into strips about a yard wide by means of pegs and strings. Give the worker a distributor, which is a conical tin with a lid at the larger end at which it is filled, the smaller end having an opening three-eighths of an inch in diameter. Fill the tin with lawn sand and allow it to escape by removing the first finger of the right hand, which should be placed over the opening while filling, for such a time as to allow, say, a saltspoonful to fall on a small weed and so on, or fill a pail and apply the lawn sand by hand. Lawn sand can be used at any time of the year provided that the weather is fairly dry and it is actually used on a dry day.

Spot Treatment of Plantains and Other Weeds of a Similar Nature.

These can be killed with lawn sand in the same way as explained above, but as they are more tenacious of life, give them a stronger dose and be prepared to give any that survive, as some are sure to, particularly should damp weather set in soon after treatment, a second dose.

Another way is to use "Plantainkil," a very powerful chemical combination, devised solely for the spot treatment of strong-growing weeds, such as the common plantain, but it must not on any account be used broadcast. "Plantainkil" should be used between April and September on dry days and during dry weather; in fact, the weather cannot be too dry or too hot.

Dandelions.

Large weeds with long tap roots, such as the dandelions, can be very easily destroyed without any irksome backaching labour by the use of a strong liquid weedkiller ejected on them by the use of a weedkiller ejector. All one has to do is to prepare the weedkiller at double strength and fill the ejector. Then walk slowly over the lawn and squirt a little of the weedkiller on each by just pressing the plunger with the thumb. The weeds will wither within a day or so, and within a week will be dead from end to end. Nothing can be easier than this, because it calls for little or no effort, stooping or skill.

Clover and Large Patches of Creeping Weeds.

Clover is regarded as one of the most difficult weeds to deal with, chiefly because it grows in such large patches in what may otherwise be a good turf, that many hesitate to face the temporary disfigurement of the lawn entailed by its destruction. It can, however, be discouraged and in many cases eliminated without even temporarily disfiguring the turf by the use of Anti-Clover Grass Fertiliser on the "little and often" principle at the rate of 1 oz. to the square yard. The fertiliser should, of course, be mixed with three or four times its own bulk of dry sand, sifted soil or fine ashes so as to increase its bulk and so make an even application possible, allowing an interval of two or three weeks between each dressing and watering in if necessary.

Another and more certain way is to dress the patches with lawn sand at the rate of 2 to 4 oz. to the square yard. This method will obviously disfigure the lawn temporarily, but is it not worth it? "Carterite" will kill patches of clover, yarrow, pearlwort, daisies, self-heal, moss, creeping buttercup and, in fact, any creeping weed, and if one is prepared to face the temporary disfigurement of the turf, and, if necessary, go over strong patches more than once and, finally, after an interval of about a week, rake and sow with grass seeds, it is the easiest and best way of dealing with this class of weed, the alternative being to cut out the patches and repair with clean turf.

Weed Study.

One cannot expect to be successful at anything unless a certain amount of thought and study is given to the subject, and this applies to weeding as much as it does to anything else. Some weeds, such as the common plantain and dandelion, lose their foliage in the autumn and are quite invisible until the spring. Daisies and most of the other creeping weeds retain theirs all the year round.

When one is faced with weeding a lawn, no matter how large it may be, do not say it is impossible, because it is not, but just try out what appears to be the best method on a measured plot and see how it works and how long it takes. It will then be an easy matter to calculate how long it will take to weed the whole area. Various preparations act differently on different soils and weather conditions, so the only way to get good results is to try their action and effect on a small scale at varying rates.

The most hopeless turf in the world can be cleaned, worked up and made perfect in a year or less if the will to win is present and the following system observed:

1. Broadcast "Carterite" with a heavy hand, giving an extra dose to any large, strong, stubborn patches of weed.
2. Kill the dandelions and other large weeds by ejecting a strong liquid weedkiller on them.
3. Spot treat the survivors.

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Renovation.

About seven days after the final application and all or most of the weeds are killed, rake the bare and thin places and sow with grass seeds at the rate of 1 oz. to the square yard, sowing the seed thinly where the turf is fair to good and thickly where it is thin or bad. Rake again in order to cover the seed, or if sufficient fine soil or compost is available, top dress at the rate of one load to 150 square yards before the final raking, and finish off with a light roller. REGINALD BEALE.

A CAMERA IN THE GARDEN

EVERY gardener ought to own and use a camera. For photography very happily overcomes the one and only drawback to gardening—the fleeting nature of its triumphs.

Photographs do *not* fade, and a good series is a continual source of instruction as well as a pleasant reminder of one's triumphs. We all know the value of a gardening diary, if illustrated with photographs its value and interest will be vastly increased.

It is true that many photographs taken in gardens are neither interesting nor beautiful, but it is quite easy to obtain results which are both.

I will keep to practical matters as closely as possible, but it is necessary to point out first why so many flower photographs are unsatisfactory. The chief reason is that ordinary films and plates are colour-blind.

They are very sensitive indeed to blue light, almost insensitive to green and yellow, and quite insensitive to red. So a blue flower photographs as white, green foliage as dark grey, yellow flowers as almost black, and red blossoms as dead black. Obviously, these results can never satisfy anyone who knows the subjects.

Luckily, though the fault is a serious one, the cure is easy. It is simply to use a colour filter (a yellow glass) over the lens. This holds back the blue light and enables the green and yellow to have their proper effect and correct renderings are therefore obtained. This increases the necessary exposure by about eight times, but as all garden pictures should be taken with the camera fixed on a tripod, this is no drawback. Time-exposures can be given instead of snapshots, an advantage in every way.

Just a word as to apparatus, and then we will get to practical business. For general garden pictures, views of borders, etc., any ordinary hand camera will do. A great deal can be done with such a camera in taking single plants, individual blooms and vases of cut flowers; but for this work a camera fitted with a focussing screen has advantages. If you are getting one specially for flower photography, let it be a quarter-plate hand-stand camera with focussing screen, dark slides, long bellows extension and a long focus lens—say a 7in. lens.

With a camera, a tripod and a colour filter, we are now ready to start photographing. Let our first subject be a general view of the garden.

THIS PHOTOGRAPH WAS TAKEN AT MID-DAY, AND SHOWS LITTLE LIGHT AND SHADE. SHADOWS WOULD HAVE IMPROVED IT.

THE USE OF A COLOUR FILTER HAS BROUGHT OUT THE SHADOWS AND THE FLOWER DETAILS.

The choice of view-point is important, and you must keep in mind that your pictures will be in monochrome, *not* in colour. So the lines and masses into which the scene falls are more important than the colour contrasts it shows.

As a rule, your foreground should be *open*. A stretch of grass, a wide paved walk, or even a path. This gives an impression of spaciousness. Choose your view-point so that paths lead into the picture, not out of it; and avoid the symmetrical—unless your subject is a formal garden—by setting up your camera rather to one side of the lawn or walk rather than in the centre. These may seem small points, but they make a vast difference to the result.

Never take a border square on: take it at an angle—and, whenever possible, show a little of the lawn or path that edges it. This gives a *foundation* for your picture to rest on.

Rock gardens are usually unimpressive in photographs because the camera is held too high, looking down on them. The result is that they appear squat and flattened. By lowering the camera you, apparently, raise the rocks, etc., until, by taking your view from within a foot or so of the ground, even stumpy little rocks become impressive.

Do not take your garden pictures at midday when the sun is right overhead. Early morning or late afternoon, with the long shadows they provide, give much better results. Whenever possible, do not face the sun *or* have it directly behind you—it should be rather to one side or the other

The colour filter will ensure a good rendering of the play of light and shade and a proper rendering of the vivid green of grass and foliage.

Using a colour filter and ordinary roll film or plates, an exposure of round about 1sec. with the lens set at F 16 or US 16 will be *about* right. Conditions and light vary so much that no more definite advice can be given. A. G. W.

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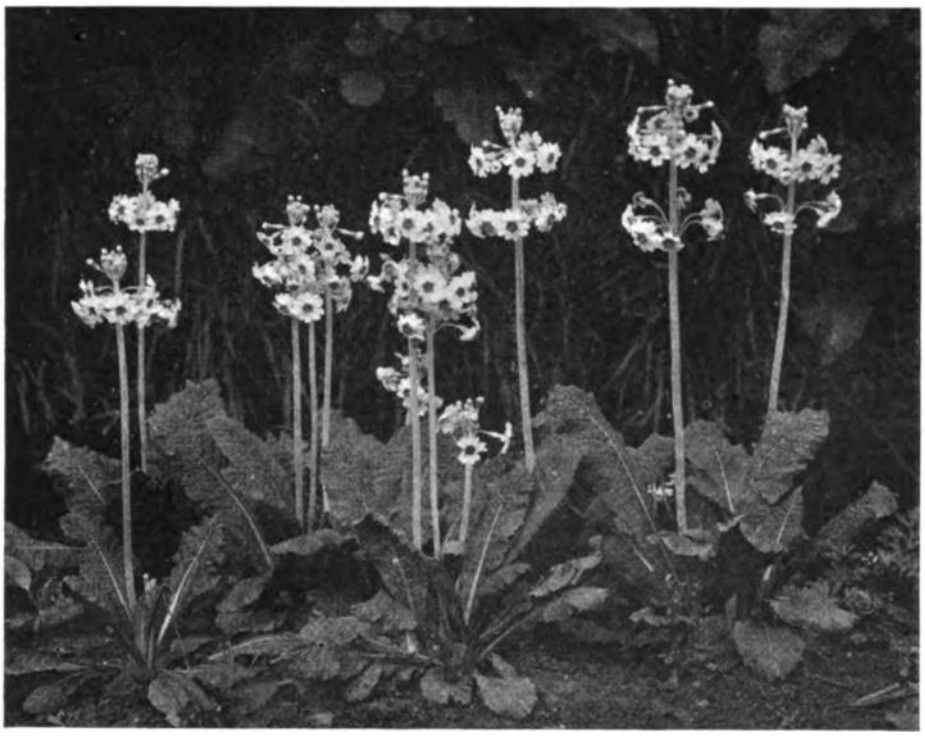
PRIMULAS OF EASY CULTURE

In this article is given a selection of species and hybrid primulas which the amateur should try in his garden, together with notes on how to succeed with their culture. They are all beautiful plants and easy to grow, provided they are given the conditions they like.

WITH the discovery of so many new species of primula in recent years, this genus has grown into an enormous family.

I only propose dealing with those species and hybrids that are of easy cultivation, that will give a good show of bloom and are easily propagated. Most of the primulas enjoy an abundance of moisture in the growing season and many species in ideal conditions grow into huge plants, throwing up many stems, and in the case of the candelabra section these develop whorl upon whorl of bloom, growing to a height of 4ft. and more. But though they enjoy moist conditions, it must not be imagined that they cannot be grown without water. I have grown many thousands of these primulas without any natural water other than rain, and most gardens should be able to provide suitable positions, large or small, where these can be grown successfully.



THE ROSE PINK P. PULVERULENTA LADY THURSBY FLOURISHING IN SEMI-SHADE.

As primulas seem to prefer cool, moist conditions at the roots, I suggest planting them where they do not get full sun and therefore do not get dried out. The ground should be dug deep to allow a good root run and they will soon get down to moister and cooler conditions. In places where there is water, it is, in my opinion, essential that there should be drainage of some sort, unless, of course, it is running water. They resent stagnation.

Where to Plant.

A north border—the north side of a wall—or a shady cool spot where the trees shade the plants, but do not rob them of moisture, should provide suitable positions for these primulas. Many cool, damp spots in the rock garden can be found, but do not pitch them up high and dry in a sunny pocket.

If the garden is on gravel or chalk, I think it would be difficult to grow these primulas, unless special preparations were made. Where space permits these primulas should be grown in masses, allowing them to sow themselves, for they never look better than when growing massed.

Raising from Seed.

They are all easily raised from seed, or increased by division. I prefer to sow seed as soon as ripe and germination will be quick, but if left till the spring it will take longer, for the older the seed the longer it will take to germinate. When sown it should never be allowed to get dry. The seedlings can be wintered in a cold frame and in the spring, as soon as they can be handled, they should be pricked off into boxes and grown on until large enough to plant out. This should be done as soon as possible, to allow the plants as long a growing season as they can get and by the autumn they should be real strong plants that will flower the following spring. If they are increased by division, I prefer doing this either in the early autumn or early spring. In the former case, sufficiently early to let the divisions make new roots and get well established by the time the cold weather comes and in the latter as soon as the weather and ground are warm enough to create root action. Should they be planted under or near trees, I always like to rake off dead leaves and leave them fully exposed; this makes them quite hardy.

In the case of species they can be raised from seed, but in the case of hybrids they must be increased by division, if any particular plant is required as seed will not come true.

The following belong to the candelabra section:

P. japonica is one of the oldest and best known. The type is of rather a crude magenta shade; there are several other colours and in growing "P. japonica, mixed colours" it is wise to select and save seed from the best colours, discarding the bad ones. One of the best is Etna, a red, and Millais' Scarlet, which is a good clear colour.

P. Beesiana.—Later flowering, rather reddish purple, with a slightly mealy stem.

P. Bulleyana.—Like Beesiana, later flowering, with orange yellow flowers. This species is apt to throw narrow petalled flowers, unless the strain is kept up to the mark.

P. Athlone Seedlings.—This is the name by which I have always known the hybrids between P. Beesiana and P. Bulleyana, a delightful strain which includes shades of pink, carmine, rose, mauve, orange and yellow.

P. helodoxa.—A very tall grower, with flowers of a clear yellow, with mealy calyces. This species differs from most in being practically evergreen.

P. glycosma and *P. Poissoni.*—Both have purple-mauve flowers and glossy foliage, the former distinctly scented.

P. pulverulenta.—A strong grower with large flowers of wine purple and mealy stems, reaching up to about 4ft. high. From this variety there has been raised, at Bartley by Mr. G. H. Dalrymple, a strain of delightful pink varieties. This strain has now been fixed and seed reproduces all pink. The finest variety is Lady Thursby, a beautiful shade of rose pink.

P. Lissadell hybrids.—These are a strain of chiefly vivid orange-scarlet shades, the result of crossing P. pulverulenta and P. Cockburniana. The latter is a wonderful colour, but a small plant and a biennial. The hybrids have size and habit similar to P. pulverulenta, though not quite so large. Several varieties are named, Red Hugh and Ailin Aroon, both raised at Lissadel. They seed freely and reproduce fairly true.

Of other easily grown species which will grow under similar conditions, there are *P. rosea*, an early flowering species, with bright rose flowers, of dwarf habit when first opening, the flower spikes have grown many inches by the time the seed pods are ripe and as these ripen early, watch must be kept or the seed will be lost. This species seems to prefer much moister conditions, though I have it growing very well in a cool, but drier position.

P. luteola, with soft yellow flowers, seems to prefer more moisture than most. *P. vittata* is somewhat similar to P. secundiflora, but is smaller in the flower and I think has rather more of them; they could be best described as purple forms of the well known P. sikkimensis, the Sikkim cowslip, a delightful scented variety with hanging heads of pale yellow flowers. This seems more or less biennial and I have noticed the vast difference in plants of this species and P. vittata, when growing in ground saturated by a spring which always keeps the ground sweet.

P. Florindæ, which received a F.C.C. at Chelsea last year, is one of the latest introductions. It is a giant sikkimensis and from the collector's description it should be a fine garden plant.

P. chionantha, which has white flowers and belongs to the Nivalis section, is not long lived with me. This may be a matter of cultivation; it is a plant worth persevering with.

The last I shall mention is the extraordinary looking *P. Littoniana*, which has a cone-shaped flower spike, a strange contrast in its purple flowers and red calyces. It is difficult to keep perennial, but it is well worth tackling, for it is so unlike anything else. That it is perennial is proved by a letter I had from a gentleman in Ireland, who has plants several years old, throwing up ten or more spikes

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each. No doubt the climate of Ireland, and, I believe, also Scotland, suits it, like many other primulas. Personally, I find it does best when planted where it gets good drainage in its resting period and sufficient moisture in its growing season. It dies down to a small hard bud and as it starts into growth very late, it is apt to be overlooked. In frosty weather it is apt to be "lifted" out of the ground, as its roots being spread near the surface have not much hold. I have found it very easy to raise from seed. P. M. A.

EVERGREEN SHRUBS FOR SMALL GARDENS

ONE very valuable characteristic of evergreen shrubs in connection with small gardens is that the majority can be kept small, or within reasonable limits, by pruning. Neither need this destroy their distinctive character and beauty of flowering. The best time to prune most evergreen shrubs is during April and May. At this season new growth is more active than at any other season of the year, and even if severe pruning is considered necessary, the bushes are soon furnished with new growths. One of the important shrubs which can be pruned in early April is the laurustinus, because flowering has finished, while the pruning of Berberis Darwinii and B. stenophylla must be delayed until the flowers fall.

Instead of planting laurels, privets and even yews so extensively in small gardens, choice should be made, as far as possible, of shrubs, which in addition to being evergreen, have attractive and showy blossoms. They are little, if any, more trouble to grow and care for, while bearing no comparison in interest and beauty.

As an alternative to the usual privet hedge of the small front garden, I suggest planting a selection of six, eight or ten from the following list of shrubs: Berberis stenophylla and B. Darwinii, Cistus cyprius for a hot sunny position, Ceanothus dentatus, Mahonia Aquifolium, Olearia Haastii, Escallonia langleyensis, Osmanthus Delavayi, Pyracantha Lalandei, Veronica Traversii and Viburnum Tinus (laurustinus).

It is neither possible nor desirable to keep the growths of these beautiful shrubs closely cut with shears once a month in summer, as is done with privet, but all can be kept quite formal and moderate in size by pruning, except, perhaps, Cistus cyprius, which is not improved with the knife. Some owners may prefer to plant only one variety of shrub, or a selection of three, one along the front and one on either side.

My choice of half a dozen small specimen shrubs for a tiny front garden would be Erica carnea, which grows in limestone soils and produces its rosy-red flowers from January to April on plants less than 1ft. high; Rhododendron racemosum, which also does not seem to be impatient of lime in the ground, white pink-tinted flowers in April; Yucca recurvifolia, a plant with dracæna-like foliage which occasionally develops a tall stem of creamy-white blossoms; Mahonia Aquifolium, the Oregon grape, should find a place in the majority of small gardens. In sunny positions it has large attractive glossy green leaves, which in winter assume a bronze or purple shade when sprays are valuable to cut for vase decoration with flowers. In early spring erect clusters of rich yellow blossoms top the foliage, followed by violet-black fruits, beloved of the blackbirds and thrushes. This mahonia is also one of the best shrubs to plant in shaded positions and beneath trees. Normally 4ft. to 6ft. high the bushes can be kept to half these heights by periodical pruning. Berberis Darwinii nana is a dwarf form of the Chilian barberry, with golden-yellow blossoms. For a hot, sunny position Cistus corbariensis forms a neat, compact bush, covered in June and July with white blossoms 1½ins. across.

SHRUBBY VERONICAS ARE DECORATIVE BOTH IN FLOWER AND FOLIAGE AND WORTHY OF A PLACE IN FRONT OF THE HOUSE.

Several evergreen shrubs are very good climbers to clothe

House Walls.

As there is some difficulty in successfully transplanting these shrubs, nurserymen cultivate them in pots so that they are available for planting at the present time. Garden lovers who have taken occupation of a new house at the end of the March quarter can thus proceed with the planting without delay. The most popular evergreen on London suburban houses is Pyracantha Lalandei. It is planted with success in all four aspects, but on north walls the position must be open with all possible light. In spring it has clusters of white may-like blossoms followed by orange scarlet fruits. For a south or west wall the blue-flowered ceanothuses are very showy and valuable. C. rigidus is the best for a small area, as the branches are stiff and compact. C. dentatus is more robust in growth, while to clothe a wall of ample proportion, plant C. Veitchianus. The common myrtle, Myrtus communis, or the small-leaved myrtle, M. tarentina, are also suitable for a south or west wall. The rather new Chinese shrub with fragrant white blossoms, Osmanthus Delavayi, is a very good subject for a warm sheltered wall. On an east wall plant the evergreen honeysuckle, Lonicera Halliana.

The following shrubs are worthy of consideration as specimen evergreen

Lawn Shrubs

for a small garden; Veronica Traversii, white; Olearia Haastii, the New Zealand daisy bush, white; Rhododendron hippophæoides, a small leaved Chinese shrub with lilac purple blossoms; Osmanthus Delavayi, if the garden is warm; Raphiolepis Delacouri is a little known hybrid shrub with panicles of pink blossoms in summer. It belongs to the rose family. Cotoneaster salicifolia is a graceful, free-flowering species from China with white flowers and red fruits.

Enough names of evergreen shrubs have already been enumerated in these notes to furnish a shrubbery border in a small garden and gardens of moderate size. There are, however, several of distinctive merit and deserving of attention when the particular conditions quoted are available.

The value of camellias as hardy shrubs is appreciated in very few gardens. They are quite hardy shrubs, but because the blossoms are produced in late winter and early spring, plant in sheltered positions. When a plant becomes too large for its pot in the greenhouse give it a warm sheltered corner in the garden border.

Dabœcia polifolia, the Irish or St. Dabeoc's heath, is a dwarf evergreen shrub 1ft. to 2ft. high. There are varieties with rosy-purple, red-purple, white and purple (bicolor) and pure white blossoms, freely produced from June to late autumn. It likes a peaty or lime-free, loamy soil. A. O.

ONE OF THE EVERGREEN CEANOTHUSES, SUCH AS C. VEITCHIANUS, MAKES AN ATTRACTIVE SHRUB FOR A WALL BELOW A WINDOW.

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THE BUSY MAN'S PAGE

When the Peas Come Up.

BOTH in the case of sweet peas and green peas the little plants often find it rather difficult to secure an immediate hold. This is because the lower parts of the sticks are too thick for the tendrils to embrace. When this happens the young plants spend some days more or less sprawling on the ground until they have grown to a sufficient height to grasp hold of the finer twigs. In all ways it is better to get the young pea plants clear of the ground at the earliest possible moment so that, with the appearance of the first tendrils, they may develop their proper climbing habits. It is an excellent plan to arrange a number of small twigs round the bases of the sticks, pushing one end into the ground and letting the other lead upwards. The peas will be quick to take advantage of the support offered and there will be no check on the development of the plants.

Pruning Climbing Roses.

IN a general sense when pruning climbing roses steps should be taken to remove all the old wood, that which is young alone being retained. In most cases this is a good line to follow but, now and again, it is needful to discriminate a little. In many cases young wood is abundant, and here one can usefully do without the old wood. It sometimes happens that only a few new growths have been produced, and yet a large space has to be covered, and here it would be a mistake to thin out too severely. This applies especially to the Wichuraiana roses, of which Dorothy Perkins is a well known example. Here, if the growths which flowered a year ago are examined, they will be seen to differ from the young growths in that they have short shoots along them and these bore the blossoms during the previous season. If it should be necessary to retain a few of the older shoots, cut these back to a couple of buds from the main shoot. This will make them break into growth fairly strongly, and the young growth will, in due course, flower, although the blossoms are rarely so fine as those produced on perfectly new stems. Such roses as Hiawatha, Minnehaha, Lady Gay, in addition to Dorothy Perkins, may be treated in this manner. It should be realised that this plan is not to be recommended where strong, well ripened stems of the previous season's growth are available in sufficient quantity. It is important to distinguish between the Wichuraiana and the rambler roses proper (like the Crimson Rambler), for these latter varieties give very indifferent results from the old stems.

Planting Evergreen Hedges.

AS a rule evergreen hedges are superior to hedges of deciduous shrubs, for they form dense screens, protective shelters and, at all seasons, a pretty and decorative garden ornament. This is one of the best periods

PLANTS IN THE POSITION FOR PLANTING.
They are laid out at the necessary distance apart.

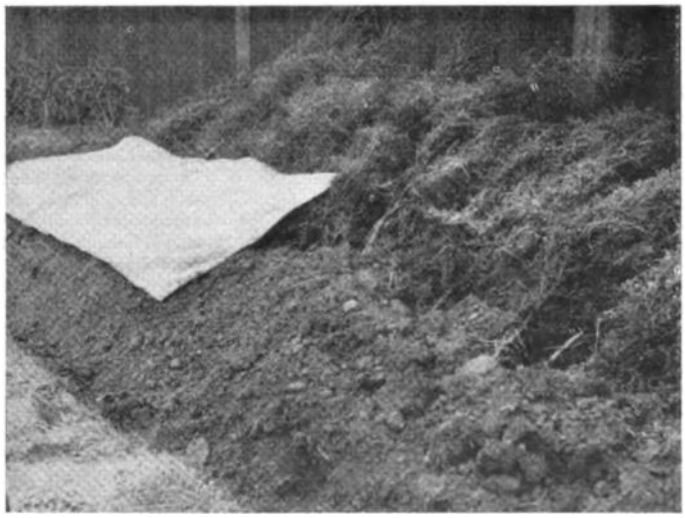
of the year in which to plant; shrubs may be obtained or shifted successfully, the ground is easily prepared for them and the work can be properly carried out. As the hedge must stand for a long time, the grower should devote time and attention to the preliminary soil preparation. The soil should be dug to a good depth, at least a foot on either side and if it is not in good heart a liberal addition of really old manure or leaf-mould or, preferably, a mixture of both, should be added. Evergreens may be purchased "full grown"; by this is meant that the hedge may be made to any desirable height, by purchasing shrubs of the requisite size. Such large shrubs are planted touching one another, so that the hedge may be a close one, but if for economy or for some other reason, small shrubs are obtained, they may be planted from 1ft. to 18ins. apart; the closer they are to begin with, the quicker will the hedge fill up. Small privet may be planted in a double row thus—

. . . . . .

the plants being 9ins. apart and the rows 4ins. to 6ins. from each other, in order to get a full hedge quickly. Full-sized evergreens should not be cut after planting; let them remain as they are until they show signs of having "taken" to their new position first, then cut, if desired, or leave them until next spring. Drought is always a danger after planting evergreens; water the soil copiously for a time, if necessary, spray the foliage occasionally and mulch alongside so as to keep the soil moist. One of the best evergreens for a hedge is Cupressus macrocarpa. In the accompanying illustrations is shown the planting of a hedge of this fine conifer in a new garden. It is an especially useful plant, a rapid grower, and does well in the majority of soils. The plants should be spaced about 18ins. to 2ft. apart, and in two or three years time a good bushy hedge will result. Plants can be generally obtained at a cheap rate if purchased by the hundred..

Water Plants After Top-dressing.

OFTEN, after giving a top-dressing of soil, it is considered that no further watering is needed. This is a great mistake, for, just because the top of the added soil is moist, it must not be taken for granted that the whole is in a similar condition. The newly added soil does not dry so quickly as that underneath, simply because the latter is full of roots, while there are none in the former. Generally speaking, plants that have been newly top-dressed need watering almost as often as previously, although to an extent the fresh soil acts as a mulch and keeps away the drying action of the sun and air. All top-dressings should be light and applied frequently, instead of a great deal being put on at one time. If the latter plan is carried out there is a possibility of the new soil becoming sour from constant watering before roots can enter it.



HEELING IN THE PLANTS ON ARRIVAL FROM A NURSERY.
Note the covering of soil and a canvas mat to prevent the drying out of the roots.

THE BEGINNING OF THE HEDGE.
The plants are placed at a distance of about 2ft. apart, and after planting the straggly branches should receive a slight clipping.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

A Flower for Poor Soil.

IT is easy for the expert to advise "a liberal dressing of well decayed manure," but it is not so easy for the owner of a small town garden to obtain it, and even if he can get it he has probably to pay dearly for it. This is one reason why many town gardens, which have been sown and planted for a number of years, are extremely impoverished, and quite unable to feed those plants which need a rich soil. The antirrhinum (or snapdragon) is a plant which will do well in poor soil. It is not particular regarding atmosphere and gives a wealth of coloured blossoms even in the most congested parts, and so may truly be said to be a town flower.

Of course, larger and more abundant flowers are produced if a dressing of suitable fertiliser is applied to the soil when digging is done. Any of the proprietary fertilisers recommended for flower production, applied at the rate of 2 oz. or 3 oz. to the square yard, would be beneficial; and any decayed leaves or vegetable matter or manure that may be available should be worked in as digging is done.

Choose the sunniest spot in the garden for snapdragons. A magnificent display can be obtained in a bed by planting exclusively snapdragons in different varieties. I doubt if anyone could say how many varieties of this fascinating flower are now offered by seedsmen. But for simplicity, they are grouped as dwarf, intermediate and tall, varying in height from 6ins. to 3ft. For decorative purposes and for exhibition the intermediate and tall varieties are best; but the tall varieties tend to flop over and therefore are not so satisfactory for ordinary bedding as are the intermediates and dwarfs. The leading seedsmen have their own named varieties, but there are number which are offered by all. The following can be relied on to make a vivid splash of colour in the garden: Bonfire (orange scarlet), Scarlet King, Golden Queen, Daphne (deep rose and white), Black Prince (dark crimson, with dark foliage), Victory (terra cotta), and Amber Queen (yellow with chamois pink).

Seed Sowing and Transplanting.

Seeds are best sown in boxes, protected by a sheet of glass, or in a cold frame, and then transplanted into their flowering quarters. Where space is limited or when seed sowing is delayed too long, it is advisable to buy small plants in boxes for bedding out. The plants should be set out in their permanent quarters from 12—18 ins. apart, according to their height.

Care of a Cold Frame.

Ventilating the Cold Frame.

HAVE you seedlings or cuttings in your cold frame? And, if so, are you being specially careful about the ventilation of the frame? There is no season of the year which brings a greater crop of fatalities in the frames than just now, when the days become warm while the nights may at any time bring a recurrence of frosts. A frame left quite closed on a hot sunny day may cause the plants to become "drawn": that is, to grow long stems between each of the joints. Such plants never grow into shapely and bushy specimens. A closed frame may also cause worse damage. I have seen several boxes of seedlings scorched and rendered useless by one day spent in a closed frame while the sun was hot.

On fine days the lights of frames used for violas, antirrhinums and other fairly hardy plants may be removed entirely. On chilly days the light should be raised on the side away from the winds. About half an hour before sundown the lights may be replaced; but in the case of hardy plants which are soon to be transplanted to the open, there is no need to close the frame entirely at any time. Leave it always so that the plants get plenty of air, and they will grow more sturdy, and give better results.

It is time to transplant rooted cuttings of violas and pansies. Pinch out the tips of calceolarias and gradually harden them off in readiness for summer bedding.

Pool and Bog Gardens.

THE gardener is fortunate who has a stream running past the end of his garden, for this, properly planted, can be made into a perfect picture. Even where there is no natural water it is not impossible, to arrange a bog garden by making use of the rain water drained from greenhouses, sheds, etc. A deep pond, dug out to a depth of about 3ft. or 4ft., with cemented and slated sides and bottom, can be made by any amateur. This is an ideal place in which to plant some of the charming water lilies, such as Nymphæa pygmæa Helvola or N. odorata alba (very fragrant). If the water from such a pond is allowed to overflow into the surrounding soil, a bog garden can be made by suitable planting. Add peat-moss litter and decayed leaves to the soil to retain moisture.

A few plants which would do well in such a position are Iris Kæmpferi, I. lævigata, Parnassia palustris, Primulas japonica, Beesiana and Bulleyana, Butomus umbellatus (Flowering Rush), Sagittaria japonica, hart's tongue ferns, Trollius europæus, Astilbe Thunbergii, Viola palustris, Meconopsis Wallichii, Myosotis palustris, and Caltha palustris fl. pl.

A SMALL LILY POND MAKES A MOST CHARMING ADDITION TO A TOWN GARDEN.

Salads for the Town Garden.

COOL, crisp, refreshing salads are best made from newly gathered lettuces, radishes, etc., such as it is only possible to obtain when these are grown in one's own garden. Town and suburban gardeners need not be debarred from such joys, as even in the small garden it is quite possible to cultivate many salad crops successfully. The secret of success in salad culture is in rapid growth, and this can only be secured when moisture, warmth and a fairly rich soil are available. The allotment gardener often plants out his salads between tall-growing crops, thus affording them a certain amount of shade and preventing scorching. The owner of a tiny garden need not usually worry about excessive sunshine, as it is probable that even the sunniest parts get a limited quantity of shade either from his own or neighbours' houses.

Mustard and Cress.—These are favourites in the salad bowl, and to keep a constant supply available they should be sown in succession at fortnightly intervals. It is best to sow in boxes, as seed sown in the open ground is an attraction to sparrows. Use finely sifted soil for the top layer, and spread the seed thickly over the surface. Place a sheet of paper over the seed until germination has taken place, but do not put soil over the seed. The crop will be ready a few days after the paper is removed. Do not forget to keep the boxes moist, but not too wet, and never use the same soil twice.

Lettuce.—This crop entails comparatively little trouble, and can be grown in almost any position. Seeds may be sown in boxes in cold frames or in the open ground, and then transplanted as soon as they are large enough to handle. Thinning and transplanting must be done early, otherwise the plants will become straggly and have a tendency to bolt instead of developing hearts. Eight inches apart is not too much room to leave the plants. From the time of sowing it takes ten to twelve weeks for lettuces to develop into good-sized plants.

Radishes.—These are another crop which should be grown in every garden. A few seeds scattered thinly, preferably in a shady part of the garden, and covered with a thin layer of sifted soil will mature in about five or six weeks. The turnip-rooted radishes are best for town culture.

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WORK IN THE FLOWER GARDEN

A Blue Flower for the Border.

I BELIEVE we are indebted to Mr. Forrest for the introduction of Cynoglossum amabile (Hound's-tongue), who discovered it in Tengyueh, China. It is a fine acquisition, and should be largely grown in beds and borders. The leaves and flower stalks are a pleasing grey-green, the brilliant blue forget-me-not-like flowers being produced in spreading panicles about 18ins. or 2ft. in height. Truly it is a fine plant, and now we have a pretty form known as Blue Gem, and this should be grown by all who desire an effective subject for the blue garden or border, while, of course, it is equally appreciated among other flowers.

It is biennial in character, and seeds should be sown about July to furnish a supply of plants for next year, when an early display of bloom will be assured. There is, however, a possibility of securing flowering plants this year if seeds are sown at once, and grown on without any check. Plants so raised will afford a striking feature in the garden about September or October, and a bold group is most conspicuous when in flower. It is readily raised from seeds, and presents no difficulty regarding cultivation. A few plants will carry on for another season, and often a number of self-sown seedlings will appear.—T. W. B.

A Mignonette Tree.

A Novel Way of Growing this Fragrant Annual.

IN these bustling days, few people, I am afraid, have the necessary patience to grow a mignonette tree, a labour of love which appealed strongly to our grandmothers, many of whom were clever window gardeners, but such an experiment is interesting and well worth trying. There are two ways of making a start; a few seeds may be sown in a 6in. pot during April in a frame, or failing this, a sunny window, and the seedlings reduced first to three and then to a single one, or a sturdy seedling may be potted up from the open ground in May or early June, but whichever method is followed, the after procedure is the same. When the plant is about 4ins. high, the lower leaves should be removed; this must be repeated several times, until the effect of a tiny standard tree is obtained, and about July or August the top should be pinched out to encourage branching. Every flower bud must be nipped out promptly throughout the summer. If the pot is well filled with roots the little "tree" should be repotted at the end of September or early in October, and placed in a greenhouse, or in the window of a room from which frost is excluded. By the following spring a film of bark will probably appear on the little "trunk," and if care is taken to remove all buds during the ensuing summer, the tree will bloom profusely through the next winter under glass or in a window, or it may be grown on for another year before it is allowed to flower. I have seen in a gardening book published in the 'sixties of last century, that a mignonette tree will "last and bloom for years," but, as a rule, after a crop of flowers has been produced, it dies. I confess I have only once attempted to grow a mignonette tree myself; then all went well until it had attained some size and I was just thinking of permitting it to bloom, when, alas! a swarm of tiny green caterpillars took possession of it and before the invasion was noticed had reduced the pretty little tree to a bare pole—and so it died. But some day I hope to try again.—R. E. H.

Sow Zinnias Now.

THE zinnia is at once one of our showiest and most easily grown annuals. Asters are quite impossible on some soils. Stocks are subject to—among other ailments—the club-root or "finger and toe" disease which attacks the roots of the cabbage family and other cruciferous plants. The zinnia, though it sometimes suffers a little in a wet cold autumn from a fungus "die-back" disease, is, under decent cultural conditions, relatively immune.

CYNOGLOSSUM AMABILE MAKES A FINE EDGING PLANT.

The perfection of form shown by the flower-heads of a good double strain is such that, in conjunction with the characteristic "lacquered finish" to the florets, it imparts an effect of quaintness bordering on artificiality. But the plants, as growing, are "real" enough, for there is nothing artificial about the foliage. The "finish" to the florets makes any colouring in the zinnia reminiscent of art work carried out in sealing-wax; and tones and shades which—in the aster, for instance—would be dull and muddy, look very clean and charming in the flower under discussion. The writer is not, as a rule, enamoured of "art" colourings in flowers, but a packet of Suttons' Art Shades Zinnias tried during the past season provided a feast of charming colours—cream buff and shades of apricot and rose, with crimson lake tones, predominated. Other pleasing and unusual strains obtainable are the cactus-flowered and picotee-edged; while the single forms, though different in their attraction, should by no means be neglected. For edgings and foregrounds the miniature or pompon varieties should be much more frequently met with than is actually the case. It should also be borne in mind that large-flowered double zinnias may be had of various habits to suit varying conditions; the dwarf forms seldom exceeding a foot in height, while the giant strains will attain 2½ft. or even more. All strains, except the very tallest, are eminently suitable for filling good-sized garden vases.

As already suggested, the culture of zinnias is of the simplest. The large seeds should be sown thinly in a fairly rich compost, and pricking off should not be delayed until the plants show a tendency to become drawn. Gentle heat for germination and early growth is useful, but by no means essential. A cold house or even a cold frame will raise splendid plants. The great secret of success with the zinnia is, however, *not to sow too soon*. The third week in April is quite soon enough where the plants are intended for bedding out.—G. W.

Lungworts for the Rockery.

AMONG the old-fashioned flowers which have found a place in English gardens for many years are the lungworts (pulmonarias), and, although they are not showy, they possess a certain charm that appeals to a large number of gardeners. The value and interest of a garden is the variety of plants grown, and here we have a small group of early-flowering subjects that are in striking contrast to the numerous bulbous plants and wallflowers that are in bloom at the same time, *viz.*, March and April, according to the season. Only a few species will be found in catalogues, and they are all useful, if not indispensable, to the rock garden and front positions in the herbaceous border. One of the best is Pulmonaria azurea, sometimes quoted as angustifolia. It grows about 9ins. high, and its rich gentian blue flowers can occasionally be seen in February; but the finest display for this charming plant is between March and May.

Another good blue form is Munstead variety with clear blue flowers and green foliage. One often met with is P. saccharata, which has handsome silver and green leaves and pretty pink flowers which, with age, turn to a violet shade. There are two or three forms of P. saccharata, such as picta with blue flowers, and Mrs. Moon with bright salmon pink blossoms marked with blue, the green foliage in this variety being beautifully mottled with white.

There are a few other pulmonarias, such as rubra with coral red flowers, but the above are about the cream of the group, and they will furnish a delightful bit of colour in the early spring, while the foliage as it develops will be quite a feature of the border during the early summer. They are of easy culture, thriving in ordinary soil, while they can be grown in the shade as well as in the sunshine, and I have seen them producing a good display of bloom beneath deciduous trees. They can be increased by division, and by seeds.—CHEPSTOW.

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Raising Dahlias from Seed.

IT is quite evident that dahlias are again becoming very popular. This, no doubt, is partly due to the many beautiful types and strains that have been added to the list in quite recent times, noteworthy on account of their wide range of colour and various methods of decoration to which they lend themselves.

The method of raising these flowers from seed is now more generally adopted than in the past. Although one cannot rely upon obtaining true colours from seed, it is, nevertheless, most interesting to note the various forms and pleasing shades obtained by this means. Seed sown at once in gentle heat will yield good strong plants ready for the border at the beginning of June and will produce a grand display of bloom the first season. When the seedlings are large enough to handle, pot off singly into large 60s, and once they are established they will soon make up into sturdy plants. Gradually harden them off in readiness for planting in their permanent quarters. Given the necessary attention in the matter of staking and tying, they well repay for any time spent on them. Mulching and watering during hot weather are most beneficial and are essential if the best is to be derived from them.

To obtain the best varieties, it is wise to procure the seed from a reliable firm, even at a little higher cost.—W. F.

SEEDLING DAHLIAS IN ALL COLOURS ARE EXCELLENT FOR BEDS AND BORDERS.

Sweet Pea Seedlings.

Transplanting to their Flowering Positions.

THE sweet pea seedlings which have safely passed the winter in frames and greenhouses, are now almost ready for transplanting. This should be done gradually, in order that the seedlings shall become hardy and accustomed to the outside air.

Keep the frame lights open a little wider each night until the seedlings within are fully exposed to the weather. Meanwhile fork over the border where the sweet peas are to go; of course, all manuring should have taken place in autumn or early spring, but if for any reason this operation should have been neglected, now is the time to do it. Dig a long trench, 2ft. deep, and spread a thin layer of well rotted cow or stable manure along the bottom; fill in again and mix a little bone meal with the top spit. Bone meal is an excellent and gentle fertiliser which will nourish the plants for months.

Choose a fine day to transplant the seedlings, which by this time will have reached a height of 6ins. or 7ins., and which already should have been pinched back to make bushy plants. Raise the seedlings carefully out of the frame, and before transplanting them along the border, dip the roots in a jar of water. Press the soil firmly about the roots and support the stems with a few twigs pending the arrival of the pea sticks.

In this way the process of transplanting will cause no set back to the seedlings, which under the influence of rain and sunshine will soon develop into sturdy plants bearing rich crops of flowers throughout the summer. —G. J. M.

Scabiosa caucasica.

FEW gardens, however small, can afford to be without one or more representatives of Scabiosa caucasica, and now that flowers are being grown for the London markets they are sure to become popular during the coming summer. They are splendid border plants, while for cutting purposes they have no equal. Few other border subjects continue in bloom for so long a period. Slugs are the greatest enemies of these beautiful scabious, but liberal applications of air-slaked lime and sharp grit during the winter months will keep these marauders away.

The question of planting is most important, and the best time is from March to July, and *not* September to March, which is the period to plant most things in the borders. In fact, it is disastrous to lift and divide S. caucasica during the late autumn and winter months, so March or early April would be the ideal time for most gardens.

They are perennial, hardy, and need no staking. It is a good plan to grow them in a separate bed or border, but where it is decided to place them among the herbaceous plants, choose an open site where they will not be overwhelmed with dense foliage. Every second year division of the plants must be resorted to, if the best results are to be obtained, and this should be done in March or early April. A distance of a foot or 18ins. is allowed between the plants, and, when the stock increases, try a row across the kitchen garden, where, more or less forgotten, they will furnish a quantity of first-rate blooms for vases and general decoration. In addition to the type of S. caucasica, which produces lovely heads soft of lilac-blue flowers on stiff stems, there are numerous first-rate varieties, such as Harold, deep iris blue; Mauve Queen, lavender mauve; Isaac House, intense violet blue; and others.

These are a little higher in price than S. caucasica, which is on a par with other common hardy plants. Seeds from named varieties are offered, and these can be raised now in a cold frame, and directly the seedlings are large enough transfer them to their flowering quarters. The raising of seedlings is an interesting pursuit, and there is always the possibility of flowering a really fine variety; in any case, the majority will be of value for the border.—T. BRISCOE.

MODERN PERENNIAL SCABIOUS WITH LARGE WELL FORMED FLOWERS.

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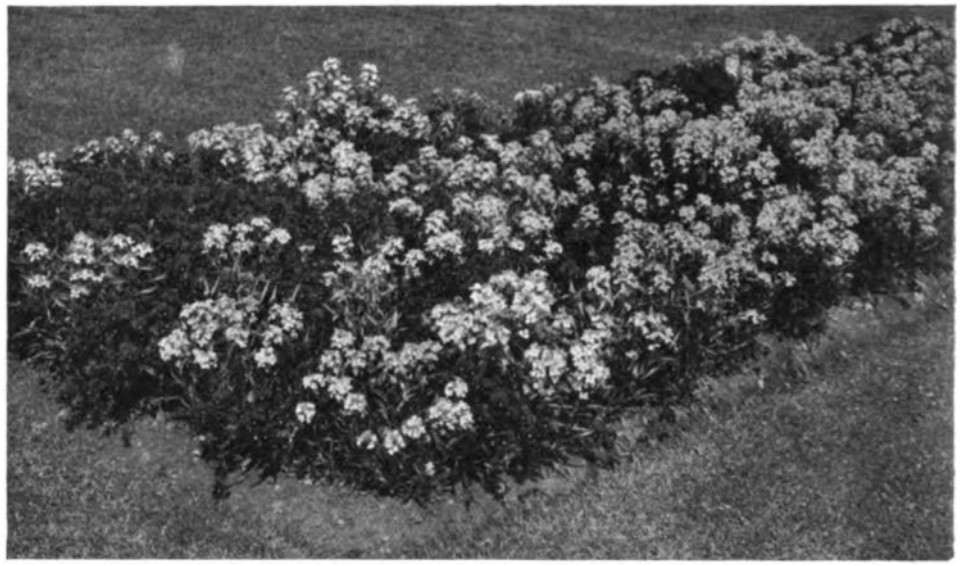
SOME GOOD BIENNIALS for BEDS or BORDERS



A BED OF THE BRILLIANT ORANGE SIBERIAN WALLFLOWER WITH A GROUNDWORK OF BLUE VIOLAS.

OF late years it has been increasingly the custom to treat many biennials as half-hardy annuals, sowing them in slight heat in February or March and planting out in May or June for flowering the same season. The plan is a good one, as it saves the seedlings from the perils of severe frosts, torrential rains and the attacks of slugs and snails which beset them if sown in autumn out of doors. But it is not everyone who has heat at command, nor is it every biennial that responds satisfactorily to the treatment.

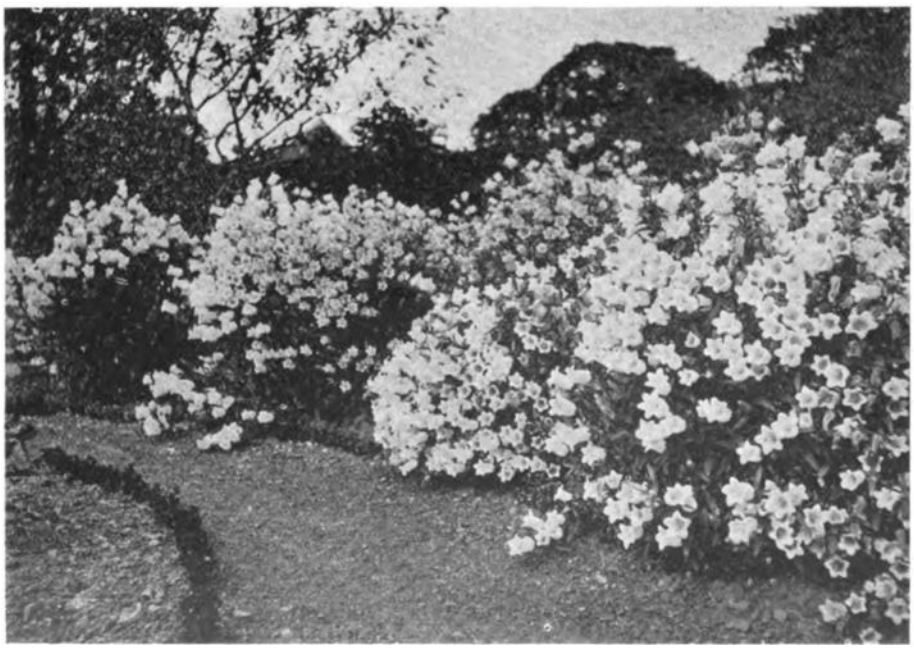
One of the best and hardiest true biennials is Campanula Medium, better known as the Canterbury bell. The seed of this, which is extremely fine and should be only just covered with sifted soil, should be sown out of doors early in summer (for the campanula is not a quick grower); the seedlings, pricked out for the autumn and removed from the nursery bed to their flowering quarters in May or June for blooming the same season. The single Canterbury bells are undoubtedly the most graceful of habit, but the doubles and semi-doubles or cup-and-saucer (C. calycanthemum) varieties are showier and therefore more popular. A bed of either single or double Canterbury bells—they are best used separately—in mixed colours, mauve, purple, pink and white, is a very pretty feature in a garden, whether large or small, and if the seed pods are removed its beauty will continue throughout the summer. Clumps of the campanula, the height of which ranges from 2ft. to 2½ft., are effective in the border, while plants potted up in October for the unheated greenhouse will bloom in early spring.

Handsome plants for the back row of a wide border, especially if combined with delphiniums or with Anchusa italica Dropmore variety or the newer Pride of Dover, are the verbascums or mulleins. Some of these are really biennials, while others are perennials, which are generally grown as the former, which probably explains why a species listed as "biennial" by one seedsman may appear as "perennial" in the catalogue of another. V. phlomoides is a true biennial and is one of the finest of its kind; it has large golden flowers and attains a height of 5ft. or 6ft., as, indeed, do practically all the mulleins. V. olympicum is another good biennial, so is V. Chaixi (perennial in some soils), which has woolly leaves and buff-yellow flowers with a purple eye, and there are some fine biennial hybrids of which Miss Willmott is a beautiful pure white, but these are rather less hardy than those previously named. The verbascums which, as a rule, seed themselves freely, prefer a light soil, as do their relatives, the celsias, of which C. cretica (4ft.) is the most attractive, but C. coromandelica (5ft.), the hardiest. Both are yellow flowered.

An old-fashioned biennial now rarely seen save in cottage gardens is Lunaria biennis, otherwise Honesty, Peter's-pence and Money-in-both-pockets. The purple of the type is a little dingy, perhaps, but L. b. atro-coccinea is a rich crimson-purple and the white variety is excellent for cutting. The shining, silvery white ovals of the seed pods make a pretty winter decoration in the house, especially if arranged with the scarlet lanterns of Physalis Alkekengi or P. Franchetti. Honesty is an essentially good tempered plant; it is quite indifferent as to soil; will bloom tolerably well under trees and can be trusted to renew itself from seed. Sweet William—Dianthus barbatus—is one of the plants catalogued indifferently as perennial and biennial, but it is really the latter. The old auricula-flowered type that has a ring of purple or crimson on a white ground, has a certain pleasing quaintness about it, but Sutton's Pheasant's Eye and Barr's Perfection are both improved varieties of it. The self-coloured varieties, however, are preferable for massing in beds, and of these Sutton's Pink Beauty, Scarlet Beauty, Barr's Copper King, Fairy, Salmon-pink and Sutton's Giant White are specially desirable. Ryder's dwarf Sweet William, only 9ins. high, makes a neat edging and there is a double strain, but this is scarcely as pretty as the single.

Foxgloves are to be reckoned among the most effective plants for the back of a border or as a group in a corner of the garden. The white and spotted varieties are the best to grow and of the latter the Shirley strain, the result of many years careful selection by the Rev. R. Wilks, is by far the most desirable. Sutton's Giant Primrose, with deep cream flowers verging on buff, is a novelty, but scarcely as attractive as the pure white; Digitalis ambigua and D. gloxinioides are curious, but not very beautiful and the original type, D. purpurea, is only suitable for the wild garden. Therefore, any seedlings showing the least trace of the purple-pink of the native plant should be promptly pulled up.

The ever valuable antirrhinum is a perennial which is now almost invariably treated as a half-hardy annual, but it can be grown as a biennial by sowing in June or July and wintering the seedlings in the open ground; they should, however, have some slight protection in an exposed situation. Antirrhinums are now to be had in such an infinite variety of beautiful shades that it is difficult to select any for special commendation, but among the best are certainly Golden Chamois, Orange King, Crimson King, Pink Pearl, Malva Rose (new) and White Queen, all belonging to the tall section, and Nelrose, Fire King, Crimson Queen, Fireflame and Rose Dorée, in the intermediate class. And Messrs. Dobbie have an excellent strain of striped antirrhinums (these have been always popular north of the Tweed), which make a specially charming and uncommon filling for small beds; they are most effective seen by themselves.



A BED FILLED WITH CANTERBURY BELLS IS ALWAYS ATTRACTIVE.

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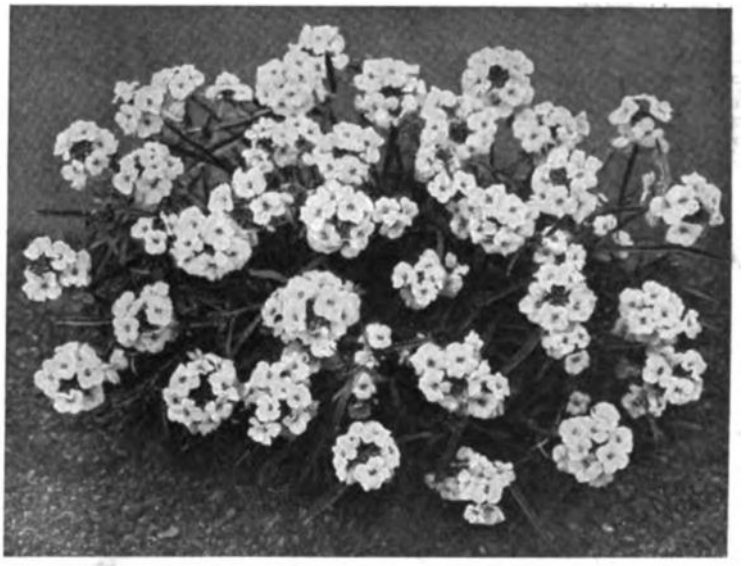
Coreopsis grandiflora, the brilliant golden yellow flowers of which are equally valuable in the border and in a cut state, is ostensibly a perennial, but is so short-lived that it is safest to regard it as a biennial and deal with it accordingly. There is a semi-double and somewhat dwarf variety which is more suitable for a narrow border than the type. The only biennial among the evening primroses is Œnothera biennis and its fine variety Œ. grandiflora (syn. Lamarckiana). The latter has large yellow flowers and reaches a height of 4ft. ; its seed should be sown as soon as ripe.

The practice of growing wallflowers as biennials for spring bedding is increasing and there is an infinite selection of good varieties. Among the most beautiful are Sutton's Fire King, a vivid orange, not far off true scarlet ; Orange Bedder, a softer shade than Fire King ; Faer e Queene, a deep yellowish cream, which goes well with either of the orange wallflowers or with Purple Queen. Ryder's Gold of Ophir is a brilliant yellow and two fine novelties are the ruby-red Queen of Sheba, which is but 10ins. in height, and Rose Queen, the colour of which is really pink with a dash of terra-cotta. And if a very sweet-scented, but not necessarily showy kind is wanted, there is Sutton's Giant Brown, which is a distinct improvement on the old-fashioned type. The wallflower should be sown at the end of May or the beginning of June, as also should the pretty little orange Siberian wallflower, Cheiranthus Allionii, that forms such a delightful carpeting for May-flowering tulips, for, although nominally a perennial, it is a very doubtful one in some soils, and it is wise to renew the stock yearly. The lilac-flowered Erysimum linifolium is a true biennial, as is E. arkansanum, of which Toogood's Dwarf Golden and Sutton's Golden Gem are both good varieties.



THE MAUVE ALPINE WALLFLOWER, ERYSIMUM LINIFOLIUM, FLOWERS IN MAY AND JUNE.

Other biennials worthy of a place in the garden are Eryngium giganteum, the ivory or silver thistle, the nearly white bracts and blossoms of which contrast so well with scarlet orange or deep rose flowers in the border ; Scabious atropurpurea (this can be grown, satisfactorily as an annual) ; the claret-coloured Meconopsis nepaulensis (needs a moist, semi-shady position) ; Iberis gibraltarica, the pretty lilac and white edging plant. R. E. HEAD.

We are indebted to Messrs Sutton and Sons for the illustration of Erysimum linifolium.

WHAT OUR READERS SAY

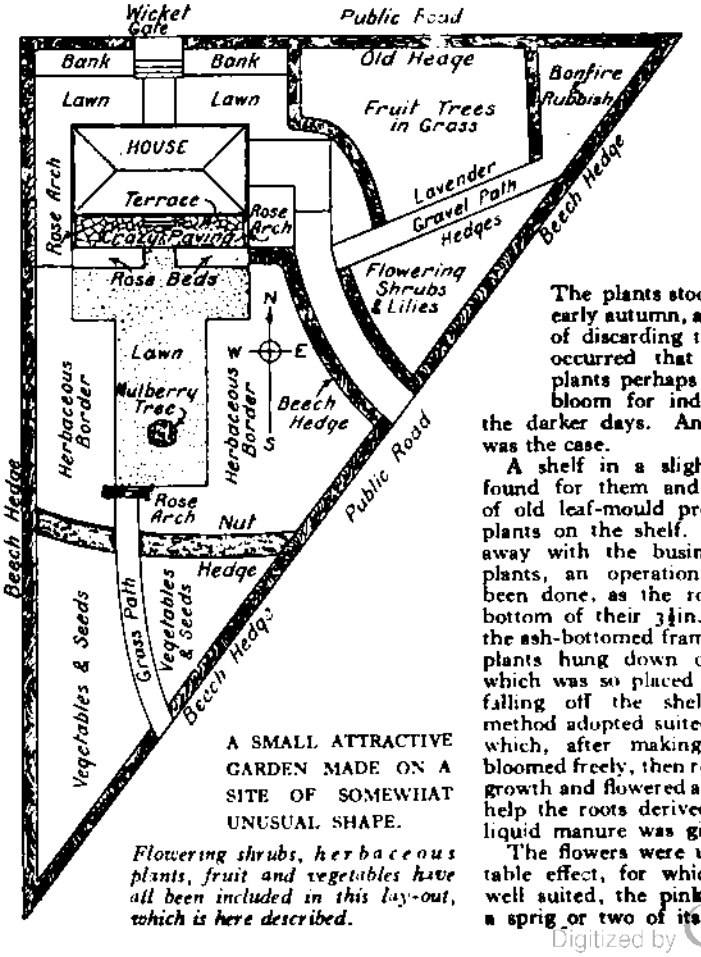
MAKING A GARDEN.

SIR,—Your correspondent, "North Herts," is to be congratulated upon having something different from the eternal rectangular shape from which to make his garden. It may not be so easy, but there is greater opportunity for individuality and a much more interesting result is obtainable.

I imagine my ground is somewhat similar to his, though not so large. Three years ago it was a waste corner on which the local Urban District Council parked a steam roller. The first thing done was to burn the long grass ; then the ground was trenched and the weeds buried a good 2ft. down. Beyond a perennial vetch—the worst weed I know—nothing came up. To get a quick show for the herbaceous borders seeds of delphinium, Anchusa italica Dropmore and Downer's lupins and other herbaceous plants were sown at once and were ready to transplant to the borders as soon as the house was finished.

The rough sketch will show the shape and lay-out of the garden. On the north side there is an old quick hedge. Beech hedges have been planted wherever else a hedge was wanted. Flowering trees being planted at intervals inside the hedge. A Robinia Decaisneana is on either side of the drive gate, and a gingko tree is at the apex of the triangle where the rubbish heap and bonfire are placed. This is screened by a little beech hedge, and while that is growing a parsley-leaved blackberry has been run over a system of wires.

On the north side of the house, which is of a Georgian type, there are a couple of Acacia inermis at the wicket gate, and a couple of pyramid box trees on either side of the front door. On the north wall on either side of the front door, Pyracantha Lalandei and Tropæolum speciosum are growing. On the west, Rose Climbing General McArthur. On the south there is a large oak trellis arch over a French door into the garden. This is covered with honeysuckle—Lonicera Halliana; and against the house at the foot of the wall, Cotoneaster horizontalis. The whole of the east side is covered with Polygonum baldschuanicum. These two last climbers are quite sensational in their tropical growth. I have not got "North Herts'" central depression, but that too could be taken advantage of, unless the house is to be put there ! The thing to do is to choose what will suit the shape of the ground, and then plant only such flowers, shrubs and trees as are likely to be happy in the situation provided. "The Hostel" at Welwyn Garden City, Herts, has a depression in the garden treated in a way which might interest your correspondent. — SOUTH STAFFS.



A SMALL ATTRACTIVE GARDEN MADE ON A SITE OF SOMEWHAT UNUSUAL SHAPE.

Flowering shrubs, herbaceous plants, fruit and vegetables have all been included in this lay-out, which is here described.

IVY-LEAVED PELARGONIUMS.

SIR,—It may be useful to some readers to tell what I did with some spare plants of the above left over from bedding-out and how valuable they proved. The plants stood in a cold frame until early autumn, and I was on the point of discarding them when the thought occurred that were I to house the plants perhaps they would give some bloom for indoor decoration during the darker days. And most assuredly such was the case.

A shelf in a slightly heated house was found for them and covered with a layer of old leaf-mould previous to standing the plants on the shelf. This was done to do away with the business of potting-on the plants, an operation which should have been done, as the roots were through the bottom of their 3½in. pots while standing on the ash-bottomed frame. From the shelf the plants hung down over a strand of wire which was so placed as to prevent the pots falling off the shelf. The position and method adopted suited the plants admirably, which, after making some new growth, bloomed freely, then rested awhile, made more growth and flowered again. In addition to the help the roots derived from the leaf-mould, liquid manure was given twice a week.

The flowers were used chiefly for dinner-table effect, for which this pelargonium is well suited, the pink trusses, among which a sprig or two of its own foliage should be

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used, contrasting prettily against the white tablecloth. (Incidentally, where growth of this plant does not allow of being cut to mix with the flowers, shoots of any small-leafed ivy from the woodlands will do splendidly.) When the pelargoniums had finished flowering they were thrown out, though, of course, the plants could have been potted on after being cut down, while the tops would have made good cuttings, but they were not wanted.—C. TURNER, *Ampthill*.

AN INTERESTING ASTRANTIA.

SIR,—Masterworts or astrantias, are not very popular plants with the average flower-grower, but there are many who admire them. The majority of the few species in cultivation have silvery white flowers often tinged with rose, and their appearance is unlike the greater number of border flowers. They belong to the Natural Order Umbelliferæ, and show the involucre as the most prominent part of the inflorescence, with a centre of thread-like organs.

They are useful to supply cut flowers, and give a quiet beauty to the arrangement of which they may form a part. Yet to many the presence of some bright colouring would be a gain, and in the species called A. carniolica this is given by the distinct rose tone of the inflorescence. Still finer in this respect is the variety A. carniolica rosea, which has a much brighter tinting to give pleasure. No difficulty is experienced in growing A. carniolica or its variety. Any good soil will answer, and it can be successfully grown in either sun or shade, although I prefer shade. These astrantias grow to a height of about 2ft. more or less. They are finer in a rich deep soil than in a poor one, although, as has been said, they will grow in any soil. Propagation is easily effected by division immediately after the flowering period in summer and autumn or in spring, but they may also be raised from seeds, sown preferably under glass.—S. ARNOTT, *Dumfries*.

VITAGLASS AND PLANTS.

SIR,—Twelve months ago I erected a greenhouse fitted with Vitaglass, and am able to give some results. The most noticeable is intensified colour of flowers and foliage due, no doubt, to the ultra-violet rays. Maximum temperature in a cold house is higher than ordinary glass, but minimum about the same. Lowest temperature for winter 1° above freezing. During March, 1927, highest, 90°; lowest, 40°. I have grown the following plants with results stated:

Genista fragrans.—Deep golden flowers (after planting out in open air a second crop of ordinary yellow flowers).

Zonal Geranium Scarlet King of Denmark.—Healthy dark green leaves, intense scarlet blooms.

Daphne indica rubra.—Rich green leaves, strong growth and perfume; rich colour, flower trusses 2ins. wide, individual flowers ½in. tip to tip.

Tree Peony.—Growth to March 25th 2ft. wide, 1ft. 6ins. high; four flower-buds about the size of golf balls (young plant, first time flowering).

Sweet Peas in pots.—Growth to March 25th, height 3ft., width of stems ⅛in.; strong, bristly leaves; flower-buds starting.

Brussels Sprouts in boxes.—Seed sown a month ago (February 27th), height of plants 4¾ins.

No heating arrangement has been fitted, but I hope to experiment with the house heated next winter. Blinds are fitted, as the primary object of the house is to take sun baths.—S. J. KNILL, *Barnstaple*.

[We should be pleased to hear from other readers who are experimenting with Vitaglass in its relation to plant growth. It seems evident from the experiments being carried out in various parts that there are many points connected with its use on which we require further information.—ED.]

SCHOOL GARDENING.

SIR,—I read with interest the letter published in March 26th issue *re* "School Gardening." My Society has for many years distributed free seeds of annuals to children at the Noel Park Schools; they grow these and bring them for competition to our annual summer show, at which a special school section is provided. Many prizes and certificates are awarded (200 pots of annuals were entered at the 1926 show). In addition this year the children entered pots of daffodils or narcissi at the spring bulb show held last Saturday (April 2nd). In addition to the money prizes, a begonia (gifted by the Anglo-Dutch Bulb Co., of 27, Cannon Street, E.C.) was awarded.—H. C. HUTCHINS (*Hon. Secretary and Treasurer*), *Noel Park Gardening Society*.

SAFEGUARD YOUR FRUIT CROP

MANY amateur growers fail to notice fungus diseases on their trees and bushes until too late in the season, with the result that the damage is done before actual preventive measures are commenced. Growers should therefore keep a sharp look-out for any signs of disease and put curative and remedial measures into operation before any apparent damage is done and more especially if diseases have been troublesome in the past. In the following notes an attempt is made to describe the fungus diseases commonly found on fruit trees and bushes and to state briefly the best means of combating them.

Apple and Pear Scab.

The diseases which cause scab and cracks on the apple and pear fruits are undoubtedly the most widespread, but fortunately for the grower they are the easiest to control. The fungi which attacks the apple is of a different species from that found on the pear, but the damage done and control measures are identical.

The fungus appears on the leaves in early summer as round dark, sooty-like patches and from there the spores are carried to the fruit and shoots by wind and other agencies. When the spores alight they quickly germinate and form mycelium underneath the skin, causing the fruit to crack and become misshapen, soon after thousands of spores are liberated and pass on to the shoots, causing blistered patches all over the bark as if eaten and gnawed by insects. To control this pest and prevent scab on the fruits, careful cutting off and burning all blistered wood and spraying the trees with a weak solution of lime-sulphur before the blossom opens and again when the fruit sets, will prevent a recurrence of the disease this and next year.

Apple Blossom Wilt.

The first indication of apple blossom wilt is the wilted and dead flower trusses, later on the stems have a weathered appearance. The spur growth droops and the dead flowers and leaves do not fall off, but cling to the spurs. If the disease has gained much headway, cut out all weathered flower trusses and prevent further infection. When the disease is slight the trees should be sprayed before the flowers open and again directly the fruit is set, with a weak solution of Burgundy mixture.

The following February trees must be sprayed with caustic soda, made up in the proportions of 1lb. caustic soda, ¼lb. soft soap in 5 gallons water.

Apple Mildew.

This is caused by a superficial fungus which appears as a white, powdery mould on the tips of the young shoots and on the leaf

SOME FUNGUS DISEASES AND THEIR REMEDIES.

Disease.	*Part of Plant Attacked.*	*Remedial Measures.*	*Quantity.*	*Time to Apply.*
1. Apple and Pear Scab.	Leaves, shoots and fruit.	Spray with lime-sulphur.	1 pint in 10 gallons water.	Before flower opens and directly fruit sets.
2. Apple Blossom Wilt.	Shoots, flower and fruit.	Spray with Burgundy mixture.	1lb. in 10 gallons water.	Before flower opens and directly fruit sets.
3. Apple Mildew	Leaves and shoots.	Spray with lime-sulphur.	1 pint in 10 gallons water.	During summer months.
4. Brown Rot of Cherries and Plums.	Wood, flower and fruit.	Spray with Burgundy mixture.	1lb. in 10 gallons water.	Before flower opens and directly fruit sets.
5. Peach Leaf Curl	Leaves and young shoots.	Spray with Burgundy mixture.	1lb. in 10 gallons water.	During summer months.
6. Coral Spot Disease.	Shoots and spurs.	Cut out and burn all dead wood.		During summer months.
7. American Gooseberry Mildew.	Leaves, shoots and fruit.	Spray with washing soda.	1lb. washing soda, 2oz. soft soap in 4 gallons water.	May and June.
8. Strawberry Mildew.	Leaves and fruit.	Dust with flowers of sulphur.		Before fruit sets.
		Spray with lime-sulphur.	1 pint in 5 gallons water.	After fruit is pulled.

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spurs during summer ; later on in the season the shoots are stunted in their growth and the leaves show a curled-up and weathered appearance, many being entirely killed. The disease passes the winter on the wood, which is generally white and spindly. Those resting spores are readily spread to neighbouring trees by air currents. Varieties which are more or less susceptible to this disease are Golden Spire, Early Victoria, Lord Grosvenor, Cellini, Bismarck and Allington Pippin. Occasional spraying with a weak solution of lime-sulphur during summer will be found effective in keeping it in check, also careful cutting out and burning all affected shoots as they appear on the trees.

Brown Rot of Cherries and Plums.

This fungus disease attacks the flower, fruit and wood. The mycelium enters the fruits, causing them to become hard and "mummified" Those "mummified" fruits are covered with thousands of spores, which are liberated in spring and spread again to the flower and young fruit after they are set. When brown rot becomes severe, numerous dead spurs can be seen on the cherry and plum trees covered with grey pustules. The measures of control for this disease are first, removal of all "mummified" fruits and thus prevent infection the following year. Second, cut out all dead spurs when grey pustules are seen. Third, spray with Burgundy mixture before the flower opens and again directly the fruit sets, and as a further precaution cherry and plum trees should be sprayed in February with a caustic soda wash.

THE FRUIT AND LEAVES OF A PLUM TREE BADLY ATTACKED WITH BROWN ROT.

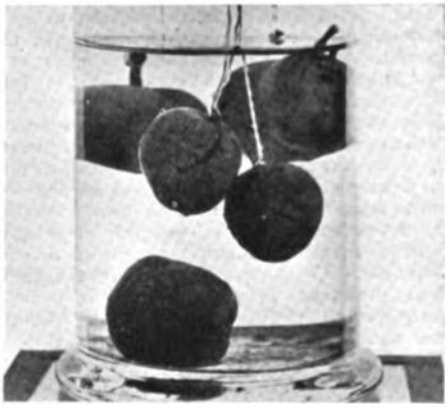
Burgundy mixture to check the spores from passing on to the wood and prevent a recurrence of the pest the next season.

Peach Leaf Curl.

The fungus disease which causes the peach and nectarine leaves to curl is very destructive during summer when peaches are grown out of doors. The leaves usually become distorted and curled and covered with white mould, later becoming pale green, gradually changing to a bright red colour. When the affected leaves are destroyed, the spores are conveyed by wind and other agents to neighbouring leaves and shoots and again cause stunted growth. The treatment which should be practised to control this disease is, first, collect and burn all distorted and curled leaves and tips of the shoots, cutting below where the leaves are destroyed. Then spray with

PEACH LEAVES MALFORMED BY LEAF CURL.

All parts attacked should be collected and burned.



THE UNSIGHTLY APPLE SCAB.

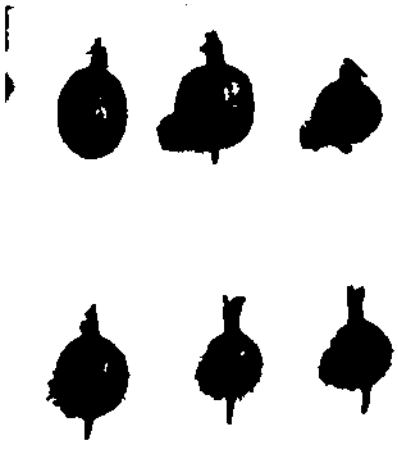
Note the cracks and corky scabs on the fruits. The trees should be sprayed with a weak solution of lime sulphur occasionally.

Coral Spot Disease.

The disease called coral spot is not confined to any one kind of fruit tree, for it can be seen on the wood of apple, pear, plum, gooseberry, red currant and many hard wood trees. The fungus lives chiefly on dead and decaying wood, but it sometimes becomes parasitic, *i.e.*, lives on growing wood. It is easily recognised in winter and spring by the bright red coral-like warts and in summer by the pale coloured pits in the decaying wood. Spraying with a fungicide is of little use in controlling coral spot disease, as it invades the wood and chokes up the water conducting tissues. Careful cutting out all decayed and decaying wood in winter and again during summer and painting the cut surfaces with tar will prevent it spreading to healthy wood.

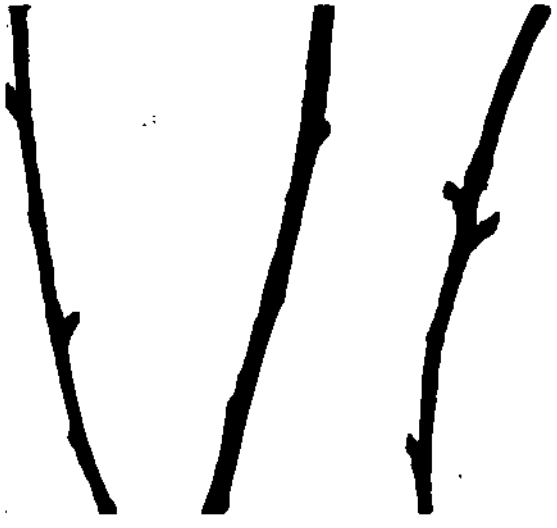
American Gooseberry Mildew.

The active stage in the life history of this disease is white and powdery and can be found on the leaves, shoots and fruit during the summer months. At this stage it spreads rapidly and can be carried by wind and other agencies. The inactive condition is brown in colour, which is really the dead mycelium with the spore cases embedded. To control this serious menace spraying should commence early in May and be continued once a fortnight until the middle of June, with the washing soda solution. Tipping should not commence until the month of August, for, if commenced too early, second growth will start and a late infection of the disease would be the result.



AMERICAN GOOSEBERRY MILDEW IN ITS ACTIVE STAGE.

Spray in early May with washing soda.



SHOOTS OF A PEAR TREE SUFFERING FROM THE EFFECTS OF PEAR SCAB.

Strawberry Mildew.

This disease is easily detected by the white mould on the under sides of the leaves and on the fruit, but is quite easily checked. It is more a seasonal trouble on strawberries. Royal Sovereign is very susceptible. When the leaves are affected they usually curl upwards, showing the white down on the under sides. The fruit is usually hard, pale in colour, and a very insipid taste. Dusting the plants early before the fruit sets will generally prevent the mildew from germinating on the fruit. Spraying the plants after the fruit is pulled will prevent a recurrence of the disease the following year. Amateur growers who spray with lime-sulphur and Burgundy washes would be well advised to procure them from firms who specialise in fungicides, rather than make up their own material, for both these washes are made commercially and are sold in handy tins and packets.

GEO. STUART.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

MARCH, 1927, will be remembered by gardeners for its remarkable spell of summer weather. On several days in the middle of the month the day temperature in the shade registered 60°, and on the 21st ult. it reached a maximum of 63.9°. The effect of the genial atmosphere is to be seen in the premature appearance of foliage on shrub and tree, and more particularly in the flowering currant, which at the time of writing is in full bloom, and the leafage of the roses. The weather has, of course, favoured garden operations and tempted numerous amateurs to sow and plant subjects in advance of the usual time. If one may hazard an opinion based on present conditions, I would say that the season promises to be an early one, but in this uncertain climate and remembering the severe frosts experienced last year about May 20th, when widespread damage was done to the bush fruits, early potato crops, etc., Scottish gardeners would be well advised to err on the safe side and not run unnecessary risks by anticipating the normal season for sowing and planting.

The pruning of bedding roses, more particularly the varieties of the hybrid tea type, is a case in point. For some time past English writers have been advising their readers to cut back their trees in March, and in the diary of the Royal Horticultural Society an actual day (March 26th) is set on which operations are to be begun without any limitation as to locality or weather conditions. This is rather misleading and requires modification. The period specified may be all right for English growers, and particularly those resident south of the Thames, but it is much too early for rosarians in Scotland, who will find by experience that the middle of April is a more suitable time, and as the Easter holidays extend from the 15th to the 18th, they will find rose pruning a profitable occupation, provided, of course, that the weather is favourable.

While visiting a large private garden in Dumbartonshire the other day I was interested to find that the culinary peas under glass were as far forward as the sweet peas in the frames. The cultural system of raising an early crop of the popular vegetable was new to me, and a brief description may prove helpful to amateurs who possess a greenhouse. Instead of utilising boxes during germination and the early period of growth, the seeds were sown in rows running alongside the staging. The soil was encased in long strips of wood which formed the sides and bottom. These were arranged in sections of about 6ft., and to facilitate the transference of the earth and seedlings to the drills in the garden without disturbance string was used at intervals to keep the whole together. In the process of transplanting the string and bottom of the long narrow wooden structure are removed, and when the contents are fixed in their permanent position the sides are easily withdrawn. When watered beforehand the soil remains intact and the peas receive little or no check.

Catmint, which has come rapidly into favour as an edging to a mixed flower border, possesses many meritorious qualities which will appeal to amateurs. It is easy to propagate by cuttings taken in autumn, thrives in a sunny position in any good garden soil and takes precedence as a free-flowering hardy perennial. Moreover, the silver grey foliage makes a charming setting to the lavender blue flowers borne on erect stems and produced in great profusion over a long period of bloom, extending through the summer and well into autumn. Rooted cuttings that are planted in April will form a dense carpet in the coming season, and it may also be grown to advantage as small clumps in a rockery.

Another good edging plant for the amateur's garden is the pretty little marigold tagetes, whose rich shade of golden yellow seems to harmonise with any colour scheme. Being a hardy annual, the seed can be sown a month hence in the position where it is to flower in August and September, but earlier bloom may be obtained by sowing the seed now and raising the plants in a frame. The decorative qualities of the tagetes are not recognised to the extent that their merits deserve except by the plotholders in our city gardens, whose system of cultivating it in masses accentuates the brilliant colour effect.

Despite the advantages that are to be obtained by raising parsley in boxes in a frame and transplanting the seedlings in the same manner as culinary peas and exhibition onions and leeks, the custom of sowing the seed in shallow drills is still generally observed in small private gardens. To begin with the seed is sown too thickly, and as thinning out is seldom practised, the typical row becomes so overcrowded that the plants have not the room to develop, and should rust or other disease appear, it spreads rapidly along the row of these weakly plants. When properly grown parsley seedlings should be allowed a space of 6ins. between each, and in the case of plants raised under glass they combine the useful and the ornamental when grown 1 ft. apart in the border. Treated in that way the individual plants are almost equal in size and quality to pot-grown specimens, and provide a striking contrast to the drill-sown plants. Parsley transplants readily when the soil is in moist condition. ST. MUNGO.

PRACTICAL HINTS ON POTATO GROWING

WHEN the purchaser of seed potatoes receives the varieties ordered he should at once proceed to spread them out in a single layer in shallow boxes and place them in some room, shed or greenhouse with a moist temperature and a sufficiency of light.

For the first week they may be covered with a clean bag kept moist by an occasional spraying, but afterwards they should be placed in full light to induce thick sturdy shoots to form.

Meantime the plot of ground should be dug over two spades deep, and drills formed, 24ins. apart for first early, and from 30ins. to 36ins. for mid-season and late varieties.

The bottom of each drill should be freely dusted with "Alphol" or other good soil insecticide, then natural manure spread to a depth of 3ins. or 4ins. Stable or farmyard manure or, what is much to be preferred, hop manure, should be used.

Sufficient soil should be brought down from the sides of the drills to cover the manure an inch in depth.

The sprouted seed tubers, especially the new and more expensive varieties, can be with advantage cut into as many pieces as will leave two shoots to each piece. The cut face of the tubers must not be exposed to the air for more than a minute or two, but should be placed in the drill face downwards at from 12ins. to 18ins. apart, according to the varieties, and covered with 3ins. of soil on top of which a well balanced fertiliser should be sprinkled at the rate of 2 oz. to 3 oz. per square yard.

"Premier" garden manure or fish guano are equally good, but the latter is inclined to attract the neighbours' cats to the plot. Mixtures of sulphate of ammonia, superphosphate and potash

PLANTING POTATOES. THE DRILLS SHOULD BE ABOUT 30INS. APART AND THE TUBERS PLANTED AT A DISTANCE OF 12INS. TO 18INS. BETWEEN EACH.

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salts can be made by the planter, but, unless well mixed in the proper proportions are liable to do more harm than good.

Later work in the plot consists of earthing up the plants as growth proceeds, giving with each earthing up an application of the chemical manures recommended above.

The potato is a gross feeder and loves an open porous soil; it is, therefore, essential that, until the final earthing up is given, the soil between the drills should be kept open by regular hoeing.

THE BEST POTATOES TO GROW.

The varieties to grow depend to some extent on soil and situation.

Of the older varieties on light and medium soils, Harbinger, Duke of York, Sharpe's Express, Witch Hill and Epicure can be thoroughly recommended for early crops of good quality. Great Scot, Majestic and King Edward for mid-season; Arran Victory, Kerr's Pink and Arran Chief for maincrops.

On heavy soils, Sharpe's Express, Eclipse, Ninetyfold and Immune Ashleaf for earlies; King George, Majestic, Great Scot and

SEFTON WONDER, AN IMMUNE HEAVY CROPPING VARIETY.

British Queen for mid-season; and Kerr's Pink, Tinwald Perfection, Golden Wonder, Factor and Field Marshal for maincrops.

New immune seedling potatoes are being raised and tested each season; very few of them are worthy of extended culture, but the following should be tried by all growers who can devote a little space and attention to them, especially as, by the purchase of a few pounds, a large supply of good seed can be obtained for the following season's planting:

Sefton Wonder.—A golden-skinned seedling from the universal favourite, Great Scot, with all the cropping qualities and upright growth of its parent combined with the flavour of the renowned Golden Wonder, whose only fault is its poor cropping capacity.

Catriona and *Arran Consul.*—Slightly older varieties with excellent reputations for cropping and exhibition purposes, but for table use not quite so good.

Tastes differ on the edible qualifications of potatoes. Some like them with a bite, some like them waxy, but the majority, I think, would vote for the variety that cooks like a ball of flower and does not discolour on exposure to the air.

Sefton Wonder is white and floury, with a most delicious flavour.

A SELECTION OF VEGETABLES

It is round about this date when most amateurs make their final selection of vegetables for this year's garden. Doubts and difficulties arise, as to what kinds to grow and which will be successful in light soil and which in heavy soil, and so on. These notes, giving a famous grower's selection of varieties of different kinds may prove helpful to the beginner. They are all tried and tested sorts which should succeed in all districts, but, as is pointed out, allowance must always be made for the situation of the garden. Varieties of vegetables which do well in your neighbourhood should certainly be given a trial.

"WHAT sorts of vegetables shall I grow?" is a question that faces almost every amateur gardener who attempts to grow vegetables each season as it comes round. And what a difficult question it often is to answer in these days when there is such a wide range of fine varieties from which to select. At the outset, however, it is as well to remember that there are two points to bear in mind, first, the preparation of the growing quarters, and second the finding out of just what varieties will attain success in your particular neighbourhood.

The first item is one that demands attention, for it is idle to expect even the finest of seeds to yield first-class results if the soil is not in good condition to afford the plant the proper root run that it requires in addition to having the soil in that condition which will provide the requisite food material and moisture.

Once again the writer would urge that deep trenching and inversion of the soil should be carried out at the due season, that is during late autumn and early winter to light, and late winter and early spring for tenacious and heavy soils. When the trenching is carried out, the provision of food material in the form of animal manure, where required, should be attended to, placing it at the bottom of the trench, so that the growing plant has to seek for its food. All details connected with the preparation of the soil should be carried out in the most workmanlike and skilled manner.

The effect of locality is of more importance than is yet realised, but it is now becoming well known that a variety of any vegetable that will yield excellent results in one area, will possibly prove quite a failure in an adjoining neighbourhood, and particularly is this the case with potatoes. Where varieties are mentioned those named have proved themselves excellent in the particular locality where grown by the writer. In view of this happening, it is well to urge the experimenting in small quantities with new varieties for a season, before making large plantings with it, especially in the case of high-priced novelties, to ascertain their possibilities and so avoid heavy loss that might conceivably arise.

I now give a descriptive list of a number of varieties of certain kinds of vegetables that have proved themselves excellent in all respects when grown at Aldenham, in Hertfordshire, under trying conditions of climate and soil, and which, in view of these conditions, may be likely to "turn up trumps" in the majority of gardens throughout the country.

Artichokes, Globe.—Grow Large French Green and Purple Globe, two forms well in advance of the older and inferior sorts.

Artichokes, Jerusalem.—Turn down the old forms, especially the inferior purple, and grow the improved New White, and, as another excellent and most distinct variety, try Fuseau, a French introduction of great merit, with long tubers.

Asparagus.—Connover's Colossal, Giant French and Perfection are all first-class, the latter being an improvement on Reading Giant.

Beans, Broad.—For longpod varieties, Leviathan, Exhibition Long Pod and Green Giant are to be recommended, while those who require the Windsor forms should try Giant Windsor and Green Windsor, for late sowings.

Beans, French (or Dwarf).—Of these there is a big selection, of which the choice is Magpie, Ne Plus Ultra, Canadian Wonder, Magnum Bonum and Satisfaction.

Beans, Climbing French.—Nothing to beat Tender and True.

Beans, Butter.—Golden Wonder, a stringless bean that can be cooked whole, and Parisian Delicacy are two excellent varieties.

Beans, Runner.—Of red-flowered varieties, select Prizewinner, Red Giant, Scarlet Emperor and Best of All, and of white-flowered sorts, Jubilee and White Monarch, as being all sterling varieties.

Beet, Long.—Out of the many varieties of good quality, the selection is for Dells (for medium sized roots), Pragnells Exhibition, Cheltenham Green Top (old, but excellent), and Covent Garden.

Beet, Globe.—Crimson Ball and Selected Globe.

Borecole or Kale.—From many forms, and what a variety there is, the choice should primarily rest on Victoria, as a Scotch curled variety; Cottager's Kale, the good old standby; and Labrador Kale, the most delicious of all, and which comes into use at a period when there is, nearly every season, a severe shortage of vegetable supplies.

Broccoli.—Self-protecting, Michaelmas White, Snow's Winter White, Christmas White, Leamington and Model for a late variety, and Purple Sprouting as a sprouting form. Nine Star is a new and very valuable addition.

Brussels Sprouts.—Dwarf Gem, for its fine "buttons," and Perfection should fill the bill.

Cabbage.—For sowing in March for autumn use, Winningstadt and All Heart. To sow in June for later use, Rosette Colewort and Hardy Green; and for the further batch, sowing in July and August to plant in the autumn, use Ellam's Early, April and Flower of Spring. As a red or pickling variety, Blood Red.

Carrots.—For early and late sowing, pits and frames, use Inimitable, Scarlet Champion Horn, followed by Model and Favourite, then New Red Intermediate (excellent for pits and outdoor sowing), and, finally, St. Valery and Long Surrey for the main, open sowings.

Cauliflowers.—Spring sowing, Early Giant, followed by Autumn Mammoth and Autumn Giant. For autumn sowing, Walcheren, Magnum Bonum and Snow Queen; selecting Early Forcing, Snowball and All the Year Round for mid-winter sowing and early forcing work.

Celery.—Nothing better than Aldenham White and Invincible White, with Standard Bearer, Giant Red and Aldenham Pink as red or pink varieties.

Cucumbers.—For summer supplies, Matchless, Ideal and Telegraph; for late autumn and winter, Lockies' Perfection; for winter use, Everyday; and for ridge varieties, King of the Ridge and Stockwood Ridge.

Endive, Batavian.—Improved Round-leaved Batavian.

Endive, Curled.—Model, Moss Curled, Incomparable, Green Curled and Winter Curled.

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Leeks. — There is none to beat Improved Lyon, International and Prizetaker.

Lettuce, Cos.—For summer, Superb White and Mammoth White Cos; winter, Improved Brown Cos and Hicks Hardy White.

Lettuce, Cabbage. — For forcing, Golden Queen and Tom Thumb; for general use, All the Year Round, Perfect Gem, Marvel, Ideal and Hammersmith, the last named being about the hardiest of all for winter work.

Onions.—As main crops, Selected Ailsa Craig and Premier (one of the best); also James Long Keeping (still one of the most useful). For autumn sowing, White Leviathan, White Emperor, Blood Red Rocca and Lemon Rocca. For long keeping and general utility, Autumn Triumph, of excellent shape and colour, and longer keeping properties than any other known form. Silver Queen for special pickling properties.

Parsnips.—Tender and True, Student and Hollow Crown.

Peas.—For tall growers choose Early Giant and Edwin Beckett; with Laxtonian, Little Marvel and Giant Stride, a wonderful new pea, as dwarfs, for early crop. For second earlies, Duke of Albany, Alderman and Quite Content, and for late crops, Autocrat and Masterpiece. Remember to allow plenty of growing space in the rows, for some of the tall varieties, such as Quite Content, 10ins. from plant to plant is not too much to assist proper yield, and such varieties require good provision to do their best.

Potatoes.—Of these there is an enormous range, good, bad and indifferent, and it is difficult to make an exact choice owing to their differing behaviour in various neighbourhoods. A selection of varieties is given in another article in this issue.

Radish, Long. — Wood's Early Frame an easy first.

Radish, Short. — French Breakfast, The Sutton, Early Rose, White Olive, Forcing White and Forcing Carmine, are useful for all purposes.

Rhubarb.—Royal Albert, Myatt's Linnæus and Daw's Champion are all good for forcing, as well as general work; while Victoria, The Sutton, Hobday's Giant and The Streeter are all excellent for general purposes, the last named being a quite new and very fine introduction.

Savoys.—Perfection, Sugar Loaf (small), Drumhead (large), Dwarf Green Curled and Early Dwarf Ulm.

Spinach.—Victoria for general work and The Carter for spring and forcing purposes.

Tomatoes.—Red fruited: Sunrise or a selection from it; Perfection and Duke of York, with Winter Beauty for winter growing. Yellow fruited: Golden Perfection, Golden Sunrise and Sunbeam. For open growing, Sunrise, Golden Sunrise and Bides Recruit.

Turnips.—For frame work: Early Long Forcing, Early Red Milan, White Milan and Golden Sunrise (a yellow variety). For summer supplies: Jersey Lily, Snowball, Little Marvel, with Golden Ball as a yellow-fleshed variety. For winter use: Prizetaker, Chirk Castle and Black Stone.

Vegetable Marrows.—Moore's Cream (white), The Sutton (white), Perfection, a green variety and one of the very best for frame work, Tender and True, a fine green, bush form, Pen-y-Byd, a round, creamy-white and Table Dainty, an early cropping green that is undoubtedly one of the best marrows of to-day.

The foregoing is a fairly comprehensive list and in addition to the early cultural remarks it only remains to add that full care should be given during the growing period in the direction of thinning, hoeing and watering, feeding, where necessary, with liquid manure and reliable artificial fertilisers and success should be reaped in full measure for the careful, thoughtful grower. E. BECKETT.

GREENHOUSE NOTES

Greenhouse Flowers at Easter.

THE accompanying illustration shows a particularly well furnished small greenhouse, the plants employed being within the reach of anyone with an ordinary greenhouse and possibly a few cold frames, in which the primulas and cinerarias can be grown during the summer months, thus leaving the greenhouse free for a display of other flowering plants during the summer months.

The frames can also be used for the bulbs —in this case narcissi and hyacinths— during the winter, until such time as it is desired to introduce them to the greenhouse; although a cold frame (or frames) is not absolutely necessary, still where it can be managed it is a great asset for maintaining a succession of plants for the greenhouse.

Where it is desired to grow primulas for this purpose, they must be raised from seed every year; the varieties of Primula obconica should be sown at this time, sowing them in pots or pans of light rich soil, standing them in a greenhouse; they should be covered with a piece of glass and kept shaded until germination takes place. The many fine varieties of P. sinensis (Chinese primrose) are invaluable for the small greenhouse, the graceful and free-flowering stellata section being specially useful for decorative work. They may be sown from now until May, according to requirements. The graceful and beautiful P. malacoides, of which there are now many fine varieties, is ideal for the small greenhouse, and seed should be sown during June. They all respond to much the same treatment, that is, ordinary greenhouse conditions during their younger stages, and if they are available, cold frames during the summer months. Primula kewensis is also another beautiful and useful primula which should not be overlooked for our purpose, as it is just as easily raised from seed as the others. Cinerarias are also easily raised from seed, usually sown during June, but the time of sowing will vary according to individual requirements, the seed pots may be stood in cold frames, as the seed germinates freely at that time; during the summer they enjoy a cool, moist atmosphere and shade during the hottest part of the day. All bulbs should be purchased in early autumn and potted as soon as possible, thus giving them time to form plenty of roots, which is so essential for successful results with this class of plant. There are many fine varieties of narcissi, tulips and hyacinths suitable for this purpose. Freesias should always find a place as they succeed under perfectly cool treatment. There are many other plants that may readily be had in flower at this time, but space forbids the mention of them.—J. C.

PRIMULAS, CINERARIAS AND DAFFODILS IN AN AMATEUR'S GREENHOUSE.

For the Greenhouse Wall.

FOR clothing the back wall of a greenhouse or conservatory there is no better plant than the clinging Ficus repens, or stipulata, as the species is sometimes called. This plant has small roundish dark green leaves, and it will attach itself to any surface after the manner of ivy. In quite a short while it will cover a wall with a dense compact growth and, when once established, is an object of permanent beauty. Even in shaded positions F. repens does well, and it is one of the most accommodating plants. It is a good plan under glass to have F. repens planted in the ground, but where this cannot be arranged the roots may be in a pot or box placed at the base of the wall. Propagation may be carried out by layers or cuttings, but the latter should be of firm growths, the cut ends being allowed to dry somewhat before insertion. Until rooting takes place a close atmosphere is desirable. Always give plenty of moisture at the roots if quick growth is desired.—L. B.

Forced Daffodils After Flowering.

THERE is no reason why daffodils should be lost after they have been grown in pots or boxes by forcing; indeed, if a little care is exercised, the bulbs will be little the worse, if at all, for their period under glass. When the blooms fade, cut them off and stand the pot or box aside, but still in the sunshine; they may go immediately or soon into a frame, or even into the open, a warm sunny corner being selected and a frame sash thrown on top. Water must still be given, or an occasional dose of liquid manure, if the grower can spare time for that; the water supply has to be continued until the leaves turn yellow, after which pots and boxes may stand outside without further attention. Late in summer the bulbs are shaken out and planted, preferably in a rich piece of soil, where they will come up with little loss of their glory the following year.—H. A.

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CHRYSANTHEMUMS FOR THE BORDER (see page 242).

APR 5 1927

THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2889 Saturday, April 16th. 1927 Price TWOPENCE

A VASE OF MODERN VARIETIES OF CHRYSANTHEMUMS.

AMONG our late summer and autumn flowers there is none more popular than the chrysanthemum. Within recent years, the chrysanthemum has undergone considerable development and improvement, until there now exist countless varieties, showing a distinctive and wide range in both colour and form. Modern fashion in horticulture has selected the single varieties for special favour since they are lighter and more graceful in habit than the heavier mop-headed kinds, and thus are of more use for general decorative purposes, either indoors in vases or in pots in the greenhouse. In the open border they are especially useful, since they flower at a period when the majority of the real summer occupants are past their best. They are hardy, floriferous, of neat habit and of the most brilliant colourings, and when planted in clumps in the border provide a most effective display from late August until October. Planting can be carried out, provided the weather conditions are suitable, from the end of this month until the end of June. All amateurs should certainly plant a few of the up-to-date varieties to brighten the autumn border.

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THE GARDEN

VOL. XCI.—No. 2889. APRIL 16, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Our Photographic Competition.

AS was announced in our columns in our last week's issue, it is our intention to run a photographic competition among our readers during the coming summer season in order to encourage garden photography and in turn to create personal interest in flowers and gardening. The competition will commence next month with our issue of May 7th, and will continue throughout the summer months when the garden display is at its best. Readers are invited to send in photographs illustrating some aspect of their own garden which they think will be of interest to other readers. It is our endeavour to make this competition serve a useful purpose in bringing together the various ideas of many of our readers and place them at the disposal of all. As is usual with all competitions, there are rules to be adhered to, but these are few, and it is to be hoped that all readers who are interested will send along photographs to make the competition serve a real practical purpose.

RULES.

1. All photographs sent in must be taken in the reader's own garden.
2. Each photograph should be printed on black and white paper. There are no restrictions against the inclusion of persons in the photographs. These often lend interest and instruction to the photograph by conveying an idea of the size of a plant.
3. There are no limits imposed as to size.
4. Photographs need not be mounted, and negatives must not be sent.
5. The name and address of the sender must be clearly written on the back of the photograph, together with a few particulars about the photograph, such as the name of flowers, where grown, when planted or sown and so on. These particulars, if given in full, will add considerably more interest to the photograph and to the competition.
6. Each photograph sent in must be accompanied by a coupon to be found on one of our pages, and a piece of cardboard should be placed in the envelope in which the print is sent to prevent damage in the post.
7. A stamped addressed envelope must accompany photographs sent in, for their return, if unsuitable If this rule is not complied with, prints will not be returned. Envelopes should be addressed to "The Editor," THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2, and marked "Photographic Competition" on the outside.
8. The Editor does not hold himself responsible for photographs lost or damaged in the post.
9. No correspondence will be entered into over this competition, and the Editor's decision is final.
10. All photographs published will become the property of THE GARDEN.

PRIZES.

For each photograph published five shillings will be paid, and for the best photograph of the week an additional sum of one guinea will be paid to the reader who sent this in.

All prizes will be paid on the seventh of the month following publication.

The first photographs in connection with the competition will be published in our issue of May 7th, and they can be sent to the above address from Tuesday next, April 19th. The coupon will be found on page xviii this week.

The Editor's Table.

ALTHOUGH as yet early in the season, we have received our first gift in the form of a fine collection of some of the newer varieties of lachenalias from Messrs. Barr and Sons of King Street, Covent Garden, W.C.2, along with a few spikes of their new golden yellow seedling freesia and some anemone blossoms, both single and double. The anemones especially are particularly charming in their brilliant and gorgeous colourings. The double flowers of A. coronaria La Brilliante are of a fine crimson lake to scarlet shade, while the single blooms of the variety His Excellency are of a glowing scarlet similar to the brilliant A. fulgens with the very effective sooty black cushion in the centre of the flowers, which makes for the most delightful contrast.

That there has been great progress made in the development of the lachenalia is fully illustrated by the many fine varieties sent by Messrs. Barr, many of which were shown last week at the R.H.S. Show. These new varieties show a decided advance both in colouring and size of flowers on the older forms like Nelsoni, Tricolor and luteola. The greenish colouring in these older types has been lost in the gradual evolutionary process, until now our present-day varieties are of good colouring, show a depth of substance in the flower and appear to be more vigorous in constitution. A few of the more striking varieties we have received are Thibet, with large flowers of a deep golden yellow tinged with green at the tips of the petals; Glow, of a pure deep golden yellow; Chaffinch, of a lemon yellow with an edging of maroon red to the petals; Pegu and Greenfinch, of a greenish yellow colour; and Siam, of a rich golden yellow.

This Week's Work

For Gardens in the South and Midlands.

Prick out into boxes annuals now in seed pans.
Finish pruning all roses, including tea roses.
Complete the sowing of hardy annuals, carrots, turnips, peas, onions, etc.
Plant out in rows peas raised in frames and onions raised in heat.
Sow greenhouse primulas and cinerarias in gentle heat.
Sow lawn grass seed and top-dress impoverished lawns.
Plant out bedding violas and pansies.
Take cuttings of fuchsias and Begonia Gloire de Lorraine.
Finish planting alpines, herbaceous perennials, climbers and gladioli.

This Week's Work

For Gardens in Scotland and the North.

Plant out sweet peas sown in February.
Top-dress rhododendrons.
Prune flowering currants when bloom is over.
Tomatoes may now be planted in a cold greenhouse.
Divide and replant Michaelmas daisies.
Plant montbretias 3ins. deep.
Finish rose pruning.
Sow culinary peas for successional crop.
Transplant lettuce in frames.
Make a later sowing of Golden Ball turnip.
Hoe growing crops on dry days.
Transplant when soil is moist.

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CHRYSANTHEMUMS FOR THE BORDER

THIS class of chrysanthemum, after being neglected for many years, is now becoming increasingly popular, not only with market growers, who grow them in large quantities for supplies of cut flowers, but by all classes of garden lovers. This is not surprising when one considers how easy they are to grow, their long flowering season and the many purposes for which they may be used, not only for a supply of cut flowers but for affording a display in the garden during late summer and autumn, when along with dahlias, they do so much to brighten our gardens. Over the dahlia they have an immense advantage, from the fact that they are much hardier, standing, as they do, several degrees of frost without suffering any injury; in this respect some varieties are, of course, hardier than others. Important as they are to the market growers and for the embellishment of parks and gardens generally, they are also equally useful for the amateur or small garden owner, not only for furnishing a display in the garden but also for giving a supply of cut flower, or, if so desired, they may be grown in pots for furnishing the small and unheated greenhouse. Some of the later-flowering varieties are specially useful for this purpose, as they sometimes fail to develop their flowers properly in the open.

Assuming young plants have been propagated from cuttings during February or early March, they may—when hardened off—be planted out any time during April. If a piece of spare ground is available they should be planted out on it, and be grown there all summer. Where this can be managed it is a great advantage, as later on they can be lifted and used to replace early-flowering subjects that have finished flowering. They transplant readily, even when coming into flower. When it is desired to move them, they should have a thorough soaking at the roots the day previous. If they are planted firmly and well watered in they recover from the shift within a few days. Where there is no reserve garden, they must, of course, be planted out directly into their flowering quarters.

In their young state they must be pinched several times to induce a bushy habit, the amount of pinching required depending largely on the habit of the different varieties. Some of them are naturally of a bushy habit and throw up a succession of flowering shoots from the base of the plant. Flora, an old pompon variety, is an excellent example of this type of plant, and on this account is ideal for bedding purposes. Whatever their individual habit, three stoppings are usually enough for most of them.

Many of the varieties are quite hardy, especially on light, warm soils and in some cases may, if so desired, be left undisturbed for several years. When it is desired to replant or increase them this is best done during the spring, when they have made about 4ins. of growth. They may then be increased to any extent, as each shoot, as a rule, may be detached with roots all ready for replanting. Where no stocks exist, young plants ready for planting out may be purchased during April. Border chrysanthemums are not at all fastidious as regards soil, thriving, as they do, in any well cultivated garden soil.

Where it is desired to lift them for propagating purposes, or possibly to make room for planting bulbs and other spring-flowering plants during the autumn, when they have finished flowering the required number of stools should be lifted and packed in boxes, which may be stored in a cold frame for the winter. If no frame is available, they may, as a rule, be safely wintered at the foot of a sheltered wall.

Where it is desired to grow them for greenhouse decoration, one has the choice of two methods. They may be grown throughout in pots, or they may be grown in the reserve garden for the summer, when they may be lifted and placed in suitable sized pots. They should be cut round with a sharp spade a week or ten days before it is desired to lift them, giving them a good watering at the roots the day before lifting. They should then be kept shaded for several days until they get a hold at the root.

BORDER CHRYSANTHEMUMS IN A SUBURBAN GARDEN.
The clumps can be lifted, divided and replanted this month.

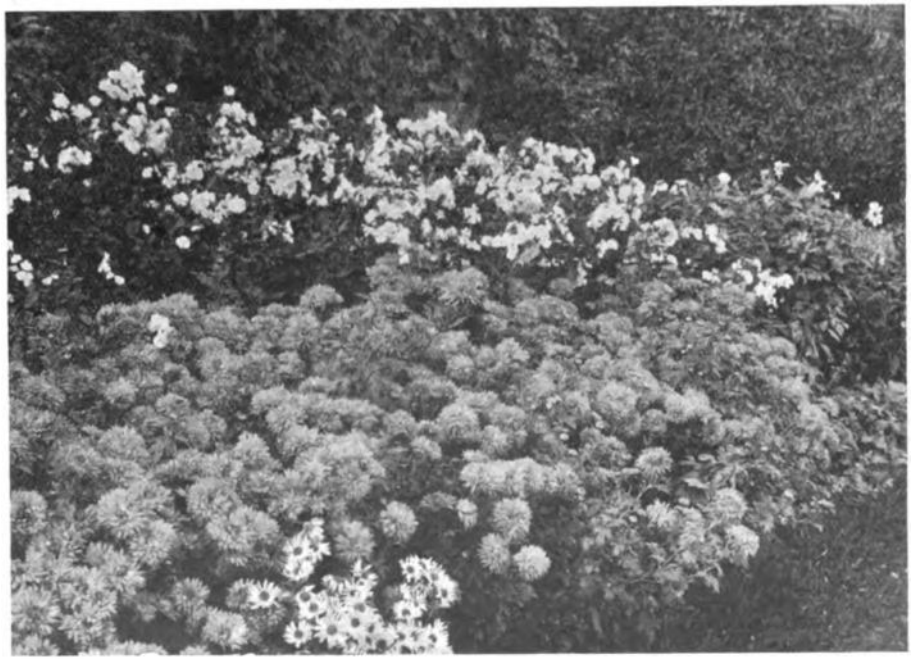
On the other hand they may be grown throughout in pots. In this case they must be potted firmly in a compost consisting of a good loam, with enough sand or old old mortar rubble to keep the whole open porous. To every bushel of compost should be added a five-inch potful of bone meal and a sprinkling of soot. After potting they should be stood closely together at the foot of a wall, where they should be sprayed frequently and carefully watered until well established at the root, when they should be stood in the open. If partly plunged in a bed of ashes it will keep them cool at the root and also save watering. They should be kept staked and neatly tied, as required. When they have well filled their pots with roots manure will be necessary at least twice a week, using for this purpose a good guano or some other approved fertiliser. Clear soot water is also very good for this purpose.

There are numerous varieties, but the following are a few of the standard sorts that are really worth growing.

Early-flowering pompons: Craigmillar, yellow; Flora, yellow; Little Bob, crimson; Piercy's Seedling, orange yellow; St. Crouts, light pink; and White St. Crouts.

Early-flowering Japanese varieties: Abercorn Beauty, terra-cotta; Crimson Polly, chestnut crimson; Dick Barnes, burgundy colour; Goacher's Crimson, bright crimson; Golden Diana, golden yellow; Harry Thorpe, golden yellow, shaded fawn; Normandie, pink; Sanctity, white; Almirante, bronze; Shirley Bronze; Knaresborough Yellow; Mrs. Jack Pearson, bronze, fine for cutting; Bronze Early Buttercup.

The following are fine October-flowering varieties for pot work: Blanche du Poitou, white; Primrose Poitou; Pluie d Argent, white; Uxbridge Bronze; Ethel Harvey, yellow; and Uxbridge Pink. J. C.



CHRYSANTHEMUMS IN THE EARLY AUTUMN BORDER.

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RHODODENDRONS FOR THE ROCK GARDEN

EACH year more gardeners admire the dwarf rhododendrons that are often shown at the Royal Horticultural Society's shows during the spring months. As a rule, however, they admire these admirable plants from a distance and imagine that they require special soil and treatment. That is not the case; so long as the soil is lime-free, dwarf rhododendrons may be grown in almost any rock garden.

They like the same soil conditions as all other rhododendrons, a good porous soil with a certain amount of humus in it. Ample drainage is essential, and the soil must never be allowed to get bone dry. They must be planted in the same way as other species and hybrids, not too deep in the ground and with a mulch of old leaves, leaf-mould or peat-moss litter around them.

Shelter from wind is not such an important matter with these dwarfs; in fact, as most of them live on the hills of China as heather does on the Scottish moors, they are accustomed to constant wind. What is of importance is the amount of sunshine, for many of these Chinese moors are buried in clouds during many weeks of the summer, and so they should not be planted in positions that get full sunshine. There are, however, plenty of nooks in every rock garden that the sun only reaches for an hour or two every day; it may be a pocket among the rocks that is sheltered from the noon sun by a big stone, or a little ledge at the base of the rock garden proper that faces, preferably, to the west. An easterly exposure should be avoided if possible, for early sunshine after a frosty night in April may scorch the blooms, whereas afternoon sunshine will do no harm.

At the end of this article will be found a dozen useful dwarfs. Gardeners who have already dabbled in rhododendrons may complain that several admirable species, such as Rh. Williamsianum, are left out. There are, in fact, many wonderful dwarf plants that are not included in this list but most of them have one fault in the eyes of the gardener who does not specialise in rhododendrons; although small, several years must elapse before they flower. On the other hand, all the species in the list will flower in three or four years from seed, and of all of them plants 6ins. or so in height can now be purchased which will certainly produce some flower the year after planting.

It will be found that many of them are inclined to grow larger than they do on their native moorlands, and so become straggly in course of time. But this lankiness can easily be remedied by pinching or cutting off the tops of the longest shoots, which will make the plants much more bushy in appearance.

ONE OF THE BEST OF ALL DWARF RHODODENDRONS, RH. HIPPOPHÆOIDES, FOR THE SMALL GARDEN.

Another point to remember is that most of these species grow in as close formation as our heather, and it is always better to try to copy this form of growth by planting them in clumps. This can easily be done as they root excellently from cuttings taken from half-ripened wood inserted in sand in a frame. A fine batch of healthy young plants is soon formed by this method; or, if preferred, they can be raised from seed, which is very freely borne.

Such charming dwarf shrubs do these rhododendrons make that it is surprising that more use is not made of them in quite small rock gardens. They are attractive both in flower and in foliage through many months of the year; indeed, it is only from December to February that some of the species show a certain browning of the foliage, which must not be taken for ill health.

RH. INTRICATUM, A NEAT BUSHY GROWER WITH LAVENDER BLUE FLOWERS.

Rh. calostrotum (April), clear rose, flowers the size of half a crown and large for size of plant; grey-green foliage.

Rh. chryseum (March-April), pale yellow, forms a bushy little plant with tightly packed small flowers; the colour is good, though pale.

Rh ciliatum (April), palest pink, should certainly be grown in the open; if in shade the flowers open too early and are cut with frost. The buds are a deeper pink.

Rh. fastigiatum (April-May), deep lilac blue, has a greyish tinge to the leaves and in other respects is like R. impeditum.

Rh. ferrugineum (May), rose, the European alpine rose; should not be in full sun. Colour varies in various forms, and only the best should be grown.

Rh. hippophæoides (April-May), lavender blue, one of the best of all dwarfs. The best forms are a real blue. Grows slightly taller than many dwarfs and will reach 3-4ft. in time.

Rh. hirsutum (May), pink rose. Although often listed, this European dwarf is not really good in cultivation. The flowers are smaller than those of R. ferrugineum.

Rh. impeditum (April-May), deep lilac blue, a neat bushy little plant with deep green leaves. Very attractive and easy to grow.

Rh. intricatum (May and other months), deep lavender, another neat and bushy plant; when large will flower through many months of the year.

Rh. primulinum (April-May), pale yellow, very like Rh. chryseum in cultivation.

Rh. racemosum (April), pink, will reach 4ft. One of the most floriferous of all rhododendrons. Will grow in any position, and so a very useful plant.

Rh. scintillans (April-May), lavender blue, is usually more bluey than intricatum and impeditum. A good plant, but not quite so easy to grow.

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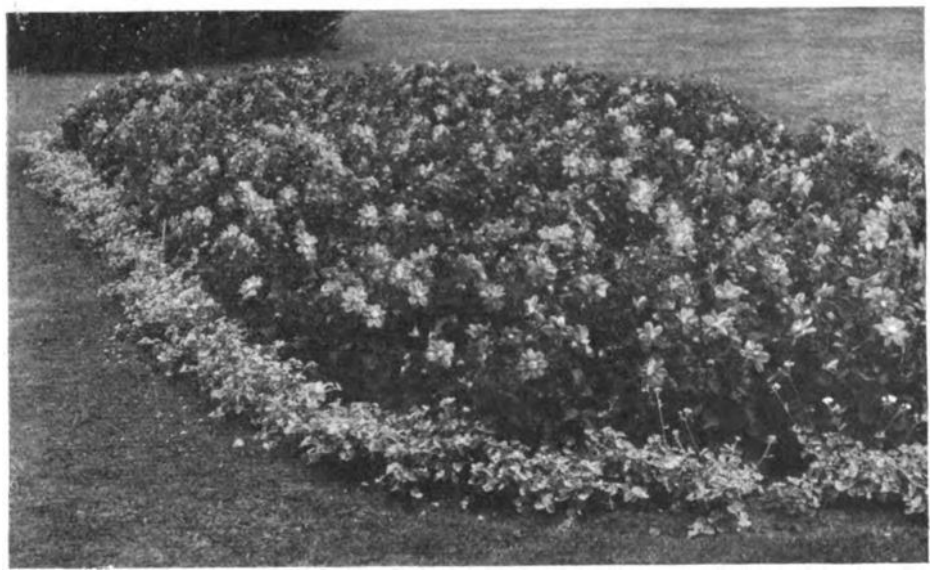
DAHLIAS FOR EVERY GARDEN

Modern dahlias are among the most beautiful and useful of all the late summer and autumn flowers, and their popularity is steadily and deservedly increasing every year.

GREAT improvements have been made by raisers since the time when dahlias were considered by most flower lovers—apart from florists and exhibitors—as heavy and rather ungainly subjects from the decorative standpoint out of doors, and almost useless as cut flowers. In all classes—and there are a large number of widely differing types and forms—the better varieties now are early and free flowering, with their blooms carried erect and well above the foliage on long, stout stems. Better habit of growth is not the only point in which improvement has taken place. For brilliance and diversity of colouring, few flowers can equal present-day dahlias, and the actual shape of the flowers is, on the whole, much more decorative and generally useful. It is not now an exhibitor's flower purely and simply, but one which fully conforms to the requirements of the average amateur gardener.



A BED OF THE BRILLIANT SCARLET COLTNESS GEM, ONE OF THE BEST OF ALL BEDDING DAHLIAS.

This variety is used extensively in our public parks and gardens for late summer bedding. An edging of a silvery foliaged plant like helichrysum provides a charming contrast.

CULTURE.

The successful culture of dahlias is quite a simple matter and presents no difficulties, even to the beginner. Although very accommodating as to soil and position, they prefer sunny and open situations and a deeply dug liberally manured soil. It is wise to prepare the ground some little time before planting, digging deeply and trenching, if possible, to a depth of 18ins. to 24ins., mixing in a good dressing of decayed animal manure. Dahlias are rather gross feeders, but too much manure of a nitrogenous nature should be avoided, for this has the tendency to produce superabundance of foliage. On soils inclined to be poor, the addition of bone-meal or fish-manure, as well as animal manure, is beneficial.

Dahlias are not hardy, and the time to plant them out of doors depends on the locality. The first or second week in May is quite early enough for the South and Midlands, and the first and second weeks in June for the north of England and Scotland respectively. The young plants—usually well rooted cuttings from pots—are delivered from the nurseries from the end of April to the end of May, and if it is not safe to transplant them out of doors, they should be potted up singly into small pots and grown along in a cool greenhouse or cold frame, gradually hardening them to outdoor conditions.

The distance apart at which they are planted out of doors will, naturally, depend on the height of the individual varieties. Dwarfs, such as the well known Coltness Gem, need no more ground space than 18ins. from plant to plant; while those which attain a height of 4ft. to 6ft. should be allowed 4ft. Apart from the dwarfs (which need no support except a short, thin stake at the outset), I find it a simple method to drive the centre stakes in, as a guide to position, before planting. Then plant out, and tie each one loosely to its own stake. Before proceeding with actual cultural methods, may I digress. It is usually found convenient to devote a whole bed or border to dahlias alone, and if the varieties and types are to be mixed, it will not be a waste of time carefully to arrange their positions, not only according to height, but in an order which will give a pleasing colour blending to the bed, taken as a whole. It is surprising what a difference a well arranged colour scheme will make in the general effect. Of course, when cut flowers for the home are the only consideration, there is little need for colour blending, and a corner of the kitchen garden will be found just as suitable a position for the plants as the flower borders. Slugs and snails are often a source of trouble immediately after transplanting, and if no precaution is taken against them, the whole batch may be quickly cleared. It is usually sufficient to make little rings or barriers of lime, soot or finely sifted ashes round each plant; but a further preventive measure is to sow lettuce seed on the dahlia site a short time before planting.

Growth will be slow for some weeks, and watering with soft water may be necessary in dry spells; but keep the surface of the soil from "crusting" by fairly frequent shallow hoeings. As soon as vigorous growth commences insert three more stakes round each plant, slightly slanting outwards. Two or three strands of thick string tied round these stakes will complete the supports; but side growths should be tied regularly as they grow outward, or strong winds may snap them off. Unless thought too unsightly, a surface mulch of strawy manure or Wakeley's Hop Manure applied round the base of the plants in the summer will conserve moisture. Some of the early-flowering types, the charms and dwarfs, are very precocious; I have often seen flowers on them when they were barely rooted as cuttings in the pots, and it will assist growth if such plants are disbudded for a short time until their roots are well established. At no time should seed pods be allowed to form, unless seed is required; all faded flowers should be removed. On most soils occasional watering will be essential in the late summer and early autumn, with an occasional application of liquid manure.

TYPES AND VARIETIES.

There are enough types and forms in present-day dahlias to fill nearly any position in the garden effectively, and to satisfy almost every taste. The exhibitor will find ample scope for his efforts in the exhibition cactus type with its symmetrically formed flowers. The average amateur, however, will find the coarse-petalled cactus or hybrid cactus more useful and better suited to his needs. As cut blooms for indoor decoration, the charms, in my opinion, are easily the most valuable class, with their exquisite semi-double, medium-sized flowers in all shades of colour. They have stems like wire and are extremely free flowering. The small decorative and collarettes also make effective cut blooms. For large indoor decorative schemes or displays, the peony-flowered type is superb, their large, but semi-double, irregularly shaped and somewhat loosely made flowers effectively counteracting their heavy appearance.

The dwarf or mignon dahlias are still more or less in their infancy, although the best-known dwarf variety, Coltness Gem, is by no means new. The sale of this little bedder is many times greater than that of any other dahlia in existence. Further improvement is certain in this type, and it will not surprise those who have seen some of the latest developments if dwarf dahlias become the most popular bedding subjects for late summer and autumn display. Planted in large beds in conjunction with the taller charm varieties and still higher-growing peony-flowered kinds, the effect is truly magnificent. These three types are undoubtedly the three most valuable for bedding purposes.

There are other classes, but those mentioned are the most popular, and I will give just a few reliable and inexpensive varieties which are typical of each type:

Charms.—Our Annie, shrimp pink; Dazzle, intense scarlet; Charmer, orange salmon; Gwynne, deep crimson.

Peony-flowered.—Old Gold, golden amber; Eunice, mauve; Albina, white; Enchantress, silvery pink.

Collarettes.—Gold Tip, scarlet edged gold; Doon, orange scarlet; Viola, yellow; Circe, lavender and white.

Garden Cactus.—F. W. Fellowes, orange Alabaster, white; Arthur Pickard, salmon pink; Patriot, crimson scarlet.

Decorative Cactus (coarse-petalled).—Fred Treseder, bright yellow; Lady Derby, soft lilac; Fireflame, scarlet; George Duncan, salmon rose.

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Giant Decoratives.—Anak, crimson scarlet; Emblem, rose pink on yellow; Mrs. P. Palmer, purple; Sunray, yellow and scarlet.

Small Decoratives.—Raider, cinnamon; Rhoda, shrimp pink; Tipsy, scarlet; Carine, deep orange.

Pompons.—Bacchus, scarlet; Little Beeswing, yellow edged cherry red; Midget, salmon peach; Tommy Keith, cardinal red, tipped white.

Dwarfs.—Coltness Gem bright scarlet; Abinger Gem, bright orange; Amber Queen, ivory salmon or salmon buff; Golden Gleam, golden orange. The last two are 1927 novelties, as yet rather expensive, but with semi-double "charm" shaped flowers. These varieties are all excellent for bedding purposes.

C. H. A. S.

A CAMERA IN THE GARDEN

IF you want to photograph a growing plant your first problem is to devise some way of making it stand out clearly from its surroundings.

The camera has no discrimination. It does not just select out the particular plant you want to take and subdue everything else. If your subject's next-door neighbours are big strong-growing things *they* will probably appear as the most important item in the picture.

To avoid this you must in some way or other isolate the plant you want to photograph. You could, obviously, do this by clearing away anything growing too close to it, but that is not often desirable and would still leave the problem of a suitable background to be solved.

The simplest and most satisfactory plan is to put a screen behind and on each side of your subject. For small plants a large sheet of grey cardboard bent to shape is admirable—for larger plants, use an old blanket—or other natural tinted material—loosely hung over four or five canes which form a framework for it.

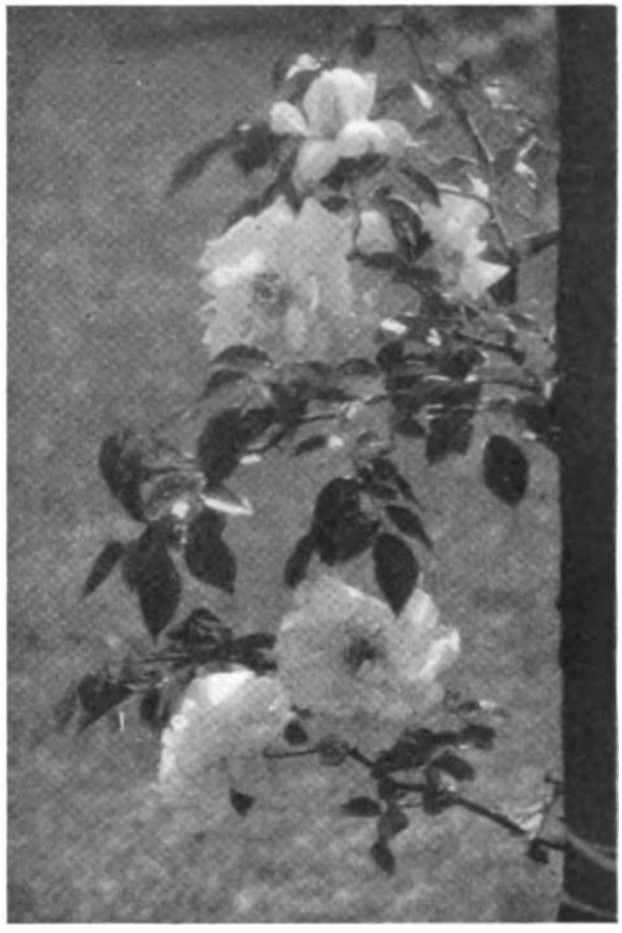
Having isolated your subject in this way you will find the rest of the work easy. The screen has the additional advantage of shielding the plant you are photographing from the wind—thereby cutting out one of the most fruitful sources of failure, for, to give a time exposure on a plant that is being swayed by the wind, is to make certain of a blurred result.

Be careful in your choice of lighting. Generally it should be from one side or the other and — once again—the low light of morning or evening is more helpful than the shadowless blaze of the midday sun.

The technical point of which you must be most careful is to *measure* the distance from camera to subject. There is little latitude in focussing at close quarters and guesswork will not do. You will, of course, need to use the focussing adjustment on your camera, or to slip a portrait attachment over the lens.

Perhaps the most fascinating branch of garden photography is the taking of individual flowers — or groups of flowers. These can be picked —so you can photograph them indoors or out as you think best.

As a rule *indoors* is better, because it gives you a greater control of the light and you will not be troubled by the wind, even on the most breezy day.



ROSE ALBERIC BARBIER.
A photograph taken with the light coming from behind the subject.

TO BRING OUT THE TRUE COLOURINGS OF FLOWERS PANCHROMATIC PLATES MUST BE USED.
In this photograph are roses of white, yellow, pink and crimson shades each of which can be easily distinguished even in black and white.

Remember, that many a bloom that would fail on the exhibition bench may look quite perfect in a photograph, because it is then seen from only one point of view —so that any fault can usually be hidden.

Do *not* place your subject too near the window — the light there is too harsh. Four or five feet away will be about right and then — with a large sheet of white card or paper, or a white towel, placed on the opposite side of your subject to the window, where it will reflect light into the shadows — you will get a delightfully soft lighting.

Here again accurate focussing is absolutely essential, if there is no focussing screen on your camera, you must *measure* the distance, not guess it.

Use a colour filter of course. The strength of light varies even more indoors than it does outside, so it is difficult to give even an approximate estimate of the exposure, but with your lens set at F. 16 or U.S. 16 something between half a minute and two minutes will probably be about right.

In the first article on this subject we saw that an ordinary film or plate is colour-blind, and that this defect can be minimised by the use of a colour-filter. This corrects the rendering of blues, greens and yellows—but red in its various shades is still rendered much too dark. To get a good rendering of red flowers—or even deep pink ones—you must use a panchromatic plate or film. This is specially sensitised and will render any coloured object in just the right tone in monochrome if a colour filter is used. You can get panchromatic plates or cut films, but *not* roll films or film packs. Being so sensitive to *red* they must not be developed in the ordinary darkroom light, but either in darkness (by the time method), or with a special safelight. Undoubtedly the use of panchromatics is worth the slight extra trouble involved.

A. G. W.

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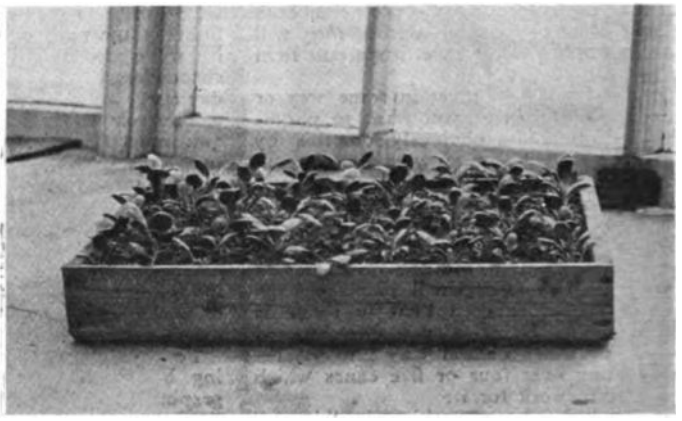
THE BUSY MAN'S PAGE

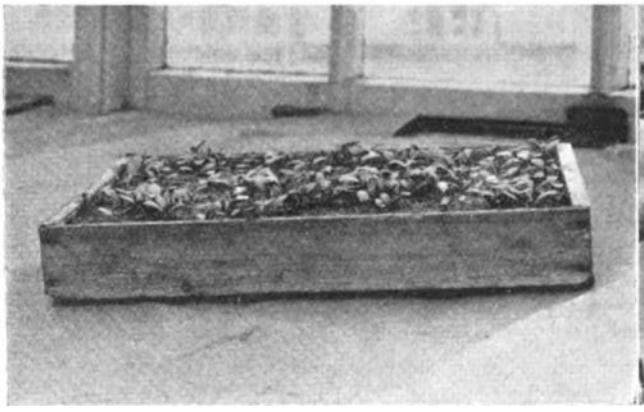
Pricking Off Half-Hardy Annuals.

WHEN the seedlings of the half-hardy annuals, such as asters, stocks, nemesias, phloxes, salpiglossis, zinnias, etc., have made a good start, it is most important not to defer their removal to boxes or pans, where they will have more room for development. Delay in this direction will mean that the young plants become drawn and weakened and in such a state they cannot be expected to give the best results. The time for removal has come when the little plants have formed another pair of leaves besides their seed leaves. The soil in the new receptacles should be in a friable but fairly moist condition. Set each little plant in right up to the seed leaves. Give a sprinkling of water through a fine rose after the replanting. For a few days shade from bright sunshine, and generally keep the plants near the glass and allow the freest possible ventilation. For most of the half-hardy annuals 2ins. apart is a good distance, although, in the case of the phloxes, which are strong growers, it is an advantage to allow an additional inch. The plants can remain in the new positions until they touch one another, by which time they will be ready for planting out in the garden.

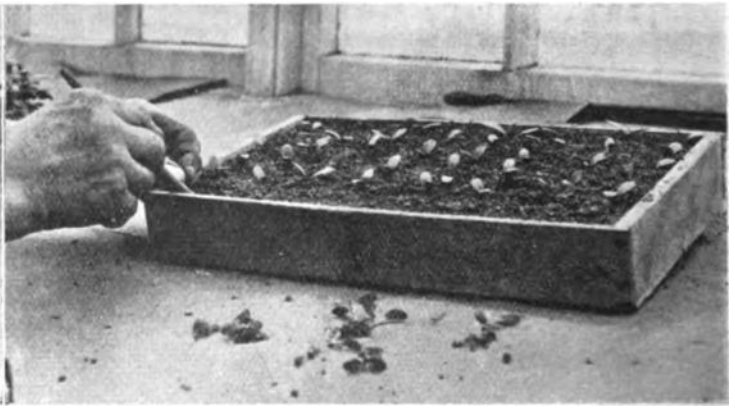
A box of salpiglossis seedlings which have been allowed to become drawn up and weakened.



Seedlings transferred to boxes at the proper time. The seedlings should be pricked off immediately their first leaves have formed.



A batch of seedlings of Phlox Drummondii ready for removal to another box.



Pricking off the seedlings. Note the distance of 2 to 3ins. left between each seedling, and the method of placing them in the box.

Liquid Manures.

A CERTAIN amount of harm may be done by giving liquid manures in an improper manner. These should never be given to any plants that are dry at the roots. Water first of all with clear water and then give time for this to drain away, finally employing the liquid fertiliser. By following this plan one ensures that the tiny roots of the plant will not be damaged by any caustic matter in the fertiliser. Generally speaking weak liquids, given frequently, are better than strong solutions applied at long intervals.

A Syringe Hint.

WHEN using a hand syringe to spray bushes with an oily or soapy mixture, it is often found that the barrel, which is sure to be wetted with the solution, is extremely difficult to hold. A firm grip of the syringe is essential if the required force to do the necessary work is to be developed. It is a very good plan to have a band of metal soldered round the barrel at the most convenient spot. A piece of ribbed brass raised ¼in. in the centre gives a secure hold. A simpler plan is to wind a length of thick copper wire tightly round the barrel and to hold this in place with a touch of solder. Such a job could be done by any metal worker for a trifling charge.

Summer-Flowering Stocks.

ALTHOUGH the summer-flowering or ten-week stocks are favourites in all parts of the country, one does not always find them as well grown as they ought to be. The plants must be grown without a check of any sort and, as a rule, too early sowing is to be avoided. As soon as possible the seedlings are to be transplanted into a box of loamy compost with some "body" in it, *i.e.*, not too porous, and the hardening off process may not begin until the plants are sturdy and well rooted. Sowings may be made now directly in the open border or in a seed bed. Above all must every grower get the very best of seed; even with it, there will be a certain percentage of singles, but, fortunately, the singles can be spotted quite early and, if a reserve stock is kept, replaced without loss. One of the best strains for cutting is the Perpetual Perfection Stock, which can be had in all colours. For immense spikes, full flowers and choice colours, there is the Giant Perfection. For garden bedding one may have the ordinary kinds or the Dwarf Large-flowering. Worthy of mention, too, are the Mammoth or Beauty Stocks, delightful plants for summer and autumn flowers.

Preventing Rust on Tools.

IT is a great mistake to allow any garden tools to become rusty as, in this state, they are less efficient and naturally, do not last so long. A simple way of preventing the coming of rust is on the following lines. Mix equal parts of paraffin and sweet oil and keep in a closely stoppered bottle. Free the tools from dirt and then wash with plain water, finally drying with a rag. When the metal is quite dry, rub it over with a piece of cotton waste which is kept moistened with the liquid in the bottle. Shake the bottle now and again when in use. This plan causes only a little trouble and is well worth while. For instance, a rusty spade or hoe collects earth so that the work is hampered, but this does not happen if the metal is bright.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

A Town Roof Garden.

IN the accompanying illustration of a roof garden, simplicity is the keynote of the design. Distant chimney stacks are effectively screened off by the use of an artistically designed trellis, against which a rose is starting to climb. On the coping of the wall are a couple of wooden boxes filled with box shrubs. In the corner a place is found for a tiny fountain and lily pool. This contains a single plant of Nymphæa pygmæa alba, a charming water-lily for the small water garden. The standard sweet bay adds scent to the atmosphere of the tiny roof garden. How often does one see a roof garden too crowded with pots and boxes often producing anything but a beautiful effect. In our large cities there are many flat roofs or balconies that could be treated simply and adorned with beautiful plants, such as is suggested in this example.

AN ATTRACTIVE ROOF GARDEN UNDER TOWN CONDITIONS.

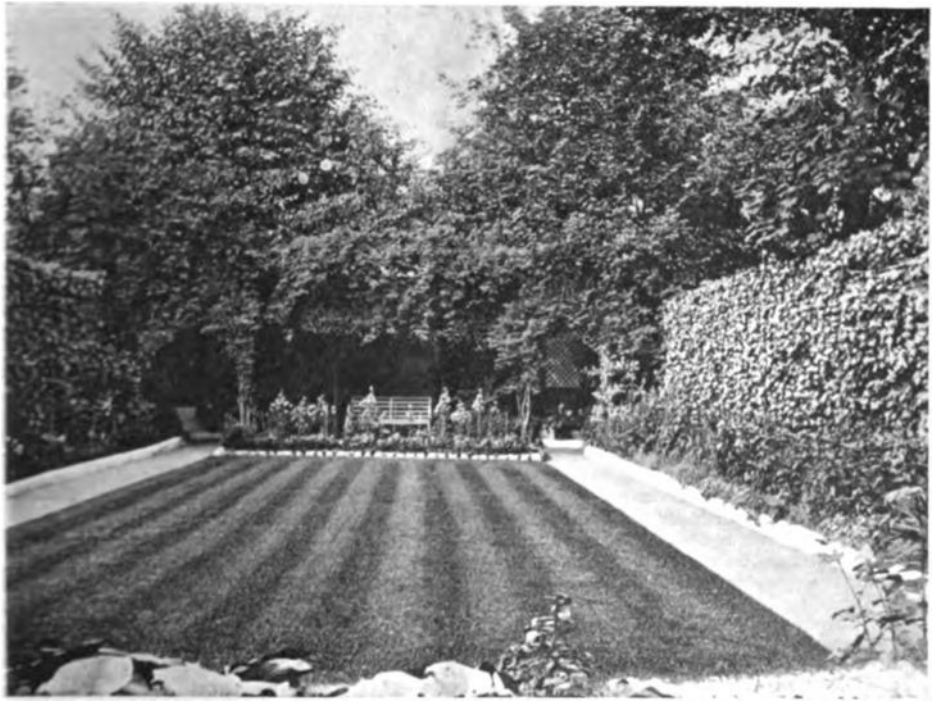
Making a New Lawn.

NOTHING sets off the beauty of summer flowers so well as a smooth green lawn. Even in a small garden, a patch of grass gives a cool and inviting appearance; and a large garden without grass is almost unthinkable. There is a popular belief that grass will not grow in town gardens, that is, in those gardens which come within the more congested areas. But what of the lovely grass patches near to the Government buildings in Bird Cage Walk? They are almost flawless in appearance. The lawn depicted on this page is only a mile or two from the heart of London, yet I doubt if a better kept patch of grass could be found anywhere in the country.

One of the essentials for a good lawn is the proper preparation of the ground before seed is sown. Turf, while it may make a lawn more rapidly, is not easily obtained in towns, and in the end is less satisfactory than growing the lawn from seed. Drainage is essential. A trench dug every 6yds. into which old bricks or clinkers are thrown, will provide good drainage if there is a tendency for water to remain on the surface. The surface must be levelled where necessary, and the whole area dug over to a depth of about 1ft.

It is false economy to buy cheap light seed. Good heavy seed, well cleaned so that it is free from weed seeds, is worth the price you are asked for it. Sow about 2 oz. to a square yard, sowing carefully and evenly, or the lawn will look patchy when it grows. Rake the seed in very lightly, only letting the rake teeth penetrate to a depth of ½in., so that the seed is not buried too deeply. Scatter a very little finely sifted soil over the surface, and pat it down with the back of a spade, or pass a roller lightly over it. The seed is very much liked by sparrows, and unless you protect it in some way you may lose so much that the lawn is a failure. A few short wooden pegs on each side, with black cotton stretched across and across between them, keep the birds away. Black cotton is used because the birds do not see it, and when flying down to peck at the seed, they come in contact with the strands.

Moisture is needed to enable the seeds to germinate, and should excessively dry weather follow the seed sowing, watering would aid germination, if the lawn is small enough to permit this to be done. When the grass is about 2ins. high, the roller may again be used, provided it is a light one which will not do too much damage to the tender shoots. The first cutting should be done either with a scythe, shears or a sickle; but in a very short time the mower may safely be used.



A PERFECT STRETCH OF LAWN IS A GREAT ASSET TO A SMALL GARDEN.
Attention should be given now to renovation and upkeep.

Treatment of Indoor Bulbs after Flowering.

REMEMBER that even when the flowers of indoor bulbs have faded, the roots still require water. It is a good plan to remove the plants from the bowls or pots and replant them in an odd corner of the garden, where they will ripen naturally. When the tops are dead, the bulbs can be lifted and stored until the autumn. If you have no garden, let the bulbs die off in the pots.

Bulbs of tulips, hyacinths and daffodils will bloom a second year if reasonable care is taken to ripen them off properly.

The Town Gardening Handbook.—This volume, the official handbook of the London Gardens Guild, is now published, and is obtainable from all booksellers and newsagents. The price is, cloth covers 2s. 6d., paper covers 1s. 6d. It is the one book for all amateurs who garden in town and suburb.

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NOTES ON THE FLOWER GARDEN

Some Dwarf Perennial Asters and Their Uses.

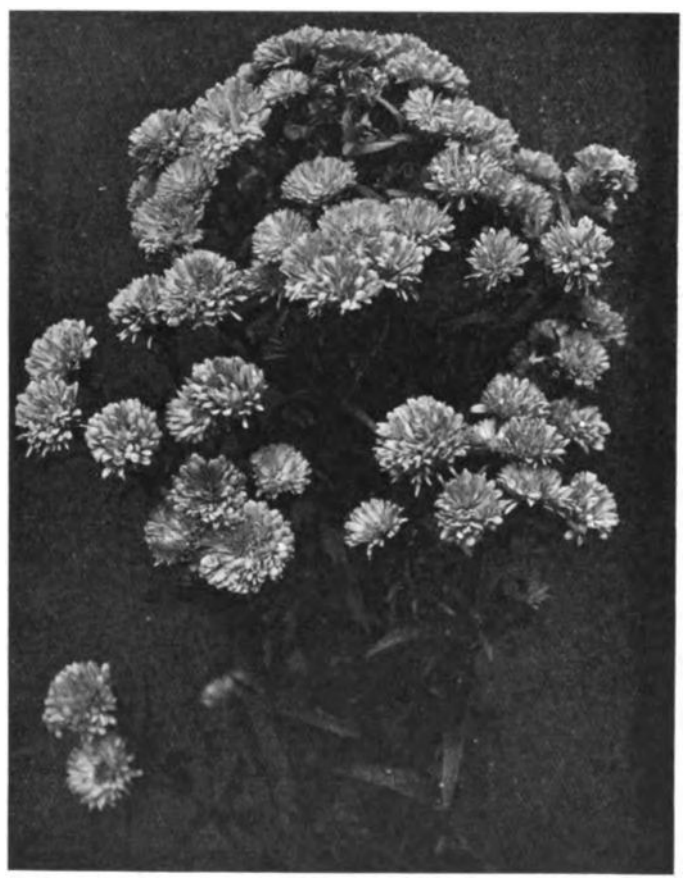
THE dwarf-growing Michaelmas daisies, such as A. Amellus and its varieties and some few others, lend themselves to a variety of uses, more so, perhaps, than do the taller Novæ-Angliæ and Novi Belgii sections; they are particularly pleasing when used for autumn bedding schemes and some beautifully blended effects are obtainable.

The species, A. Amellus, came from Italy so long ago as 1596 and is quite a good border plant, about 2ft. in height and with numerous purple flowers in August; its earliest recorded variety was possibly A. A. bessarabicus, still a very desirable plant, with larger flowers than the type and of the same rich shade of purplish-blue. It is a good subject for the border, for beds or for the large rock garden. Some select modern Amellus varieties are Beauty of Ronsdorf, 2ft., large lilac-pink; King George, perhaps the best of this section with very large violet-blue flowers; Rudolph Goethe, very similar to the last-named, but of rather stronger growth and an especially fine plant for furnishing beds; Framfieldii, reddish-purple thread-like ray florets, 2ft., late flowering; Little Gem, 1ft. high, flowering September-October, and a very fine plant for the rock garden; Perle Rose, very pretty dwarf form of clear rose colouring; Perry's Favourite, very fine rose-pink; Preziosa, deep clear blue, one of the finest in the section; Queen Mary, large light blue, and Riverslea, rich violet.

Except in very bleak situations, these asters do not require support, a fact which enhances their value for planting in the forefront of the hardy flower border, in isolated beds or in shrubbery borders; some very effective and decidedly pretty schemes are realised by planting the blue shades in company with yellow or bronze chrysanthemums. It will, of course, be necessary to chose a "mum" which is a floral contemporary of the aster selected.

From the Novi Belgii section of asters, I cannot forbear to mention Little Blue Boy and its pink flowered counterpart, Little Pink Lady; these delightful plants are characterised by stiff spire-like growth, some 2ft. in height and are literally covered, in September, with myriads of, respectively, bright blue and deep pink semi-double flowers; a remarkably pretty autumn display is the result of planting a flower bed with Little Blue Boy and an orange coloured chrysanthemum, such as Harvester, or a "mum" of deeper colour, as Nina Blick, may be used. The colour harmony is striking yet delightfully soft and pleasing.

Easter will not be too late to plant these hardy flowers and, indeed, my experience points to excellent results obtained from April planting.—R. E. A.



ASTER LITTLE BLUE BOY, ONE OF THE BEST OF THE DWARF MICHAELMAS DAISIES.

It has bright blue buttonlike flowers. This variety makes an admirable companion to its counterpart, Little Pink Lady, whose colour is a rich deep pink.

Nasturtiums.

THE homely nasturtium, so easily grown and yet so pretty, is one of the very useful border annuals favoured by all gardeners. The dwarfs are employed as dot plants in among the bedding flowers; they are used in designs or grown merely for flowers or foliage, or they may be freely grown to fill some doubtful corner. The creeping kinds are equally fine for covering a trellis or an old root or an unsightly mound, their exuberant streamers and plenteous foliage forming a delightful screen, enhanced by the half-hidden flowers. Now every grower must realise that harsh conditions suit these plants best, in the main. Do not manure the soil for them; do not, unless in the seedling stage, supply water; plant them in the full glare of the sun—and the plants flower with a profuseness as astounding as it is pleasing. Creeping kinds grown for a screen mainly are, however, more luxuriant in a rich soil. Seeds may be sown directly in the soil, now or soon; but before sowing, tramp the soil as firm as possible; of course, seedlings may be raised in the frame, too, but seedling nasturtiums are much hardier than most realise and than the behaviour of plants during frost in autumn leads one to suppose. Every catalogue has a selection of varieties, sufficiently described, and intending growers will spend a pleasant half-hour perusing the details. Let me, however, mention the newer Lilliputs, dwarfs among the dwarf kinds, neat, tiny, bushy plants of delightful nature. I grew Delight, Snow Queen, Red Ensign and Ruby last year, instead of the usual edging, along with lobelia, and the Scots saying that "Changes are lightsome" was fully justified.—LANARKSHIRE.

Two Good Geums.

TWO of the showiest and most persistent in bloom of all hardy border plants are Geum Mrs. Bradshaw and G. Lady Stratheden. The former produces a wealth of large, dazzling scarlet double flowers throughout the summer—flowers which rival in intensity of colour the flaming Cardinal Lobelia itself. Lady Stratheden is the golden yellow counterpart of Mrs. Bradshaw, and though quite a recent introduction, is becoming equally popular among discriminating gardeners.

Besides their value in the flower border these geums should be extensively grown where flowers for indoor decoration are required, for they possess two valuable attributes—long life in the cut state, and great grace of poise. They may also be planted in small lawn beds; as they are of perennial duration, these geums are particularly useful in this respect, and need not be disturbed until the flowers begin to dwindle in size, usually after three or four years' growth in the same spot. By planting early-flowering bulbs in the same bed, a bright display may be had over a long period, and at the very minimum of cost and trouble.

Seedling geums may be bought quite cheaply from advertisers in this paper, and they will flower profusely from June until September. Seed may also be sown under glass during the next week or so, and plants from this sowing will flower in late summer. From seed sown in April or May, fine sturdy seedlings will result for planting out in autumn, though these can scarcely be expected to flower during the present year.

For the best possible results, geums should be grown in rich moist soil and in a sunny part of the garden. In a very dry spot, the flowers will be of a good size at first, but gradually become smaller and smaller, until finally the plants are not worth garden room. Flowers on old plants also dwindle in size after the first three years or so. In this case, vigour will be restored if the clumps are divided up, though many people make a practice of raising fresh stock every two years and discard all the old plants when the new seedlings reach flowering size.

As regards the positions in which to plant, Mrs. Bradshaw never looks so well as when placed against a background of Michaelmas daisies or other late-flowering plants whose bright, green foliage will provide a pleasing foil for the brilliant scarlet blossoms. The yellow form is more easily placed, but will look best among flowers of a blue, scarlet or purple shade. Neither of these geums exceeds a height of 18ins., so a position in the fore part of the border is essential.—B. D. S.

The Willow Herb.

THIS is a rampant grower which certainly ought not to be introduced to a border of choice herbaceous subjects, but, nevertheless, its beauty warrants it a place in any odd corner of the garden which is partially shaded. Other waste places will occur to the observant, and although the epilobiums

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thrive in a more or less boggy situation, they will also succeed in dry, stony soil and even in ashes. A bold clump of E. angustifolium is an attractive sight, with the stout stems some 5ft. or 6ft. high swaying in the breeze, at the apex of which are clusters of rosy red flowers. There is also a white form known as album. This plant is at its best from June till August, and a distinct feature of this willow herb is the myriads of seed vessels that follow the flowering period. Although these are wafted about with the wind, I have never found more than a few isolated seedlings anywhere near the parent plants.

Planted in a place where it can grow at will this delightful rose bay or willow herb will be an enjoyable feature and, moreover, it will never require further attention, being quite capable of taking care of itself.—B.

Annual Climbers for Summer Decoration.

AMONG the annual creepers and climbers will be found a few plants that will produce a wonderful array of bloom in a short time, and, moreover, hide many an odd corner during the summer months. The pretty yellow canary creeper is always attractive and if given a position facing south, with the necessary supports, it will be quite a feature during the summer months. The common tropæolum or nasturtium is well known and few climbers can excel it in brilliance or floriferousness. To achieve the latter, however, a poor rooting medium is required. Both these creepers can be raised from seeds sown in the open about April, or raised in pots and planted in their final stations in May. The convolvulus major section are ideal for covering trelliswork and the fronts of verandas. They can be obtained in a variety of colours, are quick growing and will thrive in any sunny position. Perhaps the choicest of this group is Ipomæa rubro-cœrulea Heavenly Blue, particularly the early-flowering hybrids. The large flowers are a beautiful sky blue, they are at their best in the morning, and for this reason the plant is known as the Morning Glory. It will be necessary to raise the plants under glass, thoroughly harden off, and plant out in a sunny, hot place at the end of May.

A QUICK-GROWING ANNUAL CLIMBER FOR HOUSE WALLS, IPOMŒA RUBRO-CÆRULEA.

In Cobæa scandens we have a less showy plant, but it is exceptionally free growing and, given a mild winter, it will survive and do well the following year. To get plenty of bloom the first year outside the seeds must be sown early to secure fine strong plants by May. A south aspect is preferable, and a liberal amount of space should be allowed.

A rarely seen but handsome climber is Lophospermum scandens. It will attain a height of 10ft. or more, and its large pink flowers are exceedingly attractive. Although it is readily raised from seeds, it is a good plan to root a few cuttings in the autumn and keep them in a frost-proof pit or frame till the following season.

Maurandya Barclayana is usually considered a greenhouse climber, but if the seeds are sown early under glass, the plants will flower freely outside if given a warm situation. A suitable place is on the rock garden where the slender growths could drape a large stone, and here the blue flowers would be seen to advantage.

Eccremocarpus scaber is a delightful climber not met with as often as its merits deserve, and although termed half-hardy it will withstand an ordinary winter in the southern and westerly parts of England. It succeeds best on a wall with a south or south-west aspect. Here it will grow freely, and produces its sprays of orange-scarlet blossoms throughout the summer months. It grows about 10ft. high, and if seedlings are raised under glass and planted out in May, flowers may reasonably be expected this year.—CHEPSTOW.

The Sand Myrtle.

THERE is no more delightful little evergreen shrub for the rock garden, the front of a mixed border, or for associating with heaths than the sand myrtle (Leiophyllum buxifolium). This is a native of eastern North America, and, though it is one of the ericaceæ and allied to the heaths, it is nearer akin to the ledums. It makes a twiggy, neatly rounded bush, usually under 1ft. in height. The slender stems are amply furnished with small oval leaves, leathery in texture and a dark glossy green. In spring, bud clusters appear at the ends of the branches, and these, being a bright rosy red, the little shrub is at this stage singularly attractive. The buds expand towards the approach of summer, breaking into a galaxy of pink-flushed, crystal white flowers, which are so numerous that they almost smother the foliage with the rosy foam of petals and prominent stamens.

The sand myrtle is perfectly hardy and easy in any fairly light well drained, lime-free loam, but it will prosper in sandy peat and may be given a little leaf-mould where the soil is poor and liable to dry out in summer. Propagation can be carried out by short, half-ripened cuttings struck in sandy peat during the later summer, preferably with gentle bottom heat. Young plants will often begin blooming when but 2–3ins. high. This interesting, comely little shrub is comparatively uncommon in gardens, which is odd considering its excellent qualities and easy culture.—A. T. J.

A Free-Flowering Trailer, Gypsophila repens.

TO maintain the beauty of the rock garden as long as possible should be the aim of every grower, and G. repens will furnish its quota of bloom after the bulk of the alpines have passed their best. This easily grown plant is a first-rate trailer, and admirably suited for hanging over large stones; while for the wall garden such subjects are well-nigh indispensable. It makes long trailing growths which are covered with a host of small white flowers from June till August. It will succeed

GYPSOPHILA REPENS, A LATE BLOOMING TRAILER FOR THE ROCKERY WALL.

in either full sunshine or partial shade and can be increased by seeds, cuttings or layers. When the cuttings or layers have formed roots they should either be potted up or transferred to their final stations, as they do not readily transplant from the open ground.

There is a variety known as rosea which is similar to the type excepting the flowers are rose colour instead of white. This form should certainly be grown. Another variety is monstrosa, which is larger than the type in all its parts, and consequently not so elegant. However, it is well worth growing.

Although gypsophilas enjoy a chalky root run, they will succeed in ordinary well drained soil providing the position is not shaded to any great extent.—T. W. B.

The Bog Arum for a Damp Position.

ONE of the most attractive subjects for a really damp position where something like bog or marsh conditions can be maintained is the bog arum (Calla palustris). This species is sometimes grown as a water plant in Britain, but it much prefers a moist position in the soil. The plant has a curious trailing habit and produces an abundance of pretty little spathes of the same colour as the well known arum lily. If the position in which the plant is growing is somewhat shaded, the bog arum produces larger flowers and leaves than it does in a more open situation. The plant is, however, perfectly at home in a position that is fully exposed, and here it will rapidly carpet the ground with its small dark green leaves. The result is very pleasing, and still more so when the white flowers crop up here and there along the creeping stems, each one only raised a little above the leaves. Like many accommodating plants the bog arum is often rather badly treated, but it is only at its best when growing in soil that has been enriched with leaf-mould and well rotted manure. This species flowers in the summer and increases with great rapidity by means of its running stems. The average height of the plant is between 3ins. and 8ins., but in shaded positions the latter figure is often exceeded.—S. L. B.

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SAFEGUARD YOUR FRUIT CROP

From now onwards it is most important to keep a careful look-out for the appearance of insect pests on fruit trees and bushes, so that the necessary remedial measures can at once be undertaken. In the following article a number of the more prevalent pests are described so that the amateur will readily recognise the trouble and be able to counteract it by means of one or other of the suggested remedies.

AGAINST insect pests that threaten the fruit trees and bushes the gardener must wage merciless war.

However thorough the winter washing, grease-banding, etc., it is certain that some pests will have escaped, while there is always the very real danger of hordes of others swarming the trees from ill-tended orchards in the neighbourhood.

Sometimes the gardener can cope with these by hand-picking and trapping, but generally he must resort to spring or summer spraying if the trees and crops are to escape damage.

When spraying is done intelligently, and appropriate washes for the particular pests troublesome are applied at the right time, there need be little fear of failure. But carried out carelessly, with no clear idea of what is required, it will prove wasteful and ineffective.

Among the most destructive pests are the caterpillars of various moths—the green "looper" caterpillars of winter and March moths, tortrix moth caterpillars (which wriggle backwards if touched in front), black and yellow striped magpie moth caterpillars and the green and spotted grubs of the gooseberry sawfly; to mention but a few. All, by chewing the leaves, shoots or fruits are capable of doing serious harm and no tree is altogether immune from attack.

With handy sized trees, odd half hours can be profitably spent "hand picking" the caterpillars, matted leaves being opened and the "catch" dropped into a jar of insecticide or paraffin. When this is not practicable the trees must be sprayed with a poison wash.

Use a nozzle that will give the finest spray and coat every leaf and shoot with a film of poison, so that caterpillars and other "biting" pests, like weevils, etc., receive a poisonous breakfast.

Arsenate of lead is a powerful "stomach poison" wash to use against this class of pest. Buy it ready made from a reputable firm and water it down according to directions. Usually, half a pound of paste makes ten gallons of wash. It should not, however, be sprayed on fruit to be picked within a month of the application, nor should it drip on to vegetables growing beneath the trees.

Trees likely to be infested with caterpillars, etc., are best sprayed just before blossoming time and again when the petals have fallen. But never spray with any insecticide when blossoms are open, for fear of killing bees and insects busy pollinating.

For use near the date when fruit is to be gathered, a wash that quickly loses its poisonous properties should be chosen. Hellebore wash—prepared by dissolving 4oz. of freshly ground hellebore in four gallons of water serves this purpose well. Or, the hellebore powder may be dusted on the bushes while foliage is still moist with dew.

The codling moth pest, which causes the nuisance of "maggoty" or "worm-eaten" apples, will be checked if the trees are sprayed with arsenate of lead *immediately* after blossoming. Also, bands of sacking or hay tied round the tree trunk in June, will entrap the maggots searching for a hiding place; the bands being removed and burned in autumn.

It is very easy to confuse codling moth damage with that caused by the apple sawfly. Caterpillars of both burrow into and spoil apples, but since remedial measures are distinct, accurate identification is important.

Note that the sawfly caterpillar enters the apple by a hole in the side, eats out a cavity in the flesh and leaves through the side of the apple; whereas the codling moth caterpillar invariably enters through the *eye*, tunnels into the core, afterwards burrowing out through the side. Moreover, the codling moth caterpillar is slender, coloured and has eight pairs of legs, whereas the sawfly caterpillar is plump, white and has ten pairs of legs.

Spraying and banding, so effective against the codling moth, is of no avail against the sawfly, the remedies for which are to collect and burn fallen fruit, to run fowls under the trees in May and June, and to keep the soil hoed throughout the summer.

"Stomach poison" insecticides are useless

INSECT PESTS OF FRUIT TREES AND THEIR REMEDIES.

Pest.	*Fruit Attacked.*	*Symptoms.*	*Remedy.*
Caterpillars, grubs, weevils, etc., that chew leaves, shoots or fruit.	All fruit trees.	Bitten leaves, defoliated shoots, scarred fruit.	Spray with lead arsenate. Use non-poisonous wash, or Hellebore within month of gathering crop.
All aphides, "greenfly," "blight," etc.	All fruit trees.	Curled, blistered leaves, distorted growth, deformed stunted fruit.	Spray with "contact" wash before and after blossoming. *Before leaves curl.*
Codling Moth ..	Apple ..	"Maggoty" apples, damaged "eye" and tunnelled core of apple. Fruit dropping	(*a*) Spray with lead arsenate immediately after blossoming. (*b*) tie sacking band round tree trunk in June, burn in autumn.
Apple Sawfly ..	Apple ..	"Maggoty" apples, fruit dropping.	(*a*) Collect fallen fruit. (*b*) Run fowls under trees in May-June. (*c*) Keep hoe going under trees.
Magpie Moth and Gooseberry Sawfly.	Currant, gooseberry.	Defoliated shoots ..	Spray with lead arsenate after flowering. Use hellebore if within month of gathering.
Woolly Aphis or American Blight.	Apple ..	White woolly patches of "blight" on branches.	(*a*) Paint patches with methylated spirit. (*b*) Spray with "contact" wash.
Apple Sucker.. ..	Apple ..	Dead flower trusses, stunted foliage.	Spray with nicotine before and after blossoming.
Capsid Bug	Apple ..	Spotted foliage, stunted growth, scarred fruit.	Spray with nicotine before and after blossoming.
Apple Blossom Weevil	Apple ..	Blossoms "capped" with dead, unopened petals.	(*a*) Collect and burn "capped" blooms. (*b*) Tie sacking band round tree trunk in May; examine monthly and kill hiding weevils.
Red Spider	All trees, indoors and out.	Foliage sickly or rusty in appearance.	(*a*) Forcibly syringe with clear or soapy water. (*b*) Spray with paraffin-nicotine wash.
Pear Midge	Pear ..	Distorted fruitlets, pears dropping early.	(*a*) Burn fallen fruit. (*b*) Run fowls under trees in May-June. (*c*) Hoe soil throughout summer.
Mussel and Oyster Scale.	Apple, pear, plum.	Scales clustered on bark, weakened growth.	Spray with paraffin-nicotine wash in May.
Soft Brown Scale ..	Peach, currant, gooseberry	Blister-like scales on bark, weakly growth.	Spray with paraffin-nicotine wash in May.
Raspberry Moth ..	Raspberry ..	Cane growth wilting and dying.	Cut out and burn attacked canes in spring and summer.
Raspberry Beetle ..	Raspberry ..	Damaged flowers, maggoty berries.	Shake canes over cloth in spring, destroy beetles caught. Hoe round canes in spring.
Currant Clearwing or Bud Moth.	Currant ..	Buds and shoots dying, in spring.	Cut off and burn attacked shoots.
Strawberry Beetle ..	Strawberry ..	Berries bitten and hollowed out.	Trap in jars baited with meat sunk in ground among plants.

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against aphides—the so-called "blight" and "greenfly"—that curls the leaves and stunts growth and fruit of apples, pears, plums, cherries, currants and gooseberries and the like. This type of pest feeds and does harm by sucking the sap from the tissues. Their food cannot be poisoned as with the "chewing" caterpillars and weevils, etc., and a wash that kills insects by *actual contact* with them must be employed.

There are many efficient and ready-for-use "contact" washes to be had—such as the "Katakilla," "Abol," "XL ALL" brands, etc., and a timely application of one or other of these will safeguard the trees.

AN APPLE SPUR ATTACKED BY WOOLLY APHIS OR AMERICAN BLIGHT, AND MUSSEL SCALE.
Note the appearance of the branches. (*Slightly enlarged.*)

SPRAYING MUST BE TIMELY.

Once leaves are curled, the chance of stemming an attack by spraying is a very small one. Watch closely and spray at the very outset of an attack; or before and after blossoming as a precautionary measure.

Use a coarse nozzle, spray with force and wet the under side as well as the upper surface of leaves and shoots; for every insect must be *hit*.

When the currant bushes are infested with "blight," so that leaves are rosetted and curled, it is a good plan to dip "bendable" shoots into a jar of insecticide—for no spray will penetrate to the aphides.

For those who like to prepare their own "contact" washes—not always a good plan in the long run, nowadays—a nicotine-soap wash is simple to make and sure in effect. The recipe is: Nicotine (95 per cent. pure), 1½oz.; soft soap, 2lb.; water, 20 gallons. Dissolve the soap in a little hot water, stir in the nicotine, add the remainder of the water and churn thoroughly.

This wash, besides being effective against "blight" is deadly to young caterpillars, etc., and applied to trees immediately before or after blossoming, is of great general value.

Other recipes for "contact" washes are:

Paraffin Emulsion.—Paraffin oil, 2½ pints; soft soap, ½lb.; water, 10 gallons. Dissolve the soap in a little hot water, add the paraffin and the rest of the water and churn thoroughly, for twenty minutes or so, with a garden syringe or bundle of twigs.

Quassia Wash.—Quassia chips, ½lb.; soft soap, ½lb.; water, 10 gallons. Steep the chips in water for twenty-four hours, strain the liquid into the dissolved soap and mix together. Use at once.

The pestilent woolly aphis or American blight on apple trees may be controlled by spraying with a "contact" wash, though branches within reach are best treated by rubbing over each white woolly patch with a brush dipped in methylated spirit.

As a remedy for the apple sucker and capsid bug pests—which are damaging apple trees in many gardens—the nicotine soap wash is effective, if applied immediately before and after blossoming. These two pests are not difficult to distinguish. The apple sucker, a small, flattish, yellow insect, attacks the bloom trusses, which remain on the tree dead and brown, *just as though cut by frost*. Foliage may also be affected. The capsid bugs, which are something like "greenfly" to look at, but much more active when disturbed, cause leaf spotting, stunted growth and disfigured fruit; attacked apples being patched with russety scars and lumps.

If the bark of apple, pear or plum trees is infested with the mussel scale pest, the tiny mussel-shaped scales harbouring the feeding and breeding insects, this unhealthy state may be remedied by spraying in May with a paraffin-nicotine wash, made by adding 1½oz. of nicotine to each 20 gallons of paraffin emulsion. Also, certain proprietary brands of "contact" washes will, as advertised, clear off this pest.

The soft brown scale, looking like brown blisters, on peach, gooseberry and currant branches, may be destroyed by this wash, which is also a remedy for red spider. In the greenhouse and with some outdoor trees, however, a means of preventing red spider damage is to syringe the foliage forcibly at frequent intervals with clear or soapy water.

Possibly the gardener may find much of his apple blossom "capped" with dead, unopened petals. The apple blossom weevil is responsible for this damage and, sheltering beneath each "cap" of petals is a small, pinkish grub, the culprit. Spraying offers no control of this serious pest. Every "capped" bloom must be picked off—by the stalk—and burned. The weevils may be trapped in a band of sacking tied round the tree trunk in late May; the bands being examined monthly and hiding weevils destroyed.

Wholesale dropping of pears when about the size of marbles generally signifies the presence of the pear midge pest. Fruitlets attacked by the midges are usually deformed, with sooty patches on the skin; inside each being several dirty coloured maggots in a mass of rotten pulp. Here, again, spraying offers no control, remedial measures being to collect and burn abnormal fruits, to keep the soil hoed and where possible to run fowls under the trees in May and June. Also, kainit forked into the soil in June has proved a deterrent and a help to the trees.

In some gardens the raspberry beetle and raspberry moth prove serious pests. The beetles lay eggs on the flowers from which grubs hatch to spoil berries. Trapping is the only remedy, the canes being shaken over a cloth or paper and dislodged beetles destroyed.

The reddish grubs of the raspberry moth, which eat out buds and cause growths to wilt are best dealt with by burning canes attacked. Loganberries also suffer from the attentions of these pests.

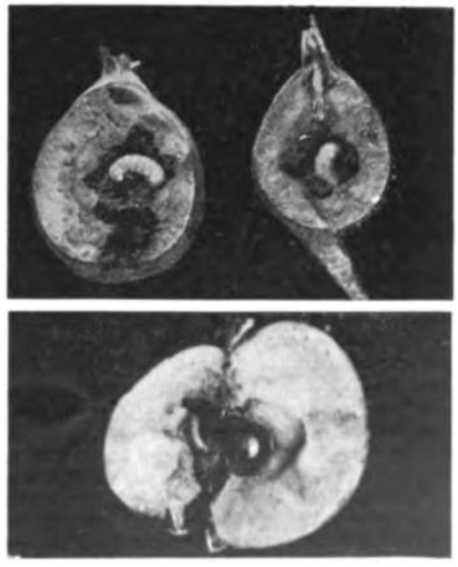
Similarly, caterpillars of the currant clearwing or bud moth, which tunnel into and kill young shoots, should be destroyed by burning attacked shoots in spring.

The beetles that bite and hollow out the colouring strawberries should be trapped in jars baited with meat and sunk to the rim in the ground about the plants. These beetles, beneficial at other seasons, should be taken to another part of the garden and set free.

It is generally recognised that the "big bud" pest of black currants is controllable by hand picking in February and by lime-sulphur spraying when new leaves are the size of a shilling piece. Spraying in late spring with a "contact" wash, or sulphur powder dusting, may possibly do some good, but cannot be confidently recommended.

A. N. RAWES.

APPLE FRUITLETS ATTACKED BY THE APPLE SAWFLY.
(*Slightly reduced.*)



Top: FRUITLETS OPENED TO SHOW SAWFLY LARVÆ INSIDE.

Bottom: YOUNG APPLE DAMAGED BY LARVA OF CODLING MOTH.

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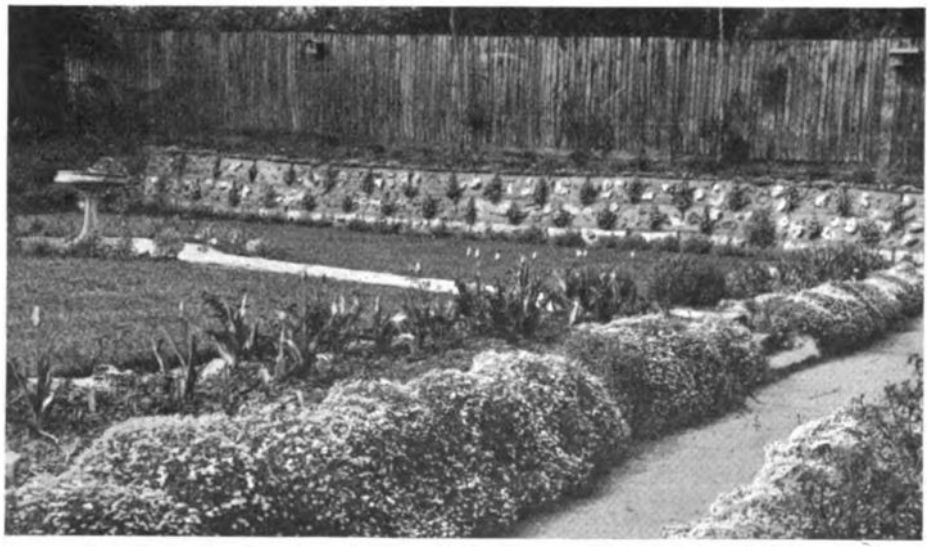
MAKING A CEMENT BLOCK RETAINING WALL

An interesting job which many amateurs may like to try. This article, by one of our readers who has constructed in his own garden the wall illustrated, gives full particulars as to how it may be carried out.

THERE is no occasion to explain why this cement wall became necessary, beyond saying that a bank of soil of very poor quality was left after levelling a sloping site for the lawn. This, when the toe of the sloping bank was cut away, left a straight face some 4ft. in height which required some mechanical support to keep the remaining soil from falling down. Presuming that the necessity for such a wall exists, the first thing to do is to measure the length and height of the proposed erection. This will give a rough estimate of the number of blocks which will be required to cover the area, due allowance being made for 2in. spaces between the blocks when laying, for the introduction of flowering plants. For ease in handling the blocks should measure 18ins. by 12ins. by 3ins. in thickness.

THE SOIL BANK BEFORE THE WALL WAS MADE.



THE WALL AND THE SUNK GARDEN PHOTOGRAPHED A YEAR AFTER THE ABOVE ILLUSTRATION.

A mathematically minded constructor would make one block, and calculate from the amount used the quantities of material required for the whole wall. My method was to commence with one bag of cement and a load of rough, sharp sand, from which I made blocks until the cement was exhausted. A bucket of cement will make four blocks when mixed with the sand and other "ingredients."

Sand is expensive, and many other cheaper ingredients can be mixed with it to form the blocks. Mine consisted of the rubbish which can be found lying about most newly constructed houses—broken brickbats, old bottles, broken drainpipes, tiles, jam pots, crushed tins, or rusty wire netting—the latter making a very strong block if roughly hammered or compressed into the shape of the block. Coke, cinders and small stones also economise the use of sand.

The shape of my blocks would have horrified a builder, for some were true rectangles, while others were geometrical nightmares. This was due to the fact that I moulded my materials by means of planks pegged into a gravel path. Such irregular blocks are extremely difficult to lay, and I would recommend making the moulds from hinged pieces of wood cut to the required sizes, in order that each block may be symmetrical in shape and size. The hinged boards will make removal easy when the block has set hard. At least three such moulds should be made. They consist simply of two pieces of wood measuring 18ins. by 3ins.; and two to form the ends, 12ins. by 3ins. These are hinged to form rectanglar sides without top or bottom.

The stock mixture of cement and rough sand should be made in the proportions of cement 1 part, sand 5 parts. A bucket makes a very good measure for this purpose. Place the cement and sand in a deep wheelbarrow, and thoroughly incorporate by mixing with a spade while in the dry condition. Then pour in a bucket of water and mix again, adding more water, if required, until the whole attains the consistency of freshly dropped cow-dung. The economy ingredients are added to this stock mixture in the following manner: Place the moulds on a hard gravel path, or piece of soil which has been levelled and rammed hard. In the bottom place a layer of small stones, cinders, brickbats or other "ingredient" until the mould is half full. On this pour or shovel the wet stock misture, paddling it about until it has found its way between the crevices of the stones or other material which has been placed in the mould. If a plain-surfaced block is not required, nearly fill the mould, then press into the wet surface large flints or other stones. It is the top surface which will be the face of the finished block. The displacement by these stones will bring the cement level to the top of the boards, which can then be left for at least a day to set roughly. The hinged boards may be removed the day after making, as this hastens the drying of the block; but do not attempt to remove the blocks for at least four days. Then gently lever them from their contact with the ground (it will be found that they have become very firmly fixed to the earth or gravel) by means of a crowbar or the sharp end of a pickaxe. Once their contact with the ground has been broken, they are easily lifted and set on end to become thoroughly hard. For the first four days they must be treated with respect, for they are only partially set, and somewhat liable to break under rough treatment.

So much for the manufacture of the slabs. Now comes the business of laying them in place. To make a thoroughly sound job, a narrow trench, 6ins. wide by 3ins. deep, should be cut in the position to be occupied by the foot of the wall. In this put a couple of inches of the stock cement mixture before each block is laid; then bed the slab in the cement—of course, laying the blocks by mean of a garden line in order to keep it straight. Leave a 2in. space, and repeat the operation until the whole of the first row is in position. The laying of the first row presents no difficulty, and should be allowed to set in position before further rows are added. The second and subsequent rows are laid by placing an inch of the cement stock mixture on the upper edge of the lower slab by means of a builder's trowel. Then gently press on to this one of the half-blocks (necessary for the completion of this row, and obtained by making a whole block and cutting in half when partially set; this can be done with a spade if the block is made entirely of cement and sand, without the admixture of ingredients). Neatly point off the surplus cement mixture which will squeeze out of the block when laid, and continue with the rest of the whole blocks. Allow this row to set for at

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THE METHOD OF LAYING THE BLOCKS.
Note the cavities behind the spaces between the blocks for insertion of the plants and good soil.

THE COMPLETED WALL.
The plants are inserted between the spaces but are too small to show up in the illustration.

least a day before adding another line, and so on. The second row will, of course, be completed with one of the half-blocks.

The amateur will find that the placing in position of one row measuring 8oft. will be as much as can be managed at one time. Should it be intended to put plants in the spaces between the blocks, the roots should be inserted as the wall goes up, covering with soil at these positions. When the whole of the wall has set firmly in position, there will be spaces behind the rows of blocks which must be filled with earth. This should be sifted and in a friable condition, so that it will pack closely behind the back of the wall. It is not advisable to ram this soil, or the cement may crack at the joints if not thoroughly hard set. If the soil at the back of the wall is poor, this is the time to add enough good compost to ensure a good send-off for the plants. It is an easy matter to determine where the spaces between the blocks will come before they are laid, and large pockets of the poor earth can be removed at these stations, filling with a good soil or compost after the block has been laid, and the plant put in position.

The top edge of such a wall is not particularly attractive, and may be hidden by planting good-sized plants along and close to it. These at once break the hard and continuous line, and give a more pleasing effect than when left without any covering.

The percolations of water from the back of the wall, rapidly remove all traces of the cement appearance from the face of the blocks, giving them an effect similar to that of weathered stone. Those who object to the even tone given by such a wall can vary the colour of the blocks by mixing in a proportion of deep yellow sand, or ochre, or even green distemper, when making the stock mixture of cement. As, however, the wall soon loses this even grey appearance, this is only an unnecessary operation.

CLARENCE PONTING.

WHAT OUR READERS SAY

AN AMATEUR'S CROP OF AILSA CRAIG ONION.

SIR,—I am always interested in THE GARDEN and like to read your correspondents' experiences. Perhaps they may like to see the fine crop of Ailsa Craig Onion I gathered last year. As an amateur I am vain enough to think they are good. The seed was sown in the open in March and the seedlings thinned out later on in the year.—A. C., *Sundridge*.

PLANTS IN AN ANGLESEY GARDEN.

SIR,—Owing to the mildness of the climate in this island, many tender plants can easily be grown without any danger of them not surviving the winter season.

In a certain garden on the north coast a Chanthus puniceus about 8ft. to 9ft. high, growing on the wall of the house, may even now, in these early days of April, be seen beginning to bloom and will soon be a mass of coral, claw-like flowers. By its side, farther down the wall, is a tender species of acacia, also showing a mass of yellow, fluffy, globula flowers, this, which in some counties, is carefully guarded in the greenhouse, here blooms gaily out of doors.

The olearias, of which there is a beautiful specimen of chatamica, the Myrtus bullata and the metrosideros have survived the winter climate with perfect hardiness.

This may prove of interest to readers of THE GARDEN, in so much that it shows how perfectly these Chilian and New Zealand shrubs thrive in our climate.—M. W. H.

DELPHINIUMS FROM SEED.

SIR,—I sowed some delphinium seed last August in a box. It came up very thickly. I left the box standing on ashes out of doors till the end of January, when I brought it into a cold house. As the little leaves began to show I pricked the seedlings off into boxes; they were strong little plants with masses of roots. I have given away hundreds.

A FINE CROP OF ONION AILSA CRAIG, GROWN BY A READER LAST YEAR.

I now have large numbers of fine little plants ready shortly to be put into the open border, I think big enough to be fairly safe from slugs. This is the first time I have tried this plan and the first time I have had any success with seedling delphiniums. They have always been devoured by slugs, whatever precautions I may take; but I think that sowing so thickly and leaving them undisturbed through the winter has produced too many seedlings for the slugs to tackle, and they do not seem to have suffered from overcrowding. When I was pricking them out the roots were a solid mat several inches long and had to be carefully separated.—M. F. HARRISON *Iron Acton, Glos.*

PROPAGATION OF LONICERA NITIDA.

SIR,—I have had some experience of propagating this plant, which I think may be useful to other readers of THE GARDEN. When the hedge is clipped, mid-March is a suitable time, all the trimmings may be set in a narrow trench in shade facing north. Last year I had 100 per cent. success with this treatment, every trimming rooting. No preparation of the cuttings was made whatever. When I was lucky enough to obtain my first clippings, I adopted the treatment mentioned in your note in the issue of THE GARDEN for March 26th. With that

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batch I lost over 50 per cent. of the cuttings through failure to strike. This season, owing to lack of space in which to put out rows, I have dug a hole, put in an armful of trimmings with the severed end down, and heaped soil over this end. I have very little doubt that quite 60 per cent. will root.—P. A. HENDLEY, *Cambridge*.

OSMANTHUS DELAVAYI.

SIR,—I was much interested in the note about Osmanthus Delavayi, as there is a plant here which is just over 6ft. high and forms a dense bush 9ft. in diameter. It would be larger only that it is growing by the edge of a path and has to be severely cut back every year at one side. In some cases it is, therefore, rather large for a small rock garden. The plant is now covered with blossom, and has been out since the middle of March. On account of flowering so early, it sometimes gets injured by frost. So far, I have been unable to get cuttings to strike.—S. S. PARKER-HUTCHINSON, *Nenagh*.

JOBS FOR THE HANDYMAN

Seed Bed Protectors.

A REAL business-like seed-bed protector is shown by Fig. 1. The arrangement consists of two wooden ends shaped as in either view A or B, Fig. 2, which are pushed into the ground, one at each end of the bed. Small tacks are driven round the edge, and strong black thread is linked round the tacks and extends over the seed bed.

Quite a good idea is to fix a reel of thread on one end by means of a screw, allowing for the reel to turn; the thread may then be wound off the reel as required (see Fig. 1). The wooden ends detailed in view A and B Fig. 2 will be found a useful size, and when made they should be coated with creosote.

When the arrangement is not required the thread is re-wound on the reel, and the ends are taken from the ground and laid up for future use.—W. J. S.

About Seed Trays and Plant Boxes.

MILLIONS of special boxes are made each season for the raising of seeds and for the pricking off of the resultant seedlings. The greater number are made of varying depths, but of the standard superficial dimensions, 15ins. by 9ins. There are obvious advantages in having all these boxes (or "trays") the same size; they pack together better, and are more convenient for fitting to shelving. The amateur, however, often presses into service all kinds of confectioners' or even soap boxes; and most of them need a certain amount of reconstruction before they are fitted for plant growth. Some steps must, for instance, be taken to ensure drainage. The bottom boards of the proper seed-trays are spaced a quarter of an inch or so apart, but few amateurs will want to take to pieces any "spoil" obtained from the confectioner if this may be avoided. A few good-sized holes drilled with a brace-and-bit will serve equally well for drainage; or the holes may be burnt in with a red-hot iron bar or old poker.

The professional gardener makes little trouble about getting his plants from the boxes, and with their roots intact, but the novice is liable to wreak havoc in his endeavours to get the plants out safely without damaging the box. A little trouble at the time the boxes are being assembled or overhauled will overcome this difficulty. Let us suppose the box to be complete as regards ends and bottom and one side. Now, instead of nailing on the last strip, take two strips of sheet iron or tin plate about 4½ins. longer than the depth of the box and about 1½ins. wide—old cocoa tins will provide suitable material, and fold over the sharp edges on both sides as at A (Fig. 1). Now turn the box upside down and affix the strips as in Fig. 2, leaving in each case a bare couple of inches along the bottom edge of the box, and nailing securely down. (The nails, will, of course, go through into the stout ends of the box.) Turn the box over again so that it is now right side up, and the right-hand corner will appear as at A in Fig. 3. Place the missing board in position, and draw the straps up over it as at B; pull tight and nail down, as at C. The box (Fig. 4) is now ready to be filled with compost, and it will be found that the strapped side is quite secure while the plants are in growth. It will nevertheless be quite easy to slide back and withdraw the board when it is desired to transplant the contents. The method of strapping described is suitable only for comparatively shallow trays. Where deeper boxes are in question—as for raising lilies or onions from seed—a slightly different method of fixing should be adopted. This is shown in Fig. 5; and it will be seen that the side board is slotted for a length rather more than twice the thickness of the end board and to a width of about ⅛in. Strips of tinplate are fastened centrally to the end board by a not too thick, but fairly long screw, and drawn upwards and downwards over the slotted board in the way already described. The long slot need only be made in one end of the board; a slot *one* end-board-thickness long will answer at the other. The long slot may easily be stopped as the box is being filled with a little rough compost, or a piece of old label; but some amateurs who use this device suspend a small piece of tin plate to cover this hole by a single tack over its centre. The tin then pivots when the side is withdrawn and is in position to be used again.—MIDLANDER.

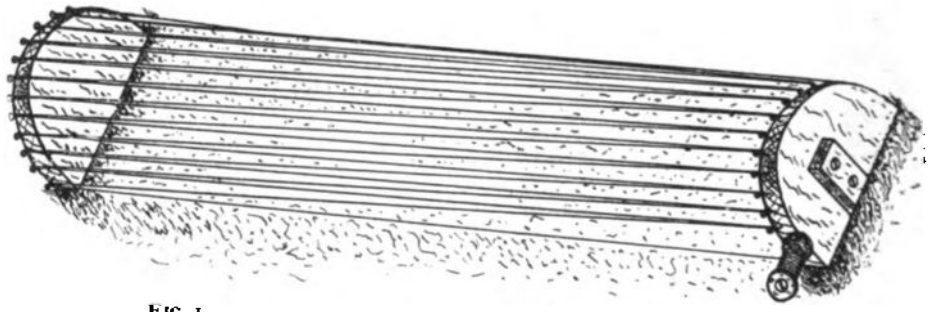

FIG. 1.

Fig. 1.—A good seed bed protector which can be easily made.

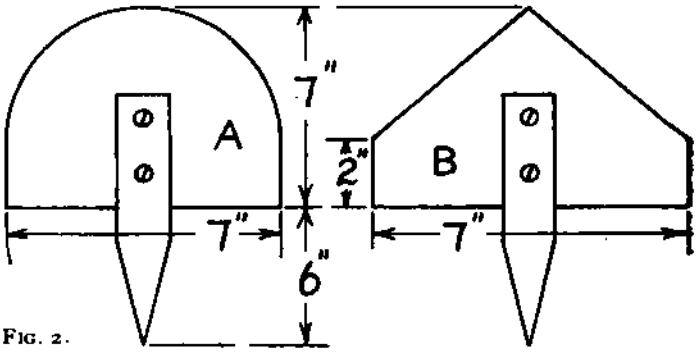

FIG. 2.

Fig. 2.—Details of the circular end (A). *Details of triangular end* (B).

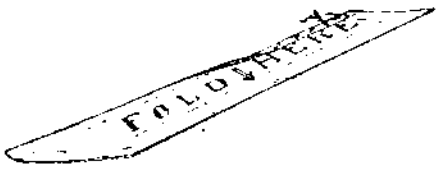

FIG. 1.

FIG. 2.

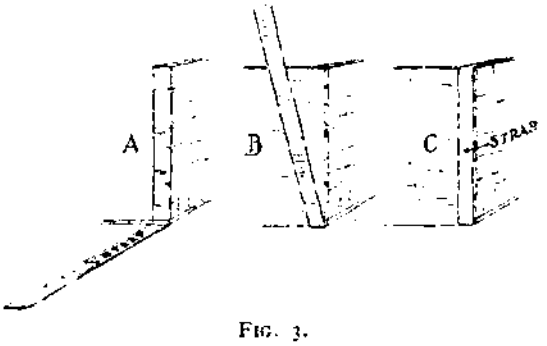

FIG. 3.

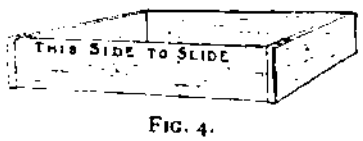

FIG. 4.

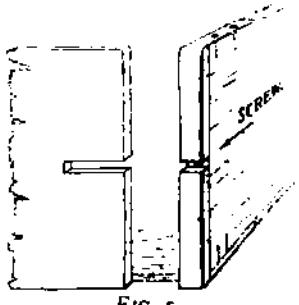

FIG. 5.

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POTATO CULTURE IN SCOTLAND

Practical Hints for Amateurs

AS the time for planting potatoes is regulated by what may be termed the three S's—soil, season and situation—no definite period can be allotted for this important branch of garden work. Raisers of first early sorts who have a portion of a sheltered border at their disposal endeavour to get the seed put in as early in March as possible—and the genial weather experienced this year has certainly favoured operations out of doors—while April is observed as the general planting period for those specimens of the mid-season and main crop groups which in small gardens and allotments constitute the principal source of household supplies up to the end of the year. The planting of late potatoes, however, is not restricted to April, and in view of the fact that the crops mature about the end of September excellent results may be obtained by planting the tubers any time in May.

There is probably no other garden vegetable which is influenced so much by soil conditions as the potato. The table quality varies in a marked degree. It may be good in one locality and poor in another, and even in neighbouring gardens the distinction is noticeable. This characteristic is particularly prominent in The Ally, one of the heaviest cropping varieties in cultivation. It is one of Mr. McKelvie's Arran productions, but its cooking qualities are negligible when grown in its native soil. When grown in Ayrshire and other parts of Scotland where it was tried experimentally, a slight to moderate improvement was obtained, but it was in England that the best results were obtained, and these no doubt explain the present popularity of the Ally in the south. It is therefore difficult to say which variety will do best in individual gardens, and the best advice one can give is to grow only the sorts which are suited to the soil.

This may not seem helpful to the amateur who was satisfied with the quality and abundance of the crops of British Queen and Arran Chief, two once popular potatoes that are now banned by law in gardens and allotments owing to their susceptibility to wart disease. As a matter of fact, all non-immune varieties are included in the prohibition order which is sometimes honoured in the breach more than the observance by a class of gardeners who prefer to run the risk of being found out rather than play the game. To those readers residing in scheduled areas I would say, try as a substitute for the second earlies specified Catriona, a kidney-shaped tuber with purple eyes, and one that has an excellent reputation as a big cropper and good cooker. Probably it may not be obtainable so late in the season in certain localities, and in that case Great Scot or Arran Comrade may be chosen. Then as a main crop potato a selection may be made from The Bishop, a good all-round variety for exhibition or household use, Kerr's Pink, Roderick Dhu and Golden Wonder. I consider that the latter is the finest potato in commerce, and good reports have reached me regarding Incomer, a new main crop tuber, oval in shape.

Various methods of planting garden potatoes are favoured by amateurs. One of these is quite contrary to the recognised modern theory which condemns the planting of seed tubers on ground that has recently received a heavy dressing of fresh organic manure. According to expert opinion, this treatment depreciates the quality of the crop and renders it more liable to disease. Theory and practice, however, are not always in agreement, and in this particular case ample proof is to be found in many country districts in Scotland where the old-fashioned system of planting seed potatoes on green manure placed in the bottom of the drills is attended with excellent results, both as regards the quantity and quality of the crop. At a meeting of a Glasgow horticultural society lately Mr. Joseph Dobson told the audience that the finest potato crop he had seen last season was raised on the above principle in a Dumfriesshire garden.

Another school of growers advocates the digging and manuring of the ground in late autumn when it is allowed to lie in ridges until spring. The surface should then be levelled and a light dresing of potato manure applied when planting.

Then there is a third method which finds favour with those gardeners who observe some system of crop rotation. Where a potato crop is to be grown on land previously occupied by cabbage, cauliflower or onion additional organic manure is unnecessary. All that is necessary is deeply to dig or trench the soil in autumn and fork in a good dressing of superphosphate in spring. It is a good plan to prepare a compost consisting of leaf-mould, well rotted turf, soot, wood ashes if they are obtainable, and a sprinkling of lime thoroughly mixed together. When the drills are taken out in April place a good layer of the compost in the bottom and after the sets are placed in position cover them with the mixture and a little of the garden soil drawn over the top. This form of treatment is well adapted for seed tubers that have been sprouted in boxes and it is also favoured by exhibitors.

Discrimination has to be observed in applying lime direct to potato ground. Experiments conducted at West Kilbride, Ayrshire, showed that a moderate use of lime had a beneficial effect on the weight of the crop, but when applied in too liberal quantities it has a tendency to produce brown scab on the skin. Although a dusting such as is indicated in the preparation of the compost can do no harm, it can be withheld if the ground was limed for the previous crop.

Plant the tubers at a depth of about 4ins. with their most promising eyes upwards, and as regards spacing 12ins. to 15ins. between the tubers and 20ins. to 24ins. between the drills represent the average distance for second early varieties, while main crop sorts need more room, which may be increased to 18ins. and 30ins. respectively.

Last year late frosts in May caused widespread injury to the potato crops, and to provide against a similar experience when growth has appeared on the surface draw the soil over the plants when low temperatures prevail.

ST. MUNGO.

FRUIT AND KITCHEN GARDEN

Apricots, Peaches and Nectarines.

Thinning Fruits—Disbudding Shoots.

THESE three kinds of stone fruits are very much appreciated by both amateur and professional cultivators. There is always something to learn by experienced growers and a great deal by the beginner. We have come to the time of year when the lovely blossom—always so cheering—is disappearing and the young fruits are to be seen nestling among the new green leaves. Now, when we have a good "set" of fruits and the trees are healthy at the same time, overcrowding of shoots and overcropping of fruits soon result if they are not attended to at the right time. It is the work of disbudding that should be attended to first. On one shoot approximately 18ins. long, in the case of the peach and the nectarine, there will be about a dozen young growths. It will not do to allow all to remain to grow on unchecked through the summer months, as they would become a tangled mass, obstruct light and air, thus preventing the wood ripening as it should do and the fruits colouring properly. Three young shoots will be enough to retain, one near the base, one near the centre and the third at the end. If the shoot is about 12ins. in length, then two young ones will be sufficient to retain, one at the base and the other near the point. In every case the shoots retained should be fore-right ones, that is, shoots growing on the upper side of the young branch and well away from the wall, if trained to a wall. The young shoots you retain now are the ones which will bear fruits next year, so maturity of wood is essential and thinly disposed shoots tend to this end. The removal of the young shoots must be done gradually, not all in one day, but a few each day for a week, at the end of which time the work of disbudding should be completed. The same principle applies in the case of thinning out the young fruits. The most prominent ones, those best placed, are the ones to retain; the ones growing underneath the branches and towards the wall are the worst placed, and all such, especially if they are undersized as compared with others, should be removed. At this thinning out quite two-thirds of the fruits that are not required to make the normal crop should be removed, the remaining one-third after the stoning stage, as there is always a risk of loss at the latter critical stage.—G. G.

Soot and Lime for Slugs and Other Pests.

THE slug (and there are many species of the slimy, creeping creature) is one of the worst of garden pests, particularly in a mild and moist season. In both vegetable plot and flower bed its possibilities for destruction are alarming at times. Soot and lime are two of the weapons the gardener wields against the slugs. Salt is also very effective. Traps are set for these pests when they are much in evidence. Bran is very attractive to them, and if little heaps are laid here and there on an open space among flowers or vegetables, the slugs may be caught and despatched. Cabbage leaves, slices of turnip, etc., will also collect a few. When it is desirable to protect a rare flower from slugs, it will be advisable to place a ring of lime (burnt shells, air-slaked) round the plant. Basic slag—and, in fact, any sort of dry powdery manure—will be found equally effective.

Salt is a powerful insecticide, but if used too freely it may damage the plants. Most gardens at some distance from the sea, if the soil is not of a damp clayey character, would benefit from a slight dressing of salt.

Lime and sand are the best for improving the physical character of wet, stiff and retentive soils. But lime will work wonders on almost any kind of garden soil (though it must not be applied to certain ornamental shrubs, especially the rhododendrons), not only in ridding it of slugs and other pests, but in the improvement of its fertility.

The gardener usually mixes soot and lime when applying these as remedies for

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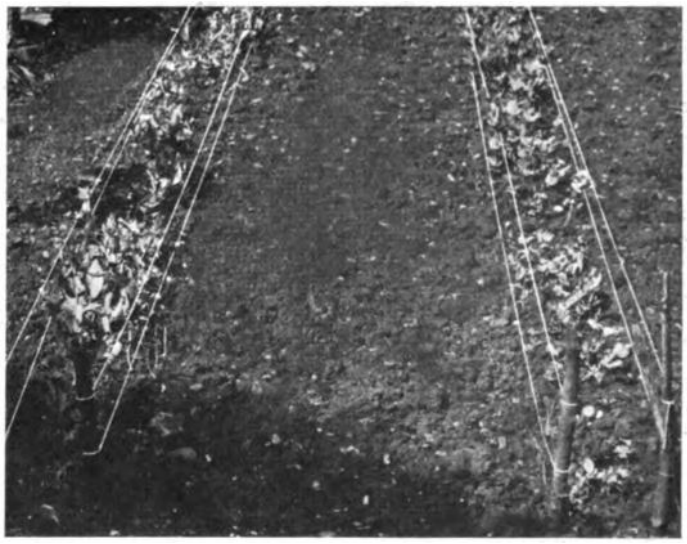
pests, because the chemical action of the lime liberates the ammonia in the soot, which gives off a pungent odour. It thus helps to disguise the scent of a crop like carrots, and the carrot fly when on her egg-laying mission, may perchance fail to locate the carrot bed. But otherwise, if the soot is being used as a manure, it should not be mixed with lime, unless it is immediately well forked into the soil.—J. W.

Novel Supports for Dwarf Peas.

GARDEN peas of a height ranging round 1ft. and 1½ft., are sown in the hope that they will be self-supporting to a great extent, although it is advisable to place small twigs on either side of the row to prevent rain and wind beating the haulm to the ground. This practice has its drawbacks. The twigs are not always easy to get, and they are a nuisance when picking the peas, as well as littering the ground with small pieces of wood.



STRING FASTENED TO STOUT STAKES MAKES USEFUL PEA SUPPORTS.

The haulm, however, must be kept from the ground, as slugs will eat both foliage and pea pods, while the latter will become very dirty if allowed to lie on the land.

A very neat and effective method of keeping the pea haulm upright from start to finish will be found in the use of string. A ball of stout string and some short stakes are required.

Drive the stakes into the ground on each side of the row at intervals of a few feet. Fasten the string to the end stake about 2ins. from the ground, and then pass it round each stake along the row, keeping the string quite taut until the other end is reached, when the string is secured to the stake there. Repeat this twice, fastening the string a couple of inches higher up the stakes each time. This will give you a three-strand fence on one side of the row of peas; and when the other side is completed similarly the peas will be growing in a string enclosure, which will prevent the haulm falling to the ground at the very start. More than this, birds do not like the string, and will not go near the peas.—H. A. D.

How to Sow Carrots.

APRIL is the best time for sowing the main crop of carrots, and any opportunity must be taken to render the soil in the best possible condition for sowing. For preference carrots should follow a crop for which the ground has been well manured, and in this case no further manuring should be necessary. If manure has to be applied, however, this should be done in early winter, when the ground is being dug or trenched.

A rich, deeply worked sandy loam is ideal for carrots; it is most important that it should be in a thoroughly well pulverised condition, otherwise good straight, unforked roots will be unobtainable.

Apply a dressing of soot to the carrot bed a short time before sowing, as this will do much to assist in preventing the unwelcome attentions of slugs and insects. Sow in drills 1in. deep and from 9ins. to 1ft. apart, according to the variety and the land.

Frequent stirring of the soil between the rows with a hoe during the growing season will keep down weeds and encourage growth.

Thinning must commence early and be done gradually, so that as many of the young roots as possible reach usable size before they are pulled out; under no circumstances, however, must they be left to interfere with the growth of those left to attain full size. When thinning, always press the loosened soil firmly back against the roots left standing, as the risk of attacks from carrot fly is then lessened.

Carrots may be injured and caused to split by autumn frosts, so that immediately the roots have attained full size they should be carefully lifted. They may be stored either in dry earth or dry sand in a frost-proof shed.

Where young and tender roots are in demand late in the season, a sowing of a stump-rooted variety should be made in June, and, if necessary, a further sowing may be made in August in a sheltered position. This latter crop will require the protection of a frame during winter. For both the June and August sowings an early variety, such as Early Horn or Nantes, should be chosen, while Altrincham, Long Red Surrey and New Intermediate are excellent for main crop purposes.—T. H.

Protecting Plants Against Late Frosts.

AT this time of the year young plants, young shoots and fruit blossom are tender and soon perish when fully exposed to a severe frost, the fruit blossom being especially liable to be destroyed if in a wet state when the frosts occur. So it is advisable to have the protecting material ready and dry, so that it can be applied at short notice. In the cold frames there will be many young plants which have been recently placed there from the other glass structures. The difference in the temperature, after sunset, will be great to that prevailing in the warm structures, and some material should be placed on the glass at sunset and removed early the following morning. The object should be to maintain the heat in the frame as high as possible while not excluding light, as daylight now is very essential to ensure sturdy young plants. Even where frames are placed on mild hotbeds for the benefit of young cucumbers, melons, dwarf beans and tender bedding-out plants, a light covering of the glass is essential. At the same time be sure that a small opening is left at the top of the frame for any rank gases to escape. The earliest potatoes on warm borders will need soil drawing up to the tops that are clear of the soil. It will be necessary to do this covering work on every alternate day as long as it is possible to cover the young haulm so.—G. G.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Propagation of Phlox subulata and Aubrietias.

The propagation of Phlox subulata and its varieties presents some difficulties to many cultivators, owing to the hardness of cuttings taken from outside plants. These choice alpines will soon be flowering, after which they should be cut back and a few plants lifted carefully, potted up, and placed in gentle warmth. Plenty of growths suitable for cuttings are produced. Take them off when quite small—an inch long is sufficient, and dibble them in round the edges of small pots filled firm with a mixture of loam, leaf-soil and sand in equal parts. Place the pots in a box covered with a sheet of glass, where they will root quickly, when they should be placed in a cold frame. The same method applies to the aubrietias.—J. N.

Staking Sweet Peas.

The following method of staking clumps of sweet peas is worthy of a trial: When sowing or planting the seedlings, place them around the outside of an 18in. or 2ft. circle. Then place the sticks in the *inside*—always using a few small twigs outside, to give the seedlings a start in their climbing. If wire netting is used, adopt the same method of putting the netting and supports *inside* with the peas outside. Throughout the season the plants will be covering the supports, enhancing their appearance, and the flowers do not get damaged by being blown across the twigs. An occasional tie right round with raffia or fine string helps to keep them together. Half the usual number of sticks will be sufficient.—F. L. B.

Burning Rubbish.

Procure 1yd. or 2yds. of coarse wire netting and two or three metal stakes. Shape the wire netting into a wide-mouthed cone. Drive the stakes firmly into the ground, and fasten the cone of wire between them with its mouth upwards and its bottom point a few inches above the ground. Waste paper, dead flowers, leaves and all light rubbish will burn away quite clean without any attention, and the ashes will fall through the wire to the ground.—C. J.

A Handy Weeding Tool.

A tool that will save much backache during the coming summer can be made in a few minutes by the least experienced handyman, for it is simply a small hand-fork fitted into a shortened broom handle, 3½—4ft. long being most convenient for persons of average height. With an implement of this length, flower beds can be lightly forked over with the utmost ease and rapidity, while it will be found that one may work the soil right up to the base of the plants. This tool is particularly useful for weeding beds containing bulbs, for with the ordinary hoe there is always the danger of cutting off a few plants if the work is done over-rapidly—a danger that is non-existent when working with a small fork.—B. D.

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A DESIGN FOR THE SMALL GARDEN (see page 258).

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THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2890 Saturday, April 23rd, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2890. APRIL 23, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Pansies and Violas from Seed.

I AM glad to know that the love of pansies is again on the upgrade. Specialists amateur or trade, grow named varieties which are propagated by cuttings and consequently every plant is true to colour and type. This is not so with seedlings, though many strains of yellow, blue, white and purple come remarkably pure from seed and in a mass look the same, but, trueness from the real fancier's point of view, *means* trueness—that is, without any variation in colour, form, outline of blotches or eye. In the named exhibition varieties of pansies and violas, this counsel of perfection is attainable. To those who do not wish to graduate into this school, let me advise the growing of pansies and violas carefully from seed. The very best time for sowing is from now to the end of May. The best seedsmen dare not nowadays handle anything but seed which will give good results and, consequently, there are many good strains about. The method of procedure is the same with all classes. Sow the seeds *thinly* in a box, cover lightly (not more than a quarter-inch of fine soil). It is well to water the soil in the box thoroughly the day before sowing and if not stood in direct sun it should want very little more till germination takes place. It is a good plan to place a sheet of glass over the box and a piece of brown paper over the glass till the young plants peep through the soil. The box can be placed either in a frame or cool greenhouse. The next process, when the young plants are about an inch tall, with two or three leaves the size of one's thumb nail, is to transplant them into a prepared bed in the open, or into the soil of a cold frame. This soil should be made kindly by the addition of a little very old well rotted manure or some leaf-mould and a little sand, if convenient. The idea is to get plants in August and September bushy and healthy with a mass of fresh young roots which must be lifted with a hand fork to get the roots as complete as possible. In the frame the plants should be about 3ins. apart. Plant out in beds or borders where they are to flower in August or September and 95 per cent. of them will come through the winter unhurt and grow during most of it. By April, buds will be showing and the plants will start flowering in May and continue for several months, especially if old flowers are picked and prevented going to seed. Seedling plants from good strains of pansies and violas are a great source of interest in the first stages of blooming, because new beauties are revealed daily. If any plants yield flowers of special quality and attractiveness, nothing is easier than perpetuating them. Pull out a few of the young centre growths and plant them in a shady corner in a frame or even in the open ground and they will soon make plants, especially if young rootlets are attached to the pulled-out cuttings.—WM. CUTHBERTSON.

This Week's Work

For Gardens in the South and Midlands.

Sow seeds of biennials, such as sweet williams, canterbury bells, wallflowers, polyanthus, etc.

Disbud apricots, peaches and nectarines.

Plant out from nursery beds cabbages and cauliflowers.

Sow peas and dwarf beans.

Pot up gloxinias, tuberous-rooted begonias and young perpetual carnations.

Harden off tender seedlings by placing them in cold frames.

Plant out onions raised in boxes.

Plant evergreen shrubs.

Continue to sow hardy annuals.

Finish pruning tea roses and planting gladioli

Photographic Competition Rules.

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xvii, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following publication.

We are indebted to Messrs. Dobbie and Co. of Edinburgh for the coloured illustration of pansies which appears on our front cover this week.

This Week's Work

For Gardens in Scotland and the North.

Finish planting second early potatoes.

Harden off onions and leeks raised under glass.

Plant onion sets if not already done.

Pyrethrums succeed when planted now.

Plant edgings of catmint raised from cuttings.

Repot aspidistra and other house plants.

Spray fruit trees with nicotine wash.

Plant aquilegia in mixed flower border.

Remove half hardy annuals to a cold frame.

Continue to plant out cabbages.

Start begonias into growth.

Sow Brussels sprouts for late winter use.

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A DESIGN FOR THE SMALL GARDEN

THE owner of the small garden, and more especially of the *very* small garden, has many difficulties to contend with in its lay-out. What are known as "natural" schemes are not for him, and the simple, straightforward lay-out of straight paths of turf or gravel between rectangular borders, while, if properly carried out, not ineffective, cannot be considered to display much originality. Of all the styles of gardening which have had any vogue in this country, the Dutch is the one best suited to small areas. The Dutch garden, however, in its original form is rather suited for a small enclosure in a large garden, than as the main or even sole feature of a small one. Box or lavender hedges and masses of formal colour do not afford sufficient variety of planting to satisfy the average garden lover. But we may preserve the best and most characteristic features of the Dutch garden without retaining its extreme formality and rigidity. And where, in a Dutch garden, properly so called, there would be formal edgings of box or tile, we may boldly employ informal groupings of plants in the modern manner. That a formal garden planted almost or quite informally, can be truly delightful, the "Flower-garden" at Gravetye Manor—to give but one example—bears perpetual witness.

Little stairways should be much in evidence, though in the very small garden these will each consist of only one or two very shallow steps. And the pavement should be diverse in colouring, pattern and material. Unless beneath a pergola, paths in a large garden are best as simple as possible. Where space is very limited, however, quaint patternings are not merely allowable, but desirable. It is surprising what diversity may be attained by the use of flag-paving, bricks (old or new) and cobble stones. "Noelite" hand-made paving tiles are most attractive for paving and forming border edgings. They are easily laid, quite inexpensive, and particularly suitable for small formal gardens.

Cobble stones may often be picked up on the site, but bricks and paving stone have commonly to be bought. Many bricks which would be perfectly suitable for house building perish lamentably when used for paving, which is subjected to extremes of heat and cold—especially cold—when water logged. Proper paving bricks, then, should always be selected. A very little paving stone may be made to go quite a long way in this style of path-making, but it is desirable to get variety of colour in the material, so that a "job lot" of crazy and broken paving from the local builder may be the very thing for the purpose. All the materials should be laid over a well drained foundation on a bed of finely sifted dry boiler ashes, and should be closely jointed in good cement. Two parts of really clean sharp sand to one of cement is the best proportion. Mix the ingredients thoroughly while still dry, use water sparingly and "elbow-grease" freely. First of all lay any bricks or flagstones, jointing them as the work proceeds; and then tap down the cobble stones into a bed of mixed cement about ½in. thick. When the cement is beginning to stiffen, but before it becomes hard, rake back the joints for a quarter of inch or so with the point of the trowel or a bent, rather slender iron rod.

The little plan of a lay-out in this style for a tiny garden (Fig. 1) speaks almost for itself. The Dutch style lends itself especially well to filling awkward corners and spaces. Regular pentagons, heptagons and other figures scarcely admissible with other severer styles may be used without fear, if they will help to reconcile divergent lines of approach.

An almost infinite number of pleasing designs can be worked out for the pavement, but perhaps the three simple ones which accompany this article (Fig. 2) may be helpful as affording ideas. In all of them cobble stones are used pretty freely and paving stone in small quantity. All the paths here suggested are 3ft. wide. The path shown at A is paved mainly with bricks, but a small quantity of stone is introduced to form various patterns down the centre. Where cobble stones are hard to procure—and they are, I find, in some localities—the straight margins may be laid with gravel or with the red burnt ash which is utilised for hard tennis court. Path B uses cobble stones freely, bricks in reason and an inconsiderable amount of small pieces of paving; the large diamonds being outlined with old tiles laid on edge; but paving on edge or white cobble stones could be used instead of the tiles. At C cobble stones are again largely in evidence, but use is found for larger pieces of paving and the bricks are laid on edge. Where a central stone is used to form the boss of an ornamental feature as in the diamond in B (Fig. 2), it may well be of different colour or tone from the "petals." In some localities a great variety of colouring is obtainable in cobble stones, and a certain amount of pattern may be introduced into the cobbled areas, but the use of variously coloured bricks is, as a rule, to be deprecated. A deep, rich red is the best colour for paving, as for building bricks. The treatment of the little squares, rectangles, octagons, hexagons, circles and other regular or symmetrical figures so characteristic of this class of work is really easier to work out than that of straight paths, for the shape of the space to be treated will, in general, suggest a pattern. The writer has designed many Dutch and "near-Dutch" gardens, but has never yet had to fall back upon the same *motif* for the paths. From the point of view of the small garden-owner, however, one great advantage of this style of path making is that it can be formed from a variety of cheap materials—odds and ends—and that he can employ *his own ingenuity* to form designs with just the materials at hand. Other advantages are the permanent maintenance-free character of the work and its entire freedom from weeds.

As regards the planting of the beds and borders, this will largely depend upon the characteristics and capabilities of the soil, environment (or atmosphere) and climate—to say nothing of individual preferences. The following points should, however, be borne in mind. It is desirable to emphasise

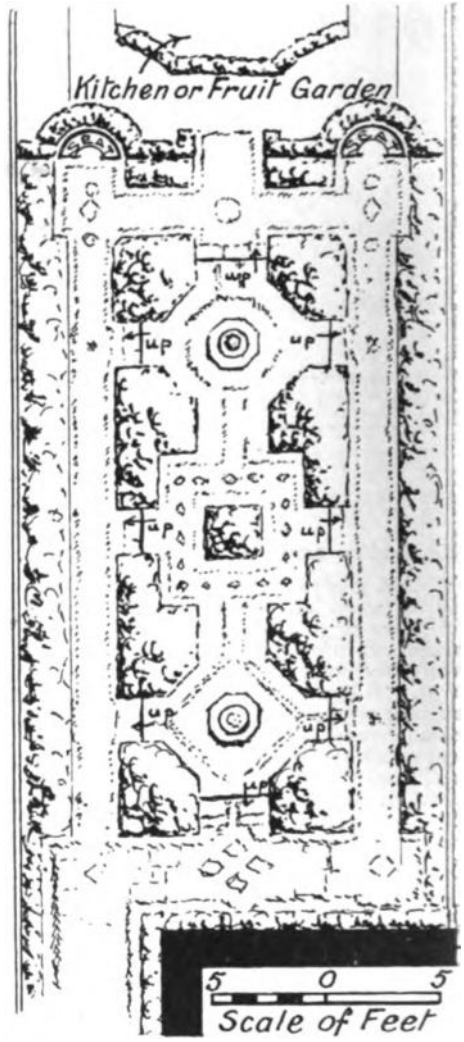

FIG. 1.

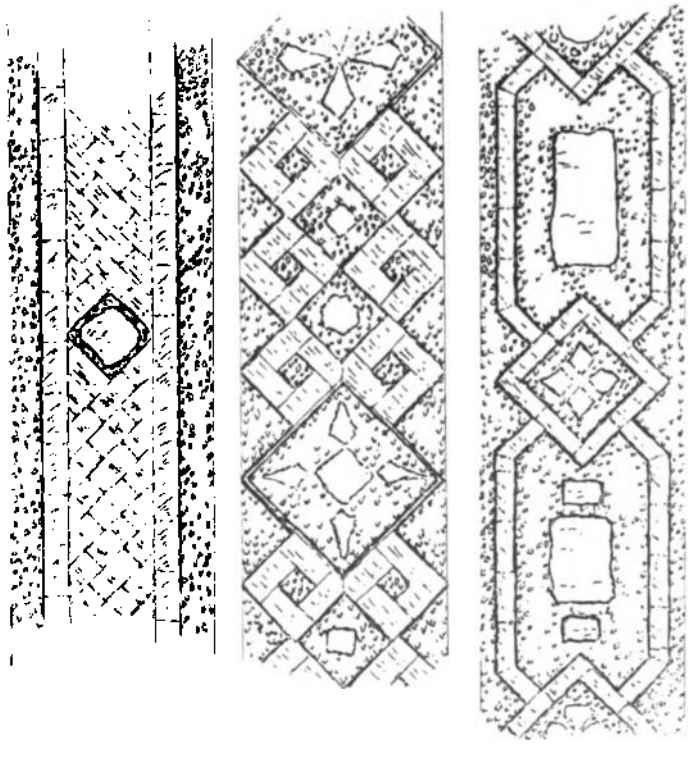

FIG. 2.

A B C

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THE FORMAL STYLE OF GARDEN IS ONE WHICH CAN BE CARRIED OUT EVEN IN LIMITED SPACE PROVIDED THE PROPORTIONS ARE ALTERED ACCORDINGLY.

important features—central points, steps, stairways, etc.—by the use of shrubs of formal or fastigiate (columnar) outline. The grey-foliaged Irish juniper is very useful for this purpose, but there are many other good plants available. Again the grey or brown of most stone pavings provides an ideal foil for plants with silvery foliage and for those with crimson, purple or creamy flowers. That large, tall growing plants are unsuitable for small beds goes almost without saying, and the dwarf plants should not be overcrowded.—R. G. W.

THE USE OF SCARLET FLOWERS

THE very interesting article in THE GARDEN for January 29th on "Scarlet and Grey in the Garden" calls attention to the possibilities—and impossibilities—of this most brilliant of flower colours. The writer has heard it seriously argued that scarlet is a flower colour alien to our climate and, consequently, one that should be eschewed.

Your correspondent confines himself to grey as a foil colour, using "grey" to cover such tones as the cloudy blues—or purples—of Clematis Lady Londesborough and Echinops niveus and also the silver greys of Cerastium tomentosum and several artemisias. On similar lines one might well use the paler forms of Campanula lactiflora and the dilute purple forms of many other campanulas, including such as CC. latifolia, sarmatica, barbata and carpatica. These things are, in fact, well enough with the green foliage of Lychnis chalcedonicum, Oriental or Shirley poppies, scarlet gladioli and Paul Crampel pelargonium, but less happy—at least in the writer's judgment—with the bronze or even reddish purple foliage of many other scarlet flowers. A tone of colour which conforms remarkably well with scarlet flowers *and* bronzy foliage is ivory white, never seen to better advantage than in that stately bulbous plant Galtonia candicans. Other border flowers which come to mind with more or less the same colour tone are Spiræa Aruncus and its variety Kneiffii, Filipendula (Spiræa) Ulmaria, Thalictrum aquilegifolium var. album, Clematis recta, Iris sibirica alba, both species of bocconia and certain dahlias. It will be noted that quite a number of the kinds

THE RICHLY COLOURED ORIENTAL POPPIES.

mentioned ask for a cool and, if possible, rather stiff soil. They thus mark themselves out as specially suitable for association with Lobelia fulgens, the more brilliant herbaceous phloxes and Mimulus cardinalis.

Another way of utilising scarlet flowers is to form a bed of the kind favoured against a background of suitable vegetation. The writer has never seen Paul Crampel pelargonium to such advantage elsewhere as when it is grouped fairly boldly in front of a solid dark background, preferably of yew. Lobelia fulgens looks specially fine as a foreground to Arundo Donax or, where suitable conditions exist, against the glaucous foliage of Cedrus atlantica glauca, Abies concolor or Picea pungens glauca.

It is by no means necessary, however, to isolate scarlet flowers from all other strong colouring. But here we "come up against" the question of what *is* scarlet. There is obviously a great gulf fixed between, say, Lobelia fulgens Queen Victoria—this is still the best coloured of the so-called scarlet lobelias—and Geum Mrs. Bradshaw. The lobelia may be grouped most effectively with the crimson maroon and red-purple forms of the species, and even the rose forms will not suffice to create a discord. But no such liberty may be attempted with the geum. Yet this latter may be associated with orange, apricot and golden flowers—especially geums—and remain innocuous.

I have already written at more length than I should, so will conclude with a few more words about scarlet flowers. It is,

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A WELL PLANTED BED OF SCARLET GLADIOLI AND GOLDEN VIOLAS.

F think, to be regretted that the field poppy (Papaver Rhœas) is not more used nowadays as a *scarlet* flower. The beautiful delicate tones and tints now available in the Shirley poppy should by no means detract from the value of the original scarlet, which is equally valuable with the black centre of the wild species or the bold white "cross" of the scarlet Shirley. Perhaps the latter is more a "garden" flower and—in case our neighbours save their own "Shirley" seed—is less likely to spoil their strain by cross-pollination.

I will conclude by mentioning a few first-rate plants with scarlet flowers not mentioned by your correspondent. There is quite a number of other scarlet gladioli besides the species brenchleyensis, and some belong—more or less—to the primulinus set. Other scarlet lilies include Lilium pomponium and the plant which often does duty for it, L. pyrenaicum rubrum. Several phloxes of the decussata set are as scarlet as Geum Mrs. Bradshaw, notably Coquelicot and George A. Ströhlein. Two plants with rather similar requirements are Ranunculus asiaticus and Habranthus pratensis—and both palpitate with colour. The ranunculus is a parent of the Turban, French and Persian cultivated forms, and some of these are equally bright in colouring. Anemone fulgens is another "brilliant" though not summer flowering.

Among bedding annuals and tender perennials commonly grown outdoors which usually have scarlet flowers or of which forms with flowers of scarlet colouring are obtainable may be mentioned Salvia coccinea, certain dahlias and eschscholtzias and the zinnia. Snapdragons of almost scarlet tone are listed, and the same may be said of the sun rose, Helianthemum vulgare. G. W.

DAHLIAS FOR THE BORDER

In the following article the decorative and cactus-flowered types are described. Many of the varieties are admirable for growing in the town and suburban garden for a bright display in late summer and early autumn.

THE dahlia is an ideal flower for the town or suburban garden, unless the plot is entirely shaded by trees. These are the greatest evil the town gardener has to contend with, even if not in his own domain, his neighbour may be doubly blest in this direction. If a few branches are judiciously cut off, all will be well for the dahlias, if the soil is dug 2ft. deep and the roots of the trees curtailed. Under such conditions it will be necessary to see that the plants do not suffer from drought during the summer months, or many of the flowers will not develop. A mulching of hop manure or grass from the lawn mower will be an advantage. Beds or borders filled with dahlias are very effective, and when in massed formation the plants should be placed more closely together than is generally the rule. The grower of a few plants only will probably plant them in the herbaceous border, and here it is advisable to have two or three examples of one kind, arranging each sort in a clump, when a distance of 3ft. to 4ft. should be allowed between the roots.

DECORATIVE VARIETIES.

The decorative type of dahlia is extensively employed for beds in public parks, and gardens; while they are useful for filling large vases for house decoration. It is a section that can be strongly recommended to the amateur and small grower, and in larger establishments they have been held in high esteem for several years, which is a further proof of their popularity. Moreover, they are at their best when the glory of the ordinary border is on the wane. There is quite a large number to choose from, but the following varieties came under my eye last summer, and are suggested purely for their garden value:

Artis.—Orange scarlet, 3ft.

Crimson Flag.—Fiery crimson, very free, excellent for massing; 3½ft. A fine dahlia.

Brentwood Yellow.—A good bedding variety, free, 2½ft.

Souvenir de G. Douzon.—Orange red, 4½ft.

Border Perfection.—Deep scarlet crimson, large flowers, 3ft.

Dauntless.—Orange scarlet, 4ft.

Enchantress.—Rose pink, with twisted petals, 4ft.

Fireflaire.—May be termed a decorative hybrid cactus, vermilion scarlet, 4–5ft.

Insulinde.—Golden orange, extra good, 3–5ft.

Jubilee.—Silvery lilac mauve, 4ft.

Miss Mallison.—Deep clear mauve, 4ft.

Psyche.—Deep chrome yellow, 4ft.

Rev. John Robinson.—Deep lilac, 4ft.

Warneford.—Fine white, excellent, 4ft.

Dream.—Soft salmon, 3–4ft.

The decorative forms are characterised by their fine bold and handsome flowers, the stiff stems displaying the blossoms well above the foliage.

THE CACTUS-FLOWERED VARIETIES.

The cactus forms are quite as numerous as the decorative, and this type has been considerably improved of late years, and we possess fewer varieties now that have a habit of losing their flowers in a mass of foliage. The following will be found satisfactory:

America.—Cactus fancy pink striped carmine, 4ft.

Alabaster.—Pure white, fine, 3–4ft.

Beauty of Penshurst.—Pale pearly pink, good, 3–4ft.

Edgar Jackson, salmon, a fine variety, and one of the best for the garden, 4ft.

F. W. Fellowes.—Orange scarlet, 5ft.

John Riding.—Deep crimson, good, 3ft.

A FINE BED OF WHITE DECORATIVE DAHLIAS.

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Harvester.—Yellow to orange, free, 2½ft.
Nellie Riding.—Crimson, tipped white, 4ft.
Pierrot.—Deep amber, tipped white, 4ft.
Sydney Jones.—Pink, yellow tipped, 4ft.
Ivory White.—Good habit, 3ft.
Viceroy.—Orange scarlet, 4ft.
Canary.—Sulphur yellow, fine. 3-4ft.

All the varieties quoted possess a good constitution, and the heights given are approximate, so much depending on the season and the condition of the root run.

SOIL.

Dahlias as a class are easily grown, they will succeed in any ordinary garden soil, and where it has not been disturbed for several years it is a good plan to dig at least two spits deep. Good partly decayed farmyard manure is often recommended, but this is difficult to procure, and even so I have found bone-meal produce better results. Sprinkle it over the soil so that the latter appears white, and then fork in. With bone-meal the growth is not quite so rank, the foliage is less dense, and the flowers are of finer quality, few being distorted in any way.

PLANTING.

Dormant roots may be planted at the end of April, and cuttings, or those started in a shed or frame about the middle of May. If there is any fear of frost an inverted flower-pot set over each plant will prevent injury. Dahlias usually commence to bloom in July, and continue until cut down by frosts, when they are lifted and stored in a frost-proof shed for the winter. When plenty of cut bloom is required, a few rows across the kitchen or reserve garden will be useful, when a distance of 5ft. is allowed between the lines, and 3ft. to 4ft. from root to root. If old clumps are planted it will be advisable a little later on to remove all weak growths, leaving three or four of the best to develop.

EVERGREEN HEDGES

In the following article are described a number of useful evergreens which will make admirable hedge plants in the small garden. They can all be planted now in showery weather.

THE garden year begins properly in the autumn, and those who have been both industrious and fortunate will already have had satisfactory rendezvous with most of the hardy perennials and shrubs. Many people, however, having gathered their last posy and swept up the leaves at the end of the year, feel no further call to activity until spring overwhelms them with immediate duties in all quarters of the garden.

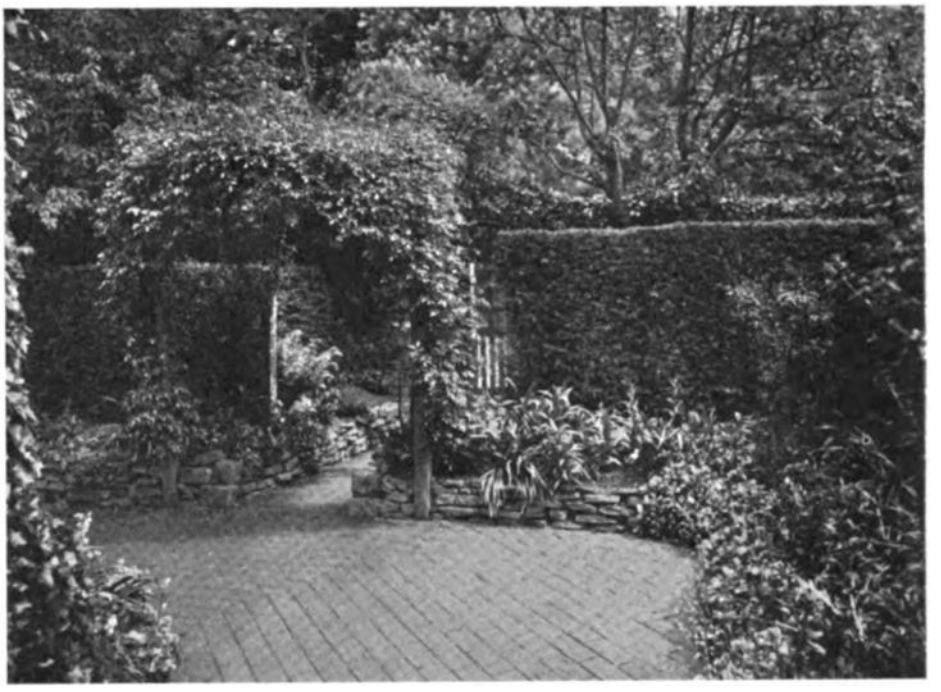
While it is unwise in most cases to attempt the moving of deciduous trees and shrubs after March, most evergreens can safely be planted up to the middle of May. In certain districts and on very hot, dry soils it is better to plant in September or October, but under average conditions April is an excellent time. The bitter drying winds of March are safely past, plenty of moisture is available, the ground is already warmer, but as yet the sun is not too strong for only partly established roots. It must be remembered that evergreens have little or no dormant season and so need every care and favourable condition, so that they do not suffer from the shock of transplanting.

There is so much choice of living material for every garden purpose that not even the most practical problem need be treated purely from its utilitarian aspect. Boundaries should appeal to the eye as well as to sense; shelter belts planted against unfavourable aspects may have a grandeur as impressive as their efficiency, and screens to hide ugliness or defeat curiosity may well substitute something which can legitimately be admired.

The answer to many garden problems, such as the provision of shade or shelter and privacy, can be found in a selection of good evergreens. No one will quickly forget a grove of yews grown to their natural height and form, or an immense screen of dark holly almost unrestricted. On a smaller scale are such friendly things as the Pyracantha thorn, rather over-planted, but redeeming many a suburban villa from dreary hideousness; and the laurustinus, healthy, crisp and clean in growth, and beautiful in its flowering season. The aromatic rosemary, almost as early with its blossoms of pale Copenhagen blue, might be used more frequently instead of the heavier box, slightly trimmed to emphasise definite points in a design. Then there is the tree lupin, with none of the sombreness sometimes complained of in evergreens, but all the charm of leaf and blossom of the herbaceous species. Its sprays of delicate foliage are a joy both in the garden and for winter vases. More uncommon is Ceanothus thyrsiflorus, a blue cloud in summer and doing in the open as well as on a wall except in the north. Choisya ternata, the fragrant and exotic-looking Mexican orange, also proves unexpectedly hardy.

Few things give such distinction and character to a garden as a well grown hedge, whether it be a high solid rampart, close-clipped and impenetrable, or a more informal affair, marking a subdivision of the garden and serving gently to titillate curiosity rather than to repel intrusion. Where walls are beyond the means of most garden makers to-day the hedge has this in its favour, that it will act as a windbreak without excluding air from the garden and cannot, as sometimes happens with a wall, convert a current of air into a draught, unpleasant to man and devastating to plants. The best of all hedge plants is undoubtedly the yew, for almost any soil or position, though it will not endure standing water at the roots. It is reasonably quick in growth if the plants are put in when quite small. Holly comes next, doing better near the evil influence of a town atmosphere. It is even more intolerant of a water-logged soil, not so long-lived, and takes up more room, as it will not stand such close clipping as the yew. Spring planting sometimes fails in a dry season unless plenty of water can be supplied until the roots are established.

Little need be said of the privet. Its rapid and easy growth is well known and this forms its chief recommendations. It is an entirely inadequate boundary and extraordinarily greedy. Coniferous hedges such as Thuja plicata and Cupressus macrocarpa are apt to become patchy after some years and are not so long lived as either yew or holly, but are, nevertheless, to be recommended. Gorse makes an excellent rough hedge on poor soils. It can be most useful in an exposed position to prevent the drift of snow across a drive.



A SMALL PAVED FRONT GARDEN.

Showing the value of a yew hedge as a screen and a background for lighter foliage and flowers.

Of smaller hedge plants, Lonicera nitida, an evergreen honeysuckle recently introduced, seems to fulfil the many promises made for it, in that it is quick-growing, neat and efficient, doing well in most places, including near the sea. Berberis stenophylla makes a delightful hedge for a garden enclosure. It is graceful in habit, with long arching sprays of yellow blossom in spring.

Chiefly in larger gardens, evergreens such as yew and laurel may be used for arbours. In small places where a hedge is still permissible and effective, so dark and solid a mass would be oppressive or even ridiculous. The yew parlour, a turf enclosure with hedges not too high, and possibly a small deciduous tree for overhead shade, is another feature needing judgment in use. It makes a very pleasant and shady retreat where the size and style of the garden permit.

V. N. SOLLY.

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THE BUSY MAN'S PAGE

Beet, Carrots, Onions—Present Sowings.

Carrots. — Carrots for early use may be sown very early in spring in moderately dry, sheltered borders or frames, forming successions every three or four weeks, and sowing the main crop about the middle or end of April. For carrots the soil should be dug deeply, mixing the soil with soot and lime. Give no rank manure. Apply 2½–3oz. superphosphate, 1½–2 oz. potash salt, and ½oz. sulphate of ammonia per square yard. Sow in drills 9–10ins. apart, using 1 oz. seed to 100–120ft. run. Tread the plot moderately firm, rake smooth and level. If a little fine sand can be scattered over the rows and lightly raked, it will help to prevent the surface from caking.

Onions. — Sow in rows 9–10ins. apart on thoroughly well prepared soil. An admixture of clay improves an onion bed, as it helps to firm the soil. You can hardly make the bed too firm, or the surface soil too fine. Do not sow too deeply. Half an inch of fine soil is more than enough to cover the seeds. Give 3–3½ oz. superphosphate, ½oz. muriate of potash and 1 oz. sulphate of ammonia per square yard.

Beetroot.—Like most other crops, beetroot must be sown on deeply dug soil, and, in order to avoid forked roots, give no rank manure, but see that the artificial fertilisers are well forked into the soil and very evenly distributed. Apply 3 oz. superphosphate, 2½ oz. kainit and 1 oz. sulphate of ammonia per square yard.—J. W.

Phlox from Cuttings.

THE method most commonly adopted to increase phlox of the ordinary type is to divide up the roots, but as cuttings can be struck easily at the present time, this affords an additional opportunity to increase one's stock of a particularly desirable variety or to work up a fresh batch of young plants altogether, and this is very necessary if phlox are grown to any extent. Shown in the illustration on this page is a clump of phlox raised last year from a cutting and which has, in addition to a vigorous centre shoot, several strong young growths arising from the base, and it is from growths such as these that the best cuttings are obtained. Shoots similar to these should, therefore, be removed when about 3ins. or 4ins. long, trimmed with a clean cut just below a joint and inserted in pots of sandy soil in the manner shown in the same illustration, or, if preferred, several cuttings may be inserted in one pot, in which case they will require to be either planted out or repotted immediately they have made sufficient roots.

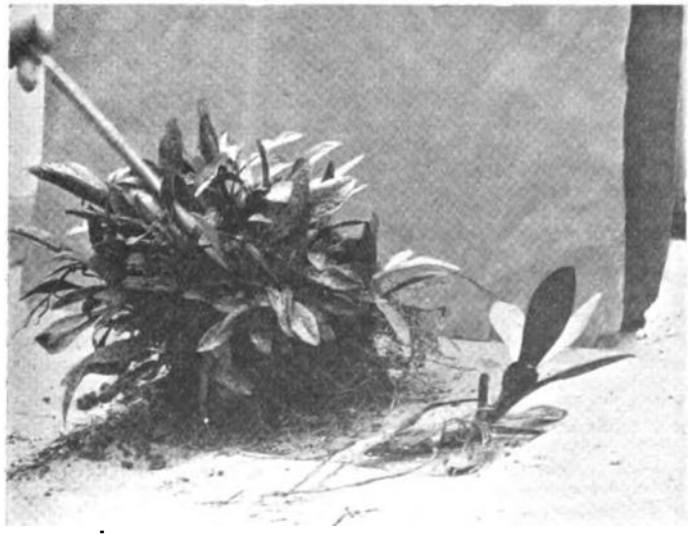
The pots containing the cuttings should then be well watered, placed in a cold frame and kept close for a week or so, when they will soon root, after which they can be hardened off and planted out in their flowering quarters.

CUTTINGS OF PHLOX MAY BE TAKEN AT THE PRESENT TIME.
Strong side shoots, 3ins. to 4ins. long, should be taken off and inserted in pots of sandy soil.

Replanting Michaelmas Daisies.

THERE is still time for the breaking up and replanting of Michaelmas daisies, although no time should be lost in doing this so that the plants may be established before the dry weather sets in. A typical clump of Michaelmas daisy ready for breaking up and replanting is shown in the accompanying illustration, and if this is examined it will be seen that all the vigorous young growths are to be found towards the outer edge of the clump, while the centre, indicated by pointer, will be seen to consist of the worn-out and now useless growths of the previous year. The customary procedure is to break up such a clump into a number of smaller clumps and replant these, the centre being discarded and thrown away.

If, however, strong single growths similar to the example shown to the right of the clump illustrated are detached and planted out, these will have ample room for the development of side branches and will produce well shaped sturdy plants covered with flowers much superior in size and quality to those produced by plants grown in large clumps. The staking of such plants is also an easy matter, as one good strong stake will be found to be adequate and at the same time inconspicuous.



BREAKING UP MICHAELMAS DAISIES.
All the vigorous young growths on the outside of the clump should be selected for replanting.

How to Apply Lawn Sand.

LAWN sand serves the double purpose of assisting the growth of the grasses and at the same time helping to keep down weeds. The active principle of lawn sand is either sulphate of ammonia or sulphate of iron. Some of the advertised sands contain the former to the extent of 30 per cent., and these are excellent for assisting the growth of grass so that weeds are choked and prevented from disfiguring the lawn. The sulphate of iron mixtures are more for killing weeds and giving the grass a rich colour than for use as a manure. These lawn sands can be bought in prepared form, but it is most important that they should be used with care and according to directions. There is no doubt that lawn sand kills the foliage of the broad-leaved weeds, but it is also true that, unless the application is made properly, the grasses may be burnt up as well. Lawn sand should be applied by means of a dredging box, or, failing this, a tin with a few small holes punched in the lid will serve. The sand should only be applied during dry weather. The amount of lawn sand scattered should be from 2 oz. to 4 oz. a square yard, but, as has been stated, it is most important to follow the supplied directions. It should be remembered that, in the case of weeds with strong root stocks, lawn sand will only burn the foliage, and in such cases the only satisfactory way is the removal or destruction of individual roots.

Swan River Daisies for Present Sowing.

ANY suitable subjects for the rock garden that will flower during the summer are especially welcome. In this connection it is worth while planting vacant places with Swan River daisies (brachycome). These are brilliant annuals which flower with great freedom throughout the summer and up to the coming of frost. The flowers resemble small cinerarias, and in the different varieties are blue, purple, rose and white. The Swan River daisy, which grows to the height of about 9ins., is particularly suitable for massing, and it will then produce those patches of bright colour which are so desirable in the rock garden. Swan River daisies may be sown in the protection of a cold frame in April and, when the seedlings are of a size to handle, transplanted to 3ins. apart. They will be ready for placing out of doors during May, and will succeed best when given full exposure to the sun. Plants raised in this way come early into flower, but almost as good results are secured by sowing in the open in April. Thin out so that the plants are not too much crowded in their young stages.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Unusual Vegetables.

THERE are several very useful vegetables which are not grown in the average garden. Take for instance, the Dutch brown bean, a variety of French bean, and grown in just the same way. This is a very heavy cropper and if only on account of the nutritive value of the beans, it should find a place in every allotment or small garden. The beans are allowed to form and ripen in the pods, shelled like peas and cooked just as haricots. Their flavour is delicious and as the beans can be stored and used throughout the winter, they are doubly useful.

Kohl Rabi.—This is a turnip stemmed cabbage. The stem is thick and swollen like a turnip growing above the ground, and is crowned with leaves. When boiled it is sweeter, more nutritious and more solid than either cabbage or white turnip. Sow the seeds in rows 2ft. apart, allowing 1ft. between the plants in the rows.

Vegetable Oyster.—Salsafy, on account of its flavour, is sometimes called "Vegetable Oyster." The root is the part eaten and the soil for the crop must therefore be deeply worked. Where possible place a layer of manure underneath. Sow the seed in drills, an inch deep and 15ins. apart, with 9ins. between the plants. Hoe frequently, but take care not to injure the roots. The plants are left in the soil all winter, and in the spring the young plants a few inches high may be cut and cooked as a substitute for asparagus.

Round Spinach is easy to grow, but a little care must be given to keep a constant supply of dark green leaves. Sow thinly in drills a foot apart, or run a row between the peas or beans. This summer spinach grows very rapidly and is specially useful in the early summer before other vegetables are mature.

Celeriac, a turnip-rooted celery, is more easily preserved than celery and has much the same flavour. The seeds should be sown under glass (a cold frame or a cloche will do), and pricked out into a rich seed bed. When 4ins. high the plants may be put out 18ins. apart each way. The plants need plenty of water.

Bedding Plants for Summer Display.

IN the limited space of the small town garden it is of prime importance that the plants used for bedding should give a continuous supply of blooms over a long period, and many of the half-hardy annuals are specially useful in this respect. They flower in many cases right on until the frosts cut them down, and it is therefore an advantage to be able to raise seedlings under glass, so as to give them an early start. Ten-week stocks, asters, cosmea and nasturtiums are among the well known plants of this class, but there are, of course, many others.

Those who are unable to raise early seedlings of tender plants, very often purchase their summer plants from the local nurserymen or hawker's barrows. But the amateur should exercise a little caution when he makes this sort of purchase, or he may find that the plants die off, or receive a bad check, merely because they were not *properly hardened off* before they reached him. Choose plants that are short, thick stemmed, and bushy, and with foliage of a dark colour. Thin, tall seedlings with light green leaves are the result of overcrowding in the frame or greenhouse, where they were raised. If you are doubtful whether you can judge of the health of your purchased seedlings I should advise you to go to a reliable nursery for them, rather than trust to barrow dealers.

Of the plants which can be bought as seedlings and put out immediately into the small garden, antirrhinums, petunias, fuchias, pentstemons, pansies, tobaccos, stocks, lobelias and nasturtiums are some of the most popular. If the weather is dry when you receive the plants, it is advisable to water the soil before you do any planting. Do not plant immediately you have watered, but give a good soaking and then leave it for an hour or two to drain, and the ground will be in good condition to receive the plants. Make your holes rather larger than sufficient to accommodate the roots and always remember to plant firmly. Newly planted seedlings should be watered overhead after planting. Beware of late frosts. A few sheets of newspaper would give adequate protection.

Hardening Tender Seedlings.

SUDDEN changes of temperature are as harmful to plants as they are to human beings. The sheltered seedlings of summer bedding plants should be hardened off before they are planted out of doors. If you are raising asters, dahlias, stocks and similar flowers under glass, begin the "hardening off" by leaving off the light on warm days. Shut them up at night for a week or two, and then leave them uncovered altogether.

Finally, let the boxes of seedlings stand on the pathway in the open, where they can get the maximum amount of sunshine and in the event of a sudden change of temperature, can be again placed into the frame. When all fear of frost is past, they can be planted in the border.

The transplanting of seedlings seems a simple matter, yet it is one in which many amateur gardeners fail. The essential tool is a dibber, which will vary in size from a tiny pointed stick to an old spade handle, according to the size of the seedlings to be transplanted. Take the seedling in the left hand. Drive the dibber into the soil, making a hole large enough to take the roots *without doubling them up.* Hold the seedling in position, with the first pair of leaves (the cotyledons) just above the surface level of the soil. Now push in the dibber again, levering the soil against the roots of the seedling, so that it is firmly planted. In this way the seedling is put into its new quarters without being bruised by the dibber, a very important point, as bruises to the stem may cause "damping off." Asters and zinnias need great care when being transplanted.

Start Begonias Now.

IT is always surprising to me that the many beautiful varieties of begonias are not more frequently used in town gardens. They will flourish in the most unlikely places if a proper treatment is given. The tuberous root is the reason for their success in the town garden. The plant remains dormant all winter, and at this season can be started into growth ready for transplanting in June. Tubers secured now should be started in a shallow box of flaky, decayed leaf-soil and then covered with a sheet of glass or be placed in a cold frame. There is nothing better than a liberal dressing of decayed leaves in the permanent bed as well. The reason is that the begonia is surface rooted, and owing to its abnormal consumption of water to feed its fleshy leaves and flowers it needs plenty of humus in the surface soil to hold moisture. To plant begonias in a dry, arid soil is but to court disaster.

Begonias cannot stand frost, and for this reason they should have the protection of a cold frame or greenhouse, with a covering of mats on frosty nights. One of the leading seedsmen has initiated the idea of growing begonias in bowls of fibre, just as the early spring bulbs are g own. Begonias would therefore be an excellent summer plant, especially for those who can only garden in pots and bowls. The treatment is precisely the same as for the bulbs. Tubers would be planted now in fibre, and placed in a dark, frost-proof place until growth commences, taking care, of course, to keep the fibre moist.

A FINE DISPLAY OF TEN-WEEK STOCKS IN A SMALL TOWN GARDEN.

The Town Gardening Handbook.—This volume, the official handbook of the London Gardens Guild, is now published, and is obtainable from all booksellers and newsagents. The price is, cloth covers, 2s. 6d., paper covers, 1s. 6d. It is the one book for all amateurs who garden in town and suburb.

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WORK IN THE FLOWER GARDEN

Clean Rustic Work.

THERE is no doubt that many garden pests, especially woodlice, are harboured by rustic work in the garden. This is usually the case when the wood is covered with bark, for then there are all kinds of crevices into which insects, etc., may creep. Where the bark has worked loose snug little retreats are provided, and in such cases the only way is to pull the bark off. Strictly speaking, it would be much better if rustic work was used without any bark at all, and in this way the number of places in which pests can hide will be much reduced. It is a very good plan early in the spring to carry out a thorough cleaning of all rustic work. For this a paraffin liquid is good, as it will kill such pests as may be in hiding. Half a cupful of soft soap may be placed in a large pail of tepid water and the like quantity of paraffin stirred in until a uniform mixture is obtained. Sponge this over the rustic work and work it into any cracks and crevices with a stiff brush. After about a couple of days the odour of the paraffin disappears.

Everlasting Peas.

THE perennial, or as they are often called, the everlasting peas, are among the most easily cultivated plants thriving in almost any situation. They are extremely useful for ornamenting bare walls, for a few pieces of a plant may be trusted to take care of themselves. The perennial peas are able to flourish even where the soil is stony and very unpromising, for the long leathery roots penetrate to a great depth. Old tree stumps, or the side of a trellis or summer house, prove admirable situations for the perennial peas and here they should only be given a minimum of training, as much staking and tying will only spoil the effect. Lathyrus latifolius, with rose-coloured blooms has some good varieties. The best of these are White Pearl, very free flowering; alba, a white variety of the old form; and Pink Beauty (delicatus), with dainty blush pink flowers. All of these are of great value for cutting. Other perennial peas which are worth growing are L. grandiflorus, less rampant, but finer in bloom than L. latifolius; the stems are weaker, but the flowers produced in pairs are twice the size. Another species, L. rotundifolia grows slower than most of the family and is of a neat habit; it is admirably suited for stony banks, where few subjects will grow. L. pyrenaicus is the most rampant of all the perennial peas and this plant will grow 20ft. in a single season, bearing prodigious quantities of yellow flowers veined with purple. L. Sibthorpi is notable on account of its early blooming, the rosy purple flowers being produced in the spring. This plant is of a dwarf habit compared with most of the other perennial peas and rarely exceeds 3ft. When well established it will form one of the greatest attractions of the spring border.—S. LEONARD BASTIN.

Cutting Back Heaths and Treatment After Flowering.

HEATHS, *ericas*, flower over a long period, and the plants, if carefully treated, live for many years and attain a large size. They are plants that lend themselves to the trainer's skill and when neatly staked and trained, look charming, as practically all the flowers can be seen at once. Untrained, naturally-grown specimens are preferred by some cultivators. There are many glass structures, owned by amateurs, that are very suitable for cultivation of the heaths in pots. I have grown them in lean-to greenhouses facing due south and with very little artificial shading; also in structures facing due east with a high wall on the west side and I am unable to say now which plants did the best, but, of course, those grown in the cooler house required the least attention. Flowers, when a fairly representative collection of plants is grown, are plentiful from early spring on throughout the summer. In a sunny structure air should reach the plants always, day and night; when the young shoots are growing they must not be drawn up weakly; they must grow wiry and steadily and at the stage when the flowers have faded extra care must be taken as regards watering. Repotting is not necessary unless the pots are so full of roots that some of the larger ones are beginning to "knuckle" on the surface of the soil in the pots. The knife must be used with great care; if, however, any cutting is necessary, it should be done when the young shoots are growing freely. If repotting is advisable, do the work soon after the flowers have faded. Be quite sure that the ball of soil and roots are thoroughly moistened before repotting and press down the new compost very firmly. Extra care must be exercised afterwards to guard against overdryness of the old ball of soil and equal care is necessary to avoid maintaining the new soil in a sodden condition. A good general compost: sandy peat, a small proportion of very fibrous loam, the rougher parts being placed near the bottom of the pot to ensure sound drainage for a long period. For young plants finely ground charcoal is beneficial and for all a light shade for a time after the repotting.—CHRISTCHURCH.

A FINE PLANT OF THE EVERLASTING PEA, LATHYRUS LATIFOLIUS.

The Sweet Fern (Myrica asplenifolia).

THE sweet fern is a first-rate shrub for a dry or semi-dry position. It is a shrub often mistaken for a fern because of its attractive dark green fern-like leaves, which are so delightfully fragrant when crushed or rubbed against. It grows only 1ft. to 2ft. high from long, hard, creeping roots, and seems rather difficult to get established. The sweet fern is best transplanted in the spring, and once it is growing will spread rapidly, proving an excellent shrub for a dry place on the rockery or to screen the nakedness at the bottom of large trees.

THE SWEET FERN IS A NEAT SHRUB FOR A FAIRLY DRY POSITION.

Myrica asplenifolia is a native shrub of Canada, where it covers dry rocky banks in profusion. It is of the same family as our own native bog myrtle.—R. MOORE.

The Climbing Hydrangea.

OF all the hardy hydrangeas—and there are more of these than most amateur gardeners realise—the climbing hydrangea, H. petiolaris, is, when mature, the most attractive. The sterile florets, relatively few in number, are widely spaced around the truss and of good size. Their colouring is that peculiar shade of greenish buff we see in the blossom of the Japanese flowering cherry variously listed as Ukon (Yukon) or serrulata luteo flore pleno. At a distance, however, a pillar of this plant in flower appears white, and in sunshine the florets do, in fact, bleach considerably. The one-year growths of the plant emit roots like those of the ivy; and the plant, when once it has formed an attachment, climbs steadily and securely on tree trunk or wall. The shrub is, perhaps, more effective on a trunk than on a wall, and a good specimen extending aloft 20ft. or more is a sight worth seeing. Moreover, its twiggy growths enable other more slender climbers to make their way up the trunk, whereas they must, otherwise, be planted so that they may climb props and so to the branches. Clematises of the Jackmanii and lanuginosa

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sections come specially to mind in this connection.

Hydrangea petiolaris is particular neither as to soil nor aspect, but if planted among tree roots some special preparation should be made for it, and occasional mulchings of decayed manure are beneficial. The plant's habit of forming aerial roots makes it exceedingly easy to propagate. Pieces with roots attached inserted in a cold frame quickly become established; but a frame is not essential, for, inserted in gritty soil in the autumn, similar cuttings seldom fail to establish themselves. It is a little singular that so good a plant is so comparatively rare in gardens.—MIDLANDER.

Bedding Dahlia Paisley Gem.

A FEW years ago that bedding dahlia of the dwarf mignon type, Coltness Gem, captured the horticultural world and it was but natural to expect that the type, if we may regard it as a type, would be improved on sooner or later. That result, always desirable in progressive horticulture, is seen in the newer Paisley Gem, introduced by a Scottish firm, Messrs. Thynes of Dundee. In habit and general appearance there is little difference, but this new variety is decidedly more floriferous than the older Coltness and, in that respect, sure to become more popular. The colour is a peculiar red, described as orange scarlet; the flowers show a double row of ray petals; these petals are velvety, rich and of handsome texture. In a word, the Paisley Gem is an improved Coltness and a first-class bedding plant. Growers lucky enough to have tubers from last year may propagate freely in exactly the same way as with other dahlias. Beginners had better order plants early, as stocks are none too plentiful. As in other cases, get the plants into the frame in May and plant out during the first week in June, in ground well dug and well manured. Get the ground worked up into condition this month. The plants will show bud before planting out; the first flowers will come readily in June, and July will find the bed a blaze of colour. No staking is required, but I would point out that it pays to pick off spent flowers in this variety, as in others similar. Beyond that and with no further special care the plants will be the glory of the garden until the dahlia-destroying frosts of autumn.—CLYDESDALE.

A Fine Flowering Crab.

IN many gardens flowering trees and shrubs constitute a brilliant feature, and the flowering crabs or forms of Pyrus Malus make a bold display during the month of May. Although P. floribunda is said to be a tree upwards of 30ft. in height, we know it in gardens generally as a bush from 6ft. to 20ft., and when in full bloom it is, indeed, a glorious sight. It is a worthy subject, and is one that is suitable for all gardens. Where space exists bold groups with a dark background are suggested, but in small gardens an isolated specimen will be most effective and be a delightful change to the lilac and laburnum. The flowering crab is most floriferous, bearing clusters of pale pink flowers and crimson buds, every branch and shoot being clothed with blossom. In the variety atro-sanguinea the flowers are a deep rose, especially when fully expanded: while in purpurea the blooms are a bright rosy crimson and the foliage bronze purple. Both the type and atrosanguinea have green leaves.

These indispensable shrubs are quite hardy, and will succeed in any ordinary soil, but wherever possible a site should be chosen where there is ample space for development. Little or no pruning is required, as much better results are obtained by allowing the somewhat pendulous branches to grow unchecked. Specimens that are subjected to pruning lose their graceful outline, and the remarkable long arching shoots are conspicuous by their absence. At times a tree may be overcrowded in the centre, but this can easily be remedied by a little judicious thinning without interfering with the natural beauty of the shrub.—T. W. B.

Sow Polyanthus Primroses Now.

WE must remind readers that this is an excellent time to sow seeds of polyanthus, that delightful member of the primrose family, so prolific of blossom just now. Sow the seed in boxes in the frame or in a semi-shaded border in the open, a sandy soil suiting this purpose well. Transplant the seedlings in July or in August, into a richly manured border, where they will increase and become of flowering size in readiness to give a galaxy of blossom next year. Established plants may also be divided, to increase stock; this is done shortly after flowering during a spell of moist weather in June or July, the offsets being again put into rich soil, 9ins. apart, a partly-shaded and moist soil suiting them best. Growers who have a few choice roots ought to mark the same and allow some trusses to seed: these seeds may be sown as soon as ripe or stored until next year. Messrs. Carters have several very fine strains, including the Munstead hybrids. Dobbie's blue-flowered is worth a trial and also Sutton's Superb Mixed and Brilliance.

Two Good Sweet Williams.

TWO of the finest of all sweet williams are Scarlet Beauty and Pink Beauty. It was by the introduction of these two sorts that this branch of the dianthus family came into renewed favour; the names are indicative of the colours, but they cannot convey a true idea of the brilliancy of the flowers concerned.

Scarlet Beauty is particularly effective when seen against a vivid green background, so is ideal for a small bed set in the sunny part of the lawn. Pink Beauty is of that beautiful soft shade of pink that will tone well with most subdued shades, but more particularly so with mauve and pale blue. Good plants, therefore, to grow with Pink Beauty are linum, ageratum and mauve catmint (nepeta).

Sweet williams may be successfully flowered from a planting made during the next few weeks, and young plants should be purchased from advertisers in this journal. It is well to remember that, though sweet williams are true perennials, they are best treated as biennials, *i.e.*, raised from seed every year, May and June being the best months for sowing.—B. D. S.

An Admirable Rockfoil.

Plants can be lifted and divided now.

THE number of rockfoils in cultivation must be legion, but of them all S. apiculata is the first to unfold its flowers. Much depends however on the mildness or otherwise of the season and when the weather is favourable spikes appear early in the year from March onwards. So early a bloomer should be planted in fairly large patches and in a variety of positions, whereby the flowering period would be extended. Although repetition is not recommended in the rock garden generally, one exception can surely be made with an early flowering subject, especially when it is possible to have a large drift or colony with little trouble or expense. Most gardeners know that it is the early morning sun that often creates the damage after a frost, so one patch should be planted where they will be sheltered from the early sunshine, and in most instances the flowers will suffer no damage. It forms a mat of dark green foliage and the yellow flowers, several together, are produced on stems from two to three inches in length. A white flowered form appeared a few years ago and is known as alba. This is equal to the type in every respect, and will be welcomed by those who enjoy white flowers and variety.

Like many other members of the genus, the secret of successful cultivation lies in occasional division, and this becomes a necessity when a clump has become somewhat congested and formed a mound. As a rule the plants are lifted, divided, and replanted every third year. Fairly deep and firm planting is advised and those patches not needing division may be top-dressed annually with soil working the compost well between the growths. Soon after flowering is a good time for affording the plants attention in regard to soil.—T.

A DOUBLE EDGING OF POLYANTHUS PRIMROSES IN A SHADY BACK GARDEN.
These are in full flower now and can be used effectively for bordering a grass path. Seeds can be sown during the next few weeks or the plants divided after flowering.

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LOW RETAINING WALLS and their CONSTRUCTION

Such walls can be made a distinctive feature of many a small garden if carefully constructed and planted with suitable subjects.

THE planning and planting of the garden about a house that is built upon a hilly or sloping site presents many little problems which can be solved by the use of retaining walls, which, at the same time, contribute a charming and distinctive feature to the result when such walls have been in position a year or so. Naturally, no matter how skilfully their building has been carried out, these walls present rather a stark appearance for the first few months of their existence.

In the planning of these sloping sites one must leave banks of soil which will not remain in position owing to erosion by weather. Lawns have to be levelled, paths cut, or sunk gardens made, all of which leave on one or more sides an embankment of soil which must be kept in place by some mechanical means. If the bank of soil is small, the earth may be kept in position by a retaining wall of logs laid parallel with the border, and others driven well into the bank of earth with the butt ends resting on those below. If these logs are left without stripping off the bark, they look very unobtrusive, and furnish plenty of crevices in which plants may be inserted.

The kind of material used for the retaining wall will largely depend upon the cheapness of the material which can be obtained locally. Stones, although they make the most effective walls, are extremely heavy, and, while appearing cheap at the ton rates quoted by the quarries, are really excessive when the cost of carriage is added. The prettiest stone which I have seen used for this purpose is a kind of grey shale used largely in the Westmorland Lake district. No two pieces appear exactly alike; some are a pure grey, others have a pinkish hue, while some are almost olive green. Time weathers this stone to a lovely velvety grey, which is still further enhanced when the mosses and lichens grow upon them.

Bricks can be obtained everywhere, and, provided they are not of a glaring crude red colour, make a very effective wall which resists erosion almost indefinitely. Bricks, unfortunately, are rather costly as a wall material, although where expense has not to be considered they are excellent. Bricks may be laid along the top of walls of other materials where a straight line is desired. These may either be mortared or left with soil placed between them, giving plants an opportunity to spread their roots and to hold them as firmly together as could be done by mortar.

When stone is used, dry-wall construction lends itself well to plant culture. Large and small stones, which may be obtained from the site in certain districts, may be used in the same wall, the smaller stones holding the larger ones in place with the wedging action and the soil which in time fills the interstices. In such a wall it greatly helps if the bank of soil is sloped gently backwards, against which the stones can rest. Flints are not to be despised if reinforced by a cement mixture made of cement one part to sand five parts. This is either pointed into the wall after erection, or the flints or small stones can be laid in a dab of the cement mixture applied to the stone on

A CEMENT BLOCK WALL THE CONSTRUCTION OF WHICH WAS DESCRIBED IN OUR LAST WEEK'S ISSUE, SHOWN PLANTED UP WITH AUBRIETIA, AND AN EDGING OF CATMINT SIX MONTHS AFTER LAYING.

SHOWING THE CONSTRUCTION OF A LOW WALL MADE OF FLINTS.

A LOW RETAINING WALL CLOTHED WITH AUBRIETIAS WHICH MAKES A MOST EFFECTIVE DISPLAY.

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which it will rest. If a fairly rough surface is left on the cement, *i.e.*, it is not trowelled, soil will lodge and mosses grow, which greatly add to the appearance of such a retaining wall. Where possible, plants should be inserted at the time of building any wall, setting the roots well back in the soil where they may obtain the necessary moisture and nourishment.

Walls constructed of cement blocks are clean and strong, contrasting well with most of the plants which will grow in such positions. Full details of the making of a wall from cement blocks were given in an article last week. Again, it is better to put in the plants as the blocks are laid, it being very difficult to insert the roots once the blocks are placed in position. Seeds of the hardier alpines may be inserted in such crannies, it is true; but the owner of a concrete wall will be in a hurry to break its crudeness by means of mature plants. If good, strong seedlings of alpines are taken from pots, the wall will present quite a finished appearance some six months later.

Much depends upon the situation of such walls as to the plants which shall be inserted or grown along the top to hang down and cover them. The shady wall may have primroses in the crevices, or the creeping periwinkles, or similar trailing plants trained to hang down. Aubrietias do very well in a wall which gets a little sun, and so do the cerastiums or arabis.

I prefer to plant up such walls with one variety of plant, such as aubrietia, which gives a foaming mass of colour all along the wall from April to June, and, if cut back after flowering, furnishes the wall with the new growths which rapidly push forth.

CLARENCE PONTING.

INSECT PESTS OF GARDEN PLANTS

WITH the approaching days of spring one looks forward to the awakening of plant life, which is accompanied, unfortunately, with the awakening of insect life. For the purpose of studying the pests which may be expected to attack ornamental plants, I have grouped them under four headings, *viz.*: (*a*) Pests of annuals; (*b*) pests of herbaceous plants; (*c*) pests of bulbs and tubers; and (*d*) pests of ornamental trees and shrubs. The majority of the pests belong to the group Hexapoda, or true insects; but there are others equally important, such as mites (of which the common "red spider" is an example), gall mites, millipedes, slugs and snails and eelworms.

Many new species of plants are being continually introduced into our gardens from China and elsewhere, and careful watch should be kept on them for the presence of pests, as they are equally liable to attack by indigenous species of phytophagous insects.

Prevention Measures

The old adage "Prevention is better than cure," is specially applicable in the flower garden, and a great deal can be done to prevent the presence of pests. Clean cultivation includes many hygienic principles which should be attended to assiduously. One of the chief reasons for the presence of pests is that weeds are allowed to grow and flourish not only in flower and shrub borders, but more particularly in waste ground in proximity to hedges and ditches; while hedge plants (quick or hawthorn) "carry over" many insect pests of ornamental trees and shrubs. The elimination of these "nurseries" should be aimed at by destroying weeds and keeping the borders and waste land constantly hoed; while hedge plants should be watched for the presence of green fly (aphides) and caterpillars and treated accordingly. Under hedges and in various parts of the garden, rubbish (*e.g.*, leaves, grass cuttings and dead herbaceous plants) accumulates and provides ideal hibernating quarters for weevils, woodlice, slugs and snails. All dead and decaying plants and parts of plants should be stacked and limed. Prunings and dead branches cut out of trees and shrubs should be burnt and not left lying about on the surface of the soil around the plants, for on shoots can be found the eggs of various aphides, scale insects and moths, and in dead branches can be found many bark beetles and boring insects. Old paint tins, insecticide cans, broken flower pots and brickbats should be either buried or used as a foundation for garden paths, as they provide admirable retreats for slugs and snails. Wooden boards used as edgings to flower borders are satisfactory so long as they are preserved, but when they commence to decay they attract woodlice, which do not restrict their attentions to the wood but feed on the foliage of many plants.

PESTS OF HARDY ORNAMENTAL PLANTS AND THEIR REMEDIES.

A.—ANNUALS.

Pest.	*Symptoms of Attack.*	*Host Plants.*	*Remedial Measures.*
Green fly (aphides) ..	Curled leaves; growing points infested with "fly"; sticky exudations on foliage, followed by the growth of black mould.	Most annuals.. (sweet peas)	Spray as soon as the pest is observed with nicotine, quassia or derris.
Thrips (thunder fly) and "red spider."	Mottled foliage and distorted flowers.	Most annuals.. (sweet peas)	Constant syringings with clear water. Use nicotine wash in heavy infestations.
Caterpillars of moths and false caterpillars of sawflies.	Foliage eaten entirely or skeletonised.	Many annuals.. (tropæolum)	Hand-picking; light sprayings with lead arsenate
Surface caterpillars (Yellow Underwing and Turnip moths), and leather-jackets.	Plant wilting and heeling over. Damage below or at surface of soil.	Many annuals.. (marigolds).	Hand-picking; trapping with bait of potato or mangel. Hoeing in soil insecticide.
Slugs and snails	Seedlings eaten off; foliage of larger plants devoured; presence of slime indicates their presence.	Most annuals ..	Hand-picking; trapping with orange peel and lettuce; dusting plants with various proprietary materials.

B.—HERBACEOUS PLANTS.

"Cuckoo-spit"	Wilted growths. Immature insects covered with spittle-like exudation.	Many, especially geums, campanulas, solidago.	Spray with nicotine and soap, using good pressure in order to break through protective covering of insect.
Moth caterpillars (Silver Y and Angle-shades); sawfly caterpillars.	Foliage eaten entirely or skeletonised.	Pelargoniums, primulas, Solomon's seal, spiræa, iris.	Hand-picking; lead arsenate spray.
Surface caterpillars, leather-jackets, weevil and chafer grubs.	See "Annuals"	Many, especially chrysanthemums, polyanthus.	Hand-picking; injection of carbon bisulphide; apply soil insecticides.
Slugs and snails	See "Annuals"	Most, especially delphiniums, lupins.	See "Annuals."
Woodlice ..	Holes eaten in foliage ..	Many	Trapping with hollowed-out potatoes; liming soil.
Stem eelworm	Foliage distorted; growth either stunted or elongated; stems cracked.	Phlox, campanula, wallflower, sweet peas.	At first signs of attack cut out sickly plants and burn; refrain from growing same plant on infested land for three years.

Remedial Measures.

Severe criticism is often levelled against the efficiency of spraying, but it is always found that the human element is at fault. Some of the causes are (1) inefficient spraying machinery (poor pressure and faulty nozzles); (2) careless spraying—*i.e.*, applying the wash to the wrong part of the plant (the rhododendron bug is always and aphides are generally found on the lower surface of the leaves):

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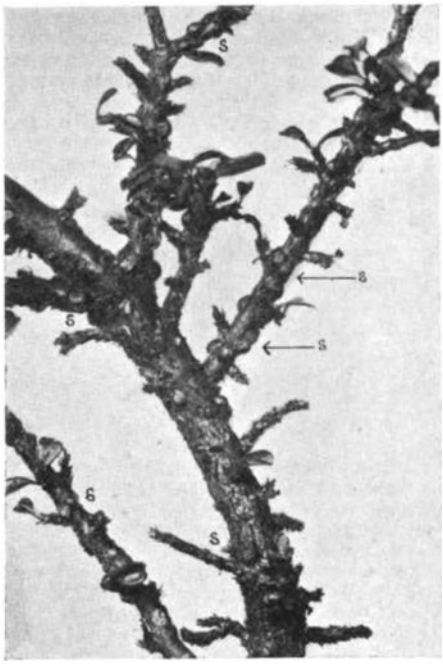
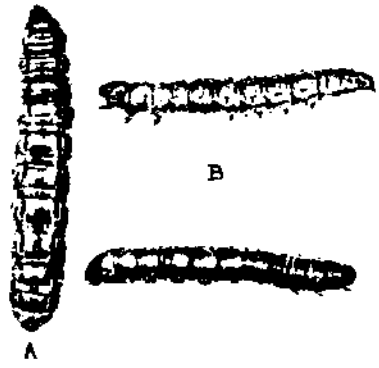


ROUND OR PEACH SCALE ON COTONEASTER TWIGS.



SURFACE CATERPILLARS OR CUTWORMS.
(A) *Yellow underwing moth*,
(B) *Turnip moth*.

TYPICAL WEEVIL DAMAGE ON RHODODENDRON LEAVES.

(3) inattention to the type of pest present on the plant, with the result that a stomach poison (lead arsenate) is used against insects with sucking mouthparts, such as aphides, scale insects and capsid bugs; and (4) dilatory application, *i.e.*, allowing a pest to become numerous before an attempt is made to combat it: one should aim at killing the ancestors, not their descendants!

Spraying is only one of the numerous control methods which can be carried out in the flower garden. Other efficient means of combating pests are: hand-picking caterpillars on foliage and surface caterpillars in the soil, weevil grubs at roots of plants slugs and snails; trapping leatherjackets, wireworms, millipedes and woodlice with pieces of potato, beetroot or mangel, and slugs with cucumber or orange rind; jarring plants over white paper or greased boards to capture leaf-eating weevils and chafers; pruning off egg-masses of vapourer moth, egg rings of lackey and March moths, and clusters of the black shiny eggs of aphides on species of pyrus, cratægus and cotoneaster; injecting carbon disulphide into the soil for root aphides, weevil grubs and other soil pests, and constant disturbance of the soil by hoeing to kill surface caterpillars, leatherjackets and millipedes.

Insecticides.

There are four types of insecticides which should be used in gardens. They are: (1) Winter washes, for use in the dormant season on deciduous trees and shrubs (caustic soda for clearing them of algæ and lichens which harbour many pests, and tar distillate washes for destroying the eggs of aphides, psylla and scale insects); (2) contact washes—nicotine and soap, quassia and soap, and derris—for combating sucking insects (aphides, leaf-hoppers, young scale insects); (3) stomach poisons—lead arsenate—against biting insects (leaf-eating caterpillars of moths and sawflies, weevils, chafers and woodlice); and (4) soil fumigants—carbon bisulphide—for weevil grubs and chafer larvæ, and soil insecticides—naphthalene—for leatherjackets, wireworms and surface caterpillars.

Insecticides should be obtained in a form ready for use and always mixed with soft water. It is unwise to spray plants in bright sunny weather for scorched foliage will invariably result from such a practice; and it is better to choose a dull day or apply the wash in the early morning or late in the evening. Spraying materials should be purchased from reliable firms, and to attain this end the advertisement columns may be studied with advantage.

The tables given enumerate the more common pests of hardy ornamental plants

G. F. W

PESTS OF HARDY ORNAMENTAL PLANTS AND THEIR REMEDIES—*Continued.*

C.—BULBS AND TUBERS.

Pest.	*Symptoms of Attack.*	*Host Plants.*	*Remedial Measures.*
Aphides ..	Yellowing of foliage, sometimes accompanied by curling.	Tulips, dahlias.	Spray periodically with contact wash.
Surface caterpillars.	See "Annuals"	Dahlias ..	See "Annuals."
Large and small narcissus flies.	Yellowing of foliage, bulb rotting, with one or more larvæ inside.	Narcissus, hyacinth, scilla, leucojum.	See under "Stem eelworm."
Stem eelworm	Foliage and flowers distorted; growth stunted; concentric black rings on cutting bulb through.	Narcissus, hyacinth.	Destroy badly infested bulbs; slightly infested bulbs should be immersed in water at 110° Fahr. (43° C.) for three hours in early August.
Millipedes ..	Bulbs and tubers bored, with subsequent rotting.	Tulips, dahlias.	See "Woodlice" in B.

D.—ORNAMENTAL TREES AND SHRUBS.

Aphides ..	Curled or reddened foliage, sometimes accompanied by leaf fall; sticky exudations on lower leaves.	Species of pyrus, prunus, cotoneaster, berberis, Sitka spruce, etc.	Frequent sprayings with contact washes; early applications are essential.
Woolly aphides	Cankerous growths and twisted growths.	Pyrus and pyracantha species.	Nicotine soap wash applied with great force to ensure penetration.
Scale insects ..	Stems encrusted with scale-like growths; young insects on foliage and shoots. Woolly form on stems of beech.	Pyrus, prunus, cotoneaster, beech.	Winter wash on deciduous species; nicotine soap wash applied to foliage and stems in May; scrubbing stems and main branches of beech with caustic-paraffin emulsion.
Caterpillars, chafers, weevils.	Leaves eaten entirely or partly.	Most shrubs ..	Lead arsenate wash in early May; jarring branches on dull days over paper or boards for chafers and weevils.
Red spider ..	Mottled foliage, often accompanied by leaf fall.	Pyrus and other trees.	Frequent sprayings with clear water, nicotine soap wash or sulphur dustings in bad infestations.

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WHAT OUR READERS SAY

THE PEACOCK IRIS, MORÆA GLAUCOPIS.

SIR,—Can any reader with experience of this exquisite irid tell me what I am to do to get blooms? I have tried all kinds of conditions, both indoors and out, but have hitherto failed to obtain more than one or two flowers out of every hundred bulbs. It is usually listed under the name of Iris pavonia, the Peacock Iris.—S. BROWNING SMITH, *Otford.*

AN ENCROACHING ROCK PLANT.

SIR,—In your issue of the 2nd inst, under the heading "Low-growing Rock Plants," I notice Helxin: Solierolii mentioned. A warning is added that it is an encroacher and undoubtedly it is a most dangerous plant to introduce into a rockery.

Helxine has given me trouble for years. I have used bushels of salt in trying to destroy it in the retaining wall of a stream bed.

Arenaria balearica is far less dangerous, much prettier and will cover a shady path or wall very quickly.—R. H., *Weymouth.*

APPLES FOR SANDY SOIL.

SIR,—I planted, some twenty-five years ago, three Beauty of Kent, one Newton Wonder and one Bramley Seedling apple trees—all standards. I consider that each Beauty of Kent tree has borne at least double the amount of fruit carried by either of the other varieties named. Further, they have kept with me quite as well and as long as those of Newton Wonder and Bramley Seedling, and I find them to cook quite as well, while as bakers they are much better. I still have by me some Beauty of Kent apples in good condition. My soil is quite sandy. Standard Marie Elizabeths have done well for a variety which is not classed as a heavy bearer, but as croppers much below Beauty of Kent.—T. G., *Nottingham.*

A BLUE FLOWER FOR THE BORDER, THE CYNOGLOSSUM.

SIR,—I am pleased to see that "T. W. B." has a word of praise on page 232 for this very beautiful but all too little known biennial, the cynoglossum. It only needs to be grown to be widely appreciated, as it is just as easily raised from seed as a wallflower. My experience of it, however, during winter is that it is uncertain in cold exposed localities, but that can be got over by lifting plants into a cold frame for the winter, giving as much air as possible. Friends of mine in the midland counties have not been able to keep it unless given the shelter of a frame, but, treated much in the same way as pentstemons and given frame room, they have come through all right. I have during the past winter lost rather more plants from an outside bed, the fewest losses being among plants planted out close up to a wall on a south border. Still, with this, the cynoglossum, with its delightful blue spikes of almost forget-me-not flowers, is worthy of a place in every garden. Sown in June or July, as "T. W. B." suggests, plants will be right for blooming in June the following year. How is it so few gardeners know anything about a plant so beautiful, I wonder?—W. LINDERS LEA.

ESCHSCHOLTZIAS.

SIR,—With reference to Mr. Bailey's article on "Eschscholtzias" in your April 2nd issue, if the ground is not available, or for some reason it is not desired to sow in the open, I have found eschscholtzias can be quite easily raised by sowing two or three seeds in a small 60 in a cool greenhouse or cold frame, and planting out when the roots have got to the bottom of the pot, taking care to plant intact without disturbing the roots. When I have any special variety and only a small quantity of seed, this is the way I always do and I never have any difficulty at all.

Another piece of useful information about the eschscholtzia is that it is one of the simplest of "annuals" for autumn sowing in the south of England, as it can be sown in the open where intended to flower in suitable weather towards the end of August, and I never have the slightest difficulty in getting them through the winter. An important point to remember is that the situation should be sunny, open and well drained. They will stand considerable frost.

The eschscholtzia is undoubtedly one of the easiest plants to grow and one ought never to have any trouble whatever in raising it from seed. In fact, in most cases I should think the main difficulty is that it will probably be sown too thickly, with the risk that if not thinned out sufficiently the plants may smother themselves.—A. BALFOUR, *Sutton's Trial Grounds, Slough.*

A MARCH GARDEN.

SIR,—While crocuses, snowdrops, eranthis, early irises and other brave things brighten the garden and bring promise of spring to the heart of the gardener, perhaps even a greater pleasure may be obtained by laying out a special plot as a complete little garden to produce a lovely patch of colour at this early period of the year. Mine is some three or four square yards in front of a window facing east, and the soil, a chalky clay, is not of the best, so climatic or soil conditions need deter no one. The background of dwarf evergreens of contrasting colour consists of Cupressus Fletcheri, Erica carnea (pink), Retinospora ericoides and Veronica lycopodioides. Also, a couple of the old purply pink Daphne Mezereum. The carpet is provided by the violet cress, Ionopsidium acaule, and, through this, springs an irregular mixture of Iris reticulata and Crocus Tomasinianus: a dream of purple, lilac and pink.

The cress is continually producing fresh seedlings and is in bloom the whole year round. It has bloomed profusely all through the present winter absolutely unperturbed by frost or snow. Quite apart from its particular charm in March, this little garden remains an object of beauty in subdued colouring for the rest of the year. Another plant I omitted to include above is Saxifraga oppositifolia. I am now contemplating another March garden, starting with Kaufmann's tulip and the blue Anemone blanda. Will some braver spirit plan for us a little February garden with Iris Histrio and the early snowflake?—B. S., *Kent.*

SPRAYERS AND SPRAYING MACHINES

THE importance of spraying is obvious to all gardeners, professional and amateur alike, and with the numerous types of sprayers already upon the market, a few words upon the types that have proved the most efficacious of their kind should be of considerable interest.

Having divided these into three classes, namely, (1) Hand sprayers and syringes, (2) Bucket sprayers, (3) Pneumatic sprayers: let us turn our attention to the former, which, of course, is by far the most popular of them all. The various types of hand sprayers in use at the present time are numerous and it is somewhat difficult to single out any particular one as being vastly superior to another. Three that are worthy of special consideration, however, from the amateur's viewpoint, are Carters' "Ideal" hand sprayer, and "Abol" and the "Four-Oaks" garden syringes. As will be seen from the illustration, the "Ideal" sprayer consists of a copper container holding two or three pints, according to size, with plunger attached, so that the user can spray the whole greenhouse or a large number of trees without having to carry the insecticide about, as in the case of the ordinary spray syringe. The perfect mist spray produced will not hurt the most tender plants.

THE PERFECT MIST-LIKE SPRAY GIVEN BY THE "IDEAL" SPRAYER.

The chief features of the "Ideal" sprayer are as follows:

1.—It can be used for spraying rose trees and fruit trees alike, as it produces three different types of spray, all of which are obtainable from the one nozzle.

(*a*) The perfect mist-like spray for spraying rose trees and for general greenhouse work.

(*b*) The mist spray for spraying fruit trees, carrying to a height of 25ft.

(*c*) A long, thin jet, carrying to a height of 30ft.

2.—The force with which the insecticide is penetrated into the plants and the perfect mist-like spray obtained make it ideal, both from the point of efficiency and economy.

3.—The two-pint model gives 100 sprays. Copper and brass extensions are also supplied so that the insecticide can be sprayed underneath the leaves of plants and also carried to a greater height.

For the convenience of growers on a large scale the "Ideal" sprayer is also supplied in a knapsack form, the container of which holds two gallons of solution.

Abol syringes have been known and used in gardens for many years. They are excellent for spraying greenhouse plants, roses, wall fruit trees, etc. The fine spray which they

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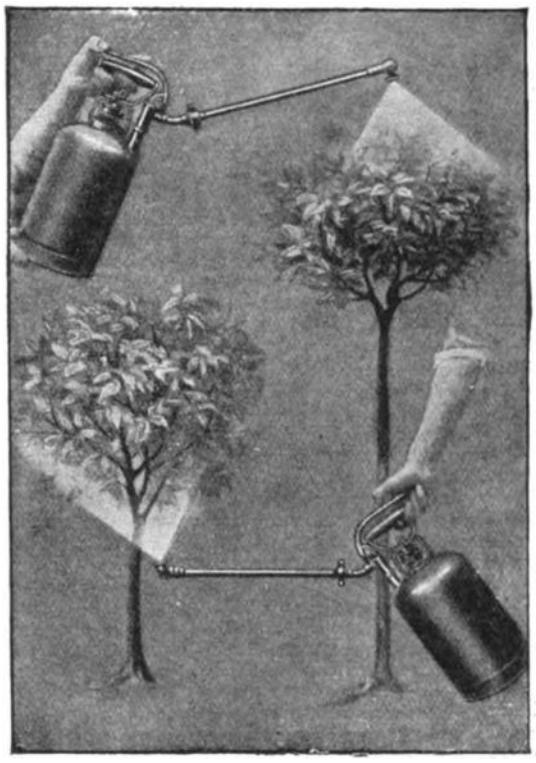


A PNEUMATIC HAND-SPRAYER, THE "HOLDER-HARRIDEN," SUITABLE FOR SPRAYING SHRUBS.

discharge with great force is very effective in keeping down attacks of red spider and aphis. The "Four-Oaks" syringe is also highly efficient and is invaluable in the garden as well as the greenhouse. Both these syringes can be supplied with angle-joints, by means of which the under sides of leaves and branches can be sprayed effectively.

The bucket sprayers are very popular with a large number of people owing to the many uses to which these can be applied. Not only are they useful in the spraying of rose trees, fruit trees, etc., but they also form an ideal apparatus for lime washing poultry houses, sheds, garages, etc.

Here again there are several types from which to select.

The "Eclipse" sprayer is one of the simplest and most efficient sprayers upon the market. It is a hand sprayer which is used in conjunction with a bucket. There are no intricate parts to get out of order and, as no pumping is necessary, the operator has both hands free to direct the spray.

The number one "Eclipse" sprayer consists of sprayer complete with 2ft. lance, polished and lacquered, 10ft. rubber hose and strainer, special liming nozzle and swivel angle bend, with adapter for overhead spraying of fruit trees.

The "Eclipse" is to be recommended for general use in the garden, and for lime washing. It is easy to manipulate, light and very portable.

The distinct advantages of pneumatic sprayers over hand sprayers are, of course obvious to all, no continuous pumping and both hands free. This is, of course, a favourable asset where there are large areas to be treated.

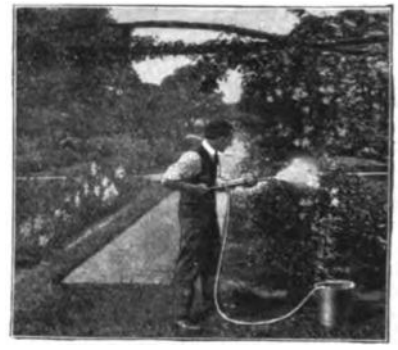
The "Four-Oaks" pneumatic sprayers and lime-washing machines are very reliable and give good service for a considerable number of years.

Another well known firm which manufactures spraying machines for all purposes is Messrs. Robinson Bros. Their sprayers are made in all sizes, the smallest of which is very suitable for use in the amateur's fruit garden.

The "Martamith" pneumatic sprayers are particularly useful for spraying and lime washing in the small garden. Knapsack as well as hand sprayers are made by this firm.

Of the many various types offered, details are given of one, the "Holder-Harriden."

"Holder-Harriden" sprayers are now only made in Virex Brass Alloy, a metallic compound to a special formula that can be used, and will resist, not merely ordinary non-acid compounds (soap and quassia, nicotine, coal-tar fluids, etc.,) but also the stronger fluids: copper sulphate, caustic soda and particularly lime sulphur and liver of sulphur. The last



THE "ECLIPSE" SPRAYER IS ADMIRABLE FOR ALL GENERAL PURPOSES.

two quickly attack copper machines, and these are also not immune to caustic washes.

Each machine is fully tested. The larger sizes will stand a test of 300lb. pressure to the square inch, in practice 70-75lb. being ample to discharge the whole of the contents in a very finely divided misty spray. There is but little slackening of power at the finish.

The working is simplicity itself and, with an entire absence of intricate mechanism, there is nothing whatever to get out of order. All parts are readily accessible for cleaning, etc., and with a little attention even the plunger-leather will not require renewing for many months or even years.

There are no loose parts to get lost or mislaid and, particularly, the pump is always in its place.

Compressed air is a powerful force and pneumatic machines of weak or careless construction are to be avoided at any cost.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Pricking Off Seedlings.

This method will prove both speedy and highly successful in the pricking off of such small seedlings as begonias, streptocarpas, etc. Well crocked pans are filled with a light compost, with a finely sifted layer on top, and just lightly watered (not soaked) with tepid water; this makes the firming of the seedlings easier. The tedious pricking off of such small seedlings will be much facilitated if an ordinary 6in. wood label be used to pick them up, they having been previously loosened. If the label be held in a vertical plane and the pointed end wetted it will be found that the seed-leaves adhere quite readily to it, and the seedlings are then easily transferred to the pan and made firm by a dibber held in the other hand. It is advisable to water from "beneath" until the seedlings are well established.—W. E.

Damage to Young Pea Plants.

Young pea plants which have just appeared through the soil are subject to leaf-eating pests. Frequently this damage is attributed to birds. When this is the case, pea guards, cotton, etc., serve to ward off the attack. Should the attack continue in spite of pea guards, a close and very careful inspection must be made of the plants and the soil surface. Such an examination usually reveals the pea weevil. This weevil is only about one-fifth of an inch in length, soil-coloured, a night feeder, and, when disturbed, falls to the soil, hence the reason for diligent searching of plants and soil and also why the attack is usually proclaimed as being due to the ravages of birds. Remedies for the pea weevil are: (*a*) spraying the young plants with weak arsenate of lead; (*b*) dusting the plants when moist with hellebore or pyrethrum powder, or a mixture of soot and lime. Avoid sowing in the same place next season. —J. H.

An Outside Shelf for Sun-baking Plants.

Azaleas, after flowering, require all the sun possible to ripen wood for next year's flowering. Against a wall facing south two stout pieces of wood are rammed into the soil and another broad piece nailed on the top of these pieces to form a shelf. Other pieces of wood can be nailed to this shelf to form a lip all round to hold leaf mould and moss, into which the pots are plunged. This latter keeps the pots moist and minimises the need for watering. Often azalea pots are plunged into garden soil, but this is unwise, as a fair quantity of lime is in this soil and azaleas dislike it. Not only can this shelf be used for azaleas, but for pelargoniums after flowering, and many other plants and bulbs. This shelf is better than putting plants simply on ground, because often other things which are growing shade them. Especially is this shelf useful in a small garden where there is not much room.—H. G.

Sowing Small Seeds.

Before sowing small seeds, such as begonias, after the pans have been filled and soaked take a handful of dried sphagnum moss and rub it through a fine wire sieve such as is used in kitchens until the surface of the seed pan is covered to about an eighth of an inch deep, sprinkle a little sand on top, then the tiny seedlings will lift with a nice little ball when large enough to prick off.—G. R.

The Surface of Asparagus Beds.

Obtain some old mortar rubble, put this through a ½in. mesh screen, to every barrow of screened rubble add half a barrow of builders' red sand, mix well together, give the beds a liberal dressing in the spring, about a barrow to 10yds. or 12yds., fork lightly into the surface of the beds. One bushel of wood ashes screened through a ½in. mesh to every barrow could be added, also a little bone meal, if desired.—G. W. B.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

ALTHOUGH activity in gardens and allotments is now general, outdoor operations are in arrears in various localities where the land is heavy and in an unworkable condition, resulting from the wet weather experienced in inland districts. The temperature in April has, so far, compared unfavourably with that of March and occasional heavy hail showers have neutralised the effects of brief spells of sunshine. Seasonable work, such as the sowing and planting of vegetables, rose pruning, etc., has therefore been interrupted from time to time, while growth is less rapid than it was a few weeks ago.

In the course of a lecture on roses, given under the auspices of the Hamilton Horticultural Society the other evening, I had occasion to comment on Golden Emblem's well known fault of dying back in winter. During the discussion which followed a member of the audience took exception to the statement and confidently asserted that in no district in Scotland would that defect be seen if the plant received a good top-dressing of manure in late autumn. Along with many other rosarians my experience of that once popular yellow Pernetiana has been unfortunate and it would be interesting to learn how Scottish readers of THE GARDEN have fared in that respect as any treatment that would be the means of imparting vigour and prevent the loss of the rose would be welcomed by every class of grower. Personally I "hae my doots" regarding the efficacy of winter manuring, because, as the result of many years experience I am of opinion that the weakness is constitutional.

There is abundant evidence that Golden Emblem is losing favour with the public as a rose for general garden cultivation. Nurserymen in Scotland who specialise in the raising of roses tell me that there is a falling off in the demand, and in a recent plebescite organised by a Glasgow paper, Golden Emblem was displaced in the collection of twelve varieties by Mabel Morse. Moreover, I notice in the National Rose Society's analysis for 1926, northern amateurs preferred Christine Mabel Morse and Mrs. Wemyss Quin to Golden Emblem which is placed sixteenth on their list. In several rose catalogues the fact is emphasised that it does die back very badly.

Few plants which contribute to the decoration of the garden have come into greater prominence in the past few years than catmint. Like several other favourites of our boyhood days, that hardy native of the Caucasus went out of fashion in modern gardens, but its useful qualities are again being recognised each successive year, until it has become almost as familiar as the Coltness Gem dahlia, with which it is frequently associated. The carpet of silvery grey foliage makes a beautiful setting to the fragrant soft lavender blue flowers which bloom profusely throughout the summer season into autumn. It is most accommodating in regard to situation and although it makes a pretty clump in the herbaceous border and likewise adorns the rock garden in the form of knolls, catmint is most effective as an edging to a mixed flower border, where it can encroach on the adjoining gravel path with pleasing irregularity. While it thrives in almost any garden soil, it prefers a light or sandy rooting medium in a sunny position, for there the grey foliage takes on its finest colouring. Autumn struck cuttings are available at the nurseries and when planted in late April or early May will grow and flower freely in the coming season. Stocks may be easily increased in autumn by taking cuttings with a "heel" and inserting them in sandy soil in a frame, where they root readily.

The amateur's greenhouse is seldom considered complete without a few tomato plants that will provide supplies for the household during late summer and possibly into September, if there is sufficient sunshine to ripen the upper trusses. In our uncertain climate the element of risk usually accompanies early planting in an unheated greenhouse, while on the other hand delay means the later maturing of the fruits and limitation of the crop. The happy mean is probably to be found in the early days of May, but even then the influences of weather and locality should be taken into consideration. The ideal tomato is a short jointed plant that produces an average crop of medium-sized fruits of good flavour, but the amateur who does not grow his plants from seed and depends on a local nursery for a small supply, has frequently little choice outside of popular market varieties, such as Ailsa Craig, Kondine Red, etc. Soil that is too rich is harmful, as it produces soft, rapid growth. Assuming that the plants are to be grown in pots or boxes, a suitable compost would consist of six to eight parts of loamy soil, according to quality, and one part manure, with 1lb. of bone meal added to a barrow load, but amateurs should never forget that a good crop of pot or box-grown tomatoes depends more on surface feeding than the ingredients in the soil in which they are planted. During the early stages of growth watering should be restricted to the actual necessities of the plant, but as soon as the flowers on the first trusses begin to open, the soil may be thoroughly moistened and from that time water should be given as often as required, as a dry soil is detrimental to the setting of the fruit and plant development. All side shoots should be pinched out as soon as they appear, especially the large shoot which pushes from the leaf joint immediately below the truss. A good fertiliser for pot tomatoes consists of two parts nitrate of potash, six parts superphosphate and one part sulphate of ammonia. For twelve plants in pots apply in the ratio of 2oz. to 3 gallons of water once a week. Until warm weather sets in the ventilators of the greenhouse should be closed in the late afternoon in order to maintain a moderately higher temperature at night.

ST. MUNGO.

FRUIT AND KITCHEN GARDEN

Transplanting Small Seedlings.

HUNDREDS of thousands of seedlings of vegetables are now being transplanted in every district throughout the country. All, however, do not survive the operation. Even when the work is carried out by experts there are losses, so it is advisable to transplant more than are actually required to make allowance for the losses. But be careful not to crowd the seedlings unduly in order to have a reserve as the overcrowding would result in weakening all. First, in regard to transplanting seedlings in boxes. The latter should have holes in the bottom or the boards should be nailed on so that there is a space about half an inch wide between them for ensuring drainage. At this season the boxes should not be less than 5ins. in depth. In the bottom of boxes for vegetable seedlings some well rotted manure will be beneficial to them. The same plan should be adopted when transplanting seedlings and young plants in beds in frames. In the open nursery bed the rotted manure should be dug into the ground well mixing it with the soil generally. In these nursery beds many of the winter vegetable crops are treated and the transplanting of them at about 4ins. apart, leaving them so for about six weeks and then removing them to their final quarters with plenty of roots and a lot of soil adhering means success.—HANTS.

Climbing Butter Beans.

WHEN, as often happens in a small garden, just one row of runner beans is sown early in the season, the crop may end rather suddenly and some weeks before the ordinary autumn and winter vegetables are available. In such cases attention may be directed to the value of the climbing butter beans, which are usually listed under the name of Mont D'Or. These beans come quickly into bearing, and they have the additional advantage over the others of being all edible and, in fact, they can be cooked whole for the membrane or skin which is a feature of the ordinary bean is entirely absent. These butter beans, although they are early croppers, have a long season of production, and will continue bearing until November in a favourable autumn. The seeds, which should first be soaked in warm water for a quarter of an hour to hasten germination, may be sown in May. Very good results are secured by sowing a proportion of butter beans in with the ordinary runner beans. The butter beans are much less robust in habit than the ordinary kinds, and will confine their growth chiefly to the lower parts of the sticks. Later in the season, when the runner beans are nearing the end of their cropping, some of the thick leafage above may be removed in order to let more light in to the butter beans.—C.

You May Still Sow Broad Beans.

THE broad bean is one of the hardiest of our vegetables and it is customary in some districts to make sowings in the open ground in November, while January and February are the usual months for sowing the main crops of this splendid vegetable, the object being to obtain pickings as early as possible and until such times as early peas and runner and dwarf beans are obtainable.

It is well to note, however, for the benefit of those not inconsiderable few people who possess a special fondness for a dish of broad beans that a succession may be maintained and later supplies obtained by making sowings at intervals up to the end of April.

No vegetable is more easily grown by the amateur or even beginner at gardening. It prefers a somewhat retentive and moist soil, but does well in almost any ordinary garden soil, while for planting on newly broken-up land it proves very useful. Sow in single rows 2ft. apart and allowing a distance of 9ins. between each plant; an alternative is to sow in double rows, allowing a distance of 1ft. between each line, forming the double row and 3ft. between each double row.

Hoe frequently during the growing season and keep a sharp look-out for attacks of black aphis. This may be kept in check by syringing with soap and water to which a little nicotine has been added.

When the plants have attained sufficient height and have plenty of bloom on them,

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pinch out the tops, this removes the tender portion which the aphides attack and also assists the pods to swell.—T. H.

How to Treat Young Cucumber Plants.

CUCUMBER plants thrive in heat and moisture and perish in a moist atmosphere and a low temperature. It is during the early stages of growth that the greatest difficulty with them is experienced; we have spells of very cold weather, especially during the night-time and, as artificial heat is not always available in unlimited quantity, matters are made worse. I strongly advise amateurs who are not able to command artificial heat, to make use of a small frame or box inside the glass structure, whether the latter be a greenhouse or a garden frame, and place the young pot plants in it until the time comes to plant them in beds in the greenhouse or in the garden frame about mid-May. The temperature inside a well managed small frame within another, will be about seven degrees higher than that of the house or big frame. Of course, where a frame is placed on a hot-bed, there will not be any difficulty as regards temperature. The most care, here, must be given to the regulation of the atmospheric moisture and the guarding against rank gases arising from the hot-bed. Always use water that has been placed in the structure several days beforehand, and make up the bed a week before the young cucumbers are planted out finally.—CHRISTCHURCH.

Mulching and Mulching Materials for Vegetables.

AT this early date it may, to some cultivators, seem quite unnecessary to trouble about mulching crops. But it is not too early, to give some attention to the matter. Later, when the soil is being dried up rapidly, there is haste to get material to cover it with and, often it happens that there is not any suitable available. Owing to the recent wet weather the grass on our lawns has grown rapidly and it requires frequent cutting with scythe or mowing machine. In every case all cut grass should be stored in a dry place in a thin layer and not in a pointed or conical-shaped heap, which would cause it to heat unduly, burn and turn yellow. The short grass forms an ideal material for mulching, but it cannot all be obtained in a single week. Begin to store it now and a good heap will be available just when required. Dry straw, old hay, well beaten to get rid of the seeds, will also prove useful if thrown into a heap and turned over several times during the month of May. It may be too dry now, but later on, after the treatment suggested, it will be in good condition as a mulch material and valuable, too, as a manure. Old potting soil should be stored in a dry place, sifted at leisure to remove the crocks and any coarse, dead roots in it. In due time the mixture will prove very beneficial to such crops as dwarf beans, lettuce, dwarf growing peas and runner beans. Care should be taken in collecting material for mulching purposes that matured weeds, bearing seed pods, are not gathered up at the same time, as the seeds would soon germinate and cover the ground with weeds. Burn all such weeds and coarse material, returning the ashes to the soil. Usually, the work of mulching is put off too late and then the crops are not benefited by such applications.—HANTS.

Club Root in Greens.

THERE are several forms of club root, the one caused by a fungus and another caused by the larva of a weevil. As many thousands of plants will be planted out in every district throughout the country during the immediate future, every care should be taken to render the soil sweet and suitable. Liming purifies the soil, but lime is best applied during the autumn months. Where this was not possible, the cultivator should not hesitate to apply lime now, in dust form for preference. The soil is dug in the usual way and then about one peck of dust-like lime should be applied to each square rod of ground. Scatter it evenly on the surface, then lightly rake it in while the soil is fairly dry. It is when the roots are diseased or in a bad state owing to impurities in the soil that larvæ of the weevil attack them and not while they are perfectly healthy. If lime is not available, apply agricultural salt at the same rate—one peck per rod. Failing these, use a similar quantity of soot, but not soot *and* lime together. An initial precaution is that of rejecting all young plants already showing signs of club root; it would be more economical to leave the soil fallow for a time and then sow turnips.—G. G.

GREENHOUSE NOTES

Hardening Off Plants for Bedding.

THE time is near at hand when it will be needful to make arrangements and take certain steps for the hardening off of plants which for the last few months have been reared and grown under glass so that they may be fitted for planting out of doors in the near future. For this purpose a cold frame is essential. The present occupants of frames, such as pentstemons, calceolarias and violas, can now have the lights removed altogether during the day at least, and at night be tilted to admit air. The weather is the predominating factor just now which must decide when the sashes can be removed altogether.

Indoor plants in pans and boxes which are deemed to be sufficiently advanced for a cooler temperature must also come under review, such things as larkspurs, tagetes, lobelia, asters, stocks, antirrhinums, petunias, salpiglossis, zinnias, as well as young plants in pots of fuchsias, heliotropes, pelargoniums—to name some of the most popular bedding subjects. At present most greenhouses are filled to their utmost capacity, and room is badly needed for other things which may still have to be pricked out for later blooming. There is, in such circumstances, always a temptation to transfer tender plants to frames before some of them are actually large enough. This is a mistaken policy sometimes, and is often fraught with danger unless care is taken to cover the frames with mats or bags at night for some weeks. To proceed cautiously is always the wisest, using discrimination as to what shall and shall not go into frames first. Taking things which are very tender, such as zinnias, Phlox Drummondi, French marigolds and salpiglossis, it is more prudent to keep these in the coolest part of the greenhouse as long in May as possible, rather than consign them to a greatly reduced temperature. As we know, May is a month of extremes of temperature, hot sun in the day often being succeeded by frosty nights. It is therefore well to be cautious, and not to be too anxious in getting plants into frames, unless one can close them early in an afternoon and cover them at sunset.

Ventilation.

A hard and fast rule cannot be laid down in regard to the ventilation of frames at this time of the year. On cold, sunless days it is safer to afford but little, and then the lights ought not to be opened very long. It is easier to starve young seedlings than to endeavour to undo the damage through their being exposed to cold currents of air. Watering should only be done early in the day, and then only sufficient given to keep them going. It is better to keep plants on the dry side in the absence of sun. One cannot always work to a given date in getting plants into their summer quarters out of doors. It will often be found more profitable to keep small plants in a cold frame a week or two longer than is customary rather than hasten their removal outside when weather conditions are not suitable.—CLAREMONT.

Primula sinensis.

THE Chinese primula is one of the most useful plants for the decoration of the greenhouse and conservatory during the winter and early spring. The present is a suitable time to make a small sowing, and two further sowings may be made at intervals, to provide for a succession of flowering plants.

Sow in a well drained pot or pan, in a compost consisting of 1 part loam, 1 part leaf-mould and a liberal admixture of sharp sand. Previous to sowing, well water the pot or pan with boiling water from a fine rose can; this sterilises the soil. Sow the seed thinly and cover very lightly with a sprinkling of sand. Place a sheet of glass over the pot, cover with a piece of paper and place in a house having a temperature of 55 degrees Fahr.

No water will be required until the seeds germinate, and immediately this takes place the glass and paper must be removed. When large enough to handle, prick off at a distance of 4ins. apart into boxes filled with the same compost as before, but in a roughe condition. The addition of a little lime rubble will be found advantageous. From these boxes they may be transferred when large enough to their flowering pots. I prefer this method to that of potting them in the very small state, as they are so liable to dry out and get overlooked when in small pots, whereas in boxes they all receive more uniform treatment and this results in more even plants. Take care when pricking off or potting not to bury the crown of the plant; on the other hand, they must not be allowed to wobble about on the surface of the soil. Always water with care, without wetting the foliage or centre of the plants. During the summer a cold frame facing north is a suitable place in which to grow Primula sinensis.—H. E.

Marguerite Carnations for Cut Flowers.

PANS or pots are better than boxes for raising these carnations from seed, as the soil in them remains more consistently moist over a long period. A too light loam should be avoided; good sound loam and well rotted leaf soil in equal proportions will constitute a suitable compost in which to sow the seeds. Provide ample drainage, fill the pan three parts full of the compost, press it down moderately firm, water, then sow the seeds thin. apart, cover them nearly ¼in. deep with a similar compost, but do not water the covering soil. Place glass and paper on the pan and the latter on a stage or shelf in the warm greenhouse or frame. If the plants are to be flowered in pots, transplant the seedlings singly in small pots at the first and, in due time, repot twice, the last time in 6in. pots. The compost for the repottings should be loam and leaf soil in equal proportions where the soil is of a clayey nature; and loam two-thirds and leaf soil one third where the soil is medium to light. A sowing made in May will yield plants that will form a succession and bear blooms through the late autumn and winter-time.

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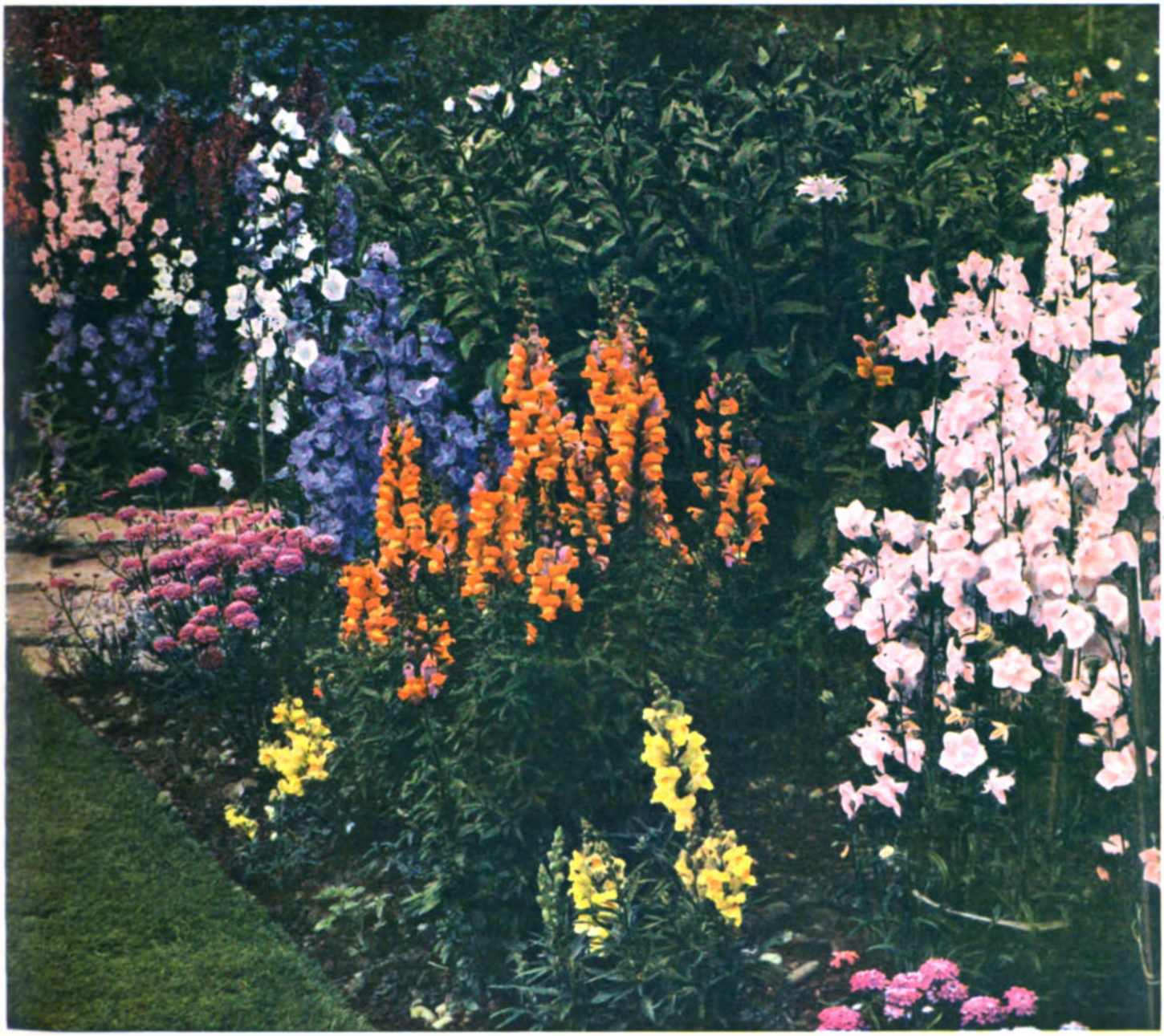

IT is now time to fill all beds and any gaps which have appeared in the border with summer flowers. Such old favourites as snapdragons, bellflowers, candytufts, columbines and many more should not be forgotten. These are now all obtainable in the most brilliant shades and provide a most effective summer display. Young plants can be procured now for immediate planting.

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THE GARDEN

VOL. XCI.—No. 2891. APRIL 30, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

THE *Rose Annual* for 1927 fully lives up to the high standard of its predecessors. As a guide to rose cultivation and to the activities of the National Rose Society, under whose auspices it is published, it is invaluable. There are many interesting articles dealing with various aspects of rose history and culture, and all are full of instruction for the amateur grower. Two are of particular interest, in that they deal with points about which little is known and, consequently, on which information is greatly desired. These are the articles on Roses and Their Parentage, by Mr. H. R. Darlington, the present President of the Society; and the Newer Species of Wild Roses, by Mr. A. Osborn. What we—and, no doubt, many rose lovers also—would like to see in a future *Rose Annual* is an authoritative article on the history and evolution of our present-day roses. Much of the history of the evolution of our modern types is shrouded in mystery, and we feel sure that all rose lovers would be interested to learn of the many Chinese species of wild roses which have been responsible for the creation of the many beautiful types which are to be seen at a modern rose show to-day. The critical articles on last year's shows of the Society make interesting reading and indicate the progress and development of the Society and what it is doing to assist and encourage rose-growing throughout the country. The success of the Society is further evidenced on looking through the Report. Steady progress has been made during the year, and the membership stands at the figure of over 14,000—surely a record for any horticultural society outside the Royal Horticultural Society. It is a figure which has only been reached through much hard work, and we would extend our congratulations to the committee and, above all, to Mr. Courtney Page, the energetic secretary, on bringing the Society into such a successful position.

Nothing succeeds like success, and it is certain that the Society will achieve still greater things in the future. A feature of this year's *Annual* are the coloured illustrations of roses, all of which are well executed. It is a volume which should be in the hands of all rose lovers and one which they will find of extreme service in the culture of their plants.

Exhibition Culture.

NEARLY every town and village in the land has its flower show. At these shows it is not uncommon for the entries to number over a thousand, so that the total number of separate exhibits staged by amateurs must be well over a million each season. Anyone who has judged these shows knows that a great many inferior exhibits are staged, largely because many exhibitors do not make adequate preparation early in the year. The question of seeds and plants is most important in exhibition culture. Get the best varieties, and remember that a new variety is not necessarily the best. The leading seedsmen print the best kinds in heavy type in their catalogues. Go to a good firm for your seeds—one with a reputation to lose. "Penny Pictorials" without name or date, are useless for exhibition work.

The next item of importance is the soil preparation. One of the exhibitors of prize vegetables at amateur shows turns his soil over *four times* each winter before sowing or planting. Thorough digging and soil aeration are essential, and manure, organic and inorganic, must be used to secure the best results.

Photographic Competition Rules.

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xiv, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following publication.

This Week's Work

For Gardens in the South and Midlands.

Plant out violas, border carnations, cabbages and cauliflowers.

Apply worm-killer to lawns and weed-killer to paths.

Sow in nursery beds such biennials as hollyhocks, sweet williams, Canterbury bells, mulleins, etc.

Clip and trim evergreen hedges and creepers and finish planting evergreens.

Make further sowings in the open of hardy and half-hardy annuals.

Spray fruit trees with lead arsenate.

Start hardening off bedding plants and prepare beds for summer bedding.

Plant wall climbers and creepers.

This Week's Work

For Gardens in Scotland and the North.

Sow annuals in positions where they are to flower.

Spray rambler roses for green fly.

Take cuttings of wallflowers.

Harden off stocks, asters, etc., preparatory to transplanting.

Complete planting of gladioli.

Plant early London cauliflowers.

Fork in old manure in rose beds.

Put out parsley seedlings raised in boxes.

Continue planting late potatoes.

Dust gooseberry bushes with hellebore powder.

Transplant onions and leeks for exhibition.

Remove frame lights in daytime.

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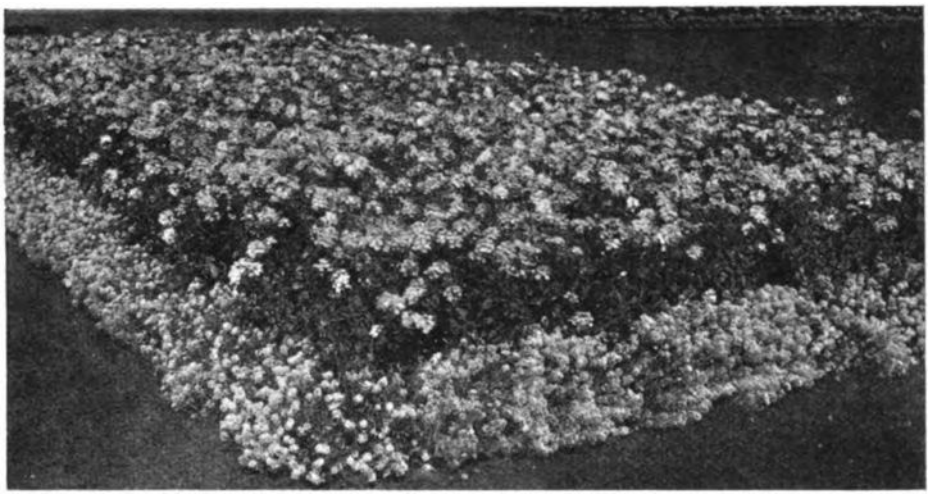
SUGGESTIONS FOR SUMMER BEDDING

A start should be made within the next two or three weeks so that the beds will not be left empty when the spring flowering plants have been lifted.

ALTHOUGH the days are long gone by when beds and borders that were left stark and bare at all other seasons of the year were filled up for the summer with fearful and wonderful devices in yellow calceolarias, blue lobelias, "golden feather" and Mrs. Pollock pelargoniums, a certain amount of "bedding-out" is still necessary in most gardens, especially if a feature is made of spring-flowering bulbs and plants which are taken up in early June.



A FINE BEDDING DISPLAY OF VERBENAS WITH AN EDGING OF ALYSSUM.

PHLOX DRUMMONDII IS A FIRST-RATE BEDDING PLANT FOR A BRIGHT SHOW.

In planning bedding schemes careful attention should be given to the question of background and surroundings. For instance, if the flowers in the beds will be seen against dark-foliaged shrubs or a grey stone wall, a warm and vivid combination in which orange, scarlet or bright full rose is the predominating colour may be advisedly chosen, but if the background happens to be the raw red brick of a brand new house, low tones of colour should be selected, and all shades of red and pink avoided. Then, again, if the aspect is excessively hot and sunny and there is no shade from trees, shrubs or neighbouring buildings, a cool effect rather rather than a gay one should be aimed at. A big bed of scarlet geraniums, salvias or begonias, beautiful as these flowers are in themselves, is not exactly restful to the eye when seen under a blazing sun on a hot August afternoon, especially if it happens to be surrounded by a path of yellow gravel, glittering white spar or marble chips! For such a situation a scheme in which cool lavenders and blues, soft pinks and oyster white or creamy yellow prevail, with, perhaps, the addition of a grey foliaged plant such as Cineraria acanthifolia or the little silvery Cerastium Biebersteinii, will be found much more satisfactory. It is, however, far easier to find suitable plants for sunny situations than shady ones; indeed, there are very few desirable summer "bedders" that will thrive in anything more than very slight shade. Petunias, fuchsias, Calceolaria mexicana and the "marguerites" (Chrysanthemum frutescens alba), once so popular but now comparatively seldom seen, with violas, Omphalodes verna and Limnanthes Douglasii (rather too early flowering, however) for edgings, are, perhaps, the best plants to choose for beds that get but a limited amount of sunshine.

Another point to be remembered is that little beds in a little garden call for treatment other than that required by big ones in a spacious setting. For small beds only plants of neat habit should be selected. Such imposing things as cannas and dahlias are best eschewed, and "dot" plants, if wanted at all, should be only slightly taller than those of the "filling." In most cases the happiest effect is arrived at by choosing a plant that can be obtained in several colours, or shades of colour, and using it alone. Antirrhinums (intermediate and dwarf), Phlox Drummondii, Dianthus Heddewigii, nemesias and balsams, with Candytuft Little Prince or Lilac Queen, Alyssum Snow Carpet or Eschscholtzia Miniature Primrose for edgings, are all specially suitable for little beds.

It is, perhaps, almost superfluous to say that all beds, whether large or small, should be considerably higher at the centre than at the edges, the sloping up being very carefully graduated.

A Few Schemes for Summer Beds.

1. Salvia Pride of Zurich or Fireball; edging and carpeting, Alyssum maritimum Little Dorrit; centre, miniature dahlia Cheal's White.

2. Pink intermediate Antirrhinum Dainty Queen; edging, Ageratum Little Blue Cloud; centre and dot plants, Gladiolus primulinus Maiden's Blush.

3. Dwarf rose and white godetia; edging, pale mauve Viola Maggie Mott; centre and dot plants, tall godetia Sutton's Double Rose.

4. White ten-week stocks: edging, Nasturtium King of Tom Thumbs; centre and dot plants, Lobelia cardinalis Gloire de St. Anne. (Alternative for centre, scarlet Tropæolum Lobbianum or bamboos.)

5. Clarkia Rose Beauty; edging, Nemophila insignis, centre and dot plants, Gladiolus primulinus Ada (white, flushed pink).

6. Mixed double French marigolds (dwarf); edging Dimorphotheca aurantiaca or Nasturtium Ladybird; centre and dot plants tall double orange African marigolds.

7. As No. 6, but with Cineraria acanthifolia as dot plant and Cerastium Biebersteinii as edging.

8. Mixed single Aster sinensis (mauve, pink and white); edging Verbena Sutton's Pink or Viscaria Tom Thumb Rosy Gem; centre and dot plants, tall Antirrhinum Rosy Queen.

9. Clarkia Purple Prince; edging, dwarf Eschscholtzia Primrose; centre, camellia-flowered Dahlia Dobbie's Bedder (pale gold).

10. Zinnia Queen of Roses; edging and carpeting, Candytuft Little Prince; centre, Barr's Giant Antirrhinum Snowflake or Gladiolus White Giant.

11. Mixed salpiglossis; edging, alternate plants of Violas Purple Queen and Golden Sovereign; centre, standard heliotrope.

12. Double asters (dwarf chrysanthemum-flowered) rose-pink and white; edging, Silene pendula dwarf rose or pink Saponaria calibrica; centre dot plants, Sutton's Mammoth Rose aster or Lavatera rosea Loveliness.

13. Tall mixed petunias (striped); edging, dwarf white petunias; centre, rose-purple and white fuchsia, or pink and white double cosmos or Antirrhinum Purple King. R. E. H.

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DESIGNING THE SIDE GARDEN

A few helpful points concerning the lay-out of the piece of ground that extends along the sides of the house.

IT is often difficult to decide upon the best treatment of the pieces of ground that lie on both sides of a house that is centred upon the frontage of a plot of ground. In some cases there is a strip of garden ground some twenty feet or more wide that, beginning at the fence, runs along the side of the house to the back, where it either joins the rear garden system or ends at a barrier formed by trellis or a hedge. Of course, nowadays the garage will solve the problem on one of the sides; but when the frontage extends for 80ft. or more, there is a wide gap between the house and boundary fence that has to be decoratively filled.

One way of doing this suggests itself at once, and it has been much adopted in the past, and that is to fill in the space with shrubs. Too often has this been done, with the effect of creating a dark, forbidding thicket; and this, with perhaps trees and shrubs in the front of the house, have made an environment that is deadly dull, restricted and monotonous. Let me suggest something more pleasing.

First of all, shrubs are very useful when there is a slope upwards from the road frontage—in some cases shrubs are the only possible solution; but let them be, in the main, flowering shrubs in order to secure brightness of colour, and shrubs with variegated foliage are equally effective. Again, a slope suggests the possibility of a rockery, which is a very artistic feature. The rockery could occupy a site midway between a belt of shrubs and a strip of lawn—some pretty effects can be secured in this way.

I would like more particularly, however, to make some suggestions for the treatment of a strip of ground at the side of a house that is quite level. The most effectual treatment that could be applied to such a piece of ground is contained in the employment of grass and flower beds, the use of a few low shrubs around the wall of the house with the addition of an ornament in stone here and there or quaintly cut trees. Roses are excellent subjects for the purpose of floral decoration, both in the form of standards or dwarf bushes in beds.

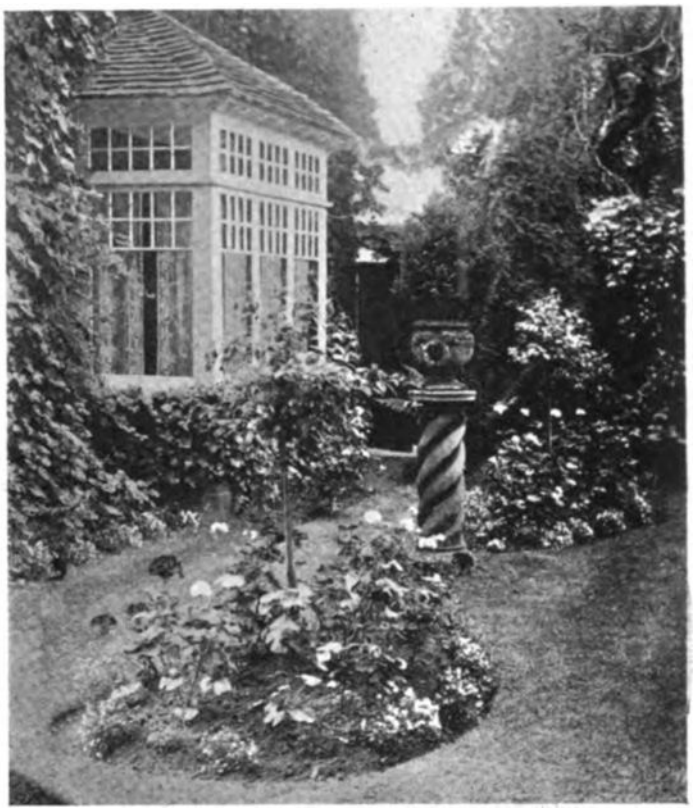
The flower beds should be of the annual order rather than the perennial, for perennials are invariably untidy plants, and, unless the site is a large one, are not at all suitable for the purpose in view. Small beds of any shape should be cut out of grass, and these, with a a small border on either side, along fence and house, would provide garden space for the accommodation of bedding plants, roses, etc., which would produce a blaze of colour all the summer, contrasting so pleasantly with the deep green of well kept grass—a really artistic treatment that would greatly add to the appearance of the frontage as a whole.

Charming aspects can be imparted to a side garden by means of a long strip of lawn edged by narrow flower borders on each side, and an additional decorative feature would be afforded were the edges cut in vandyked or scalloped designs. There is plenty of room and scope for geometrical designs in garden beds and borders by the side of the dwelling-house, and even the drive that leads to the garage may be beautified by the establishment of a border of flowers on one or both sides of it.

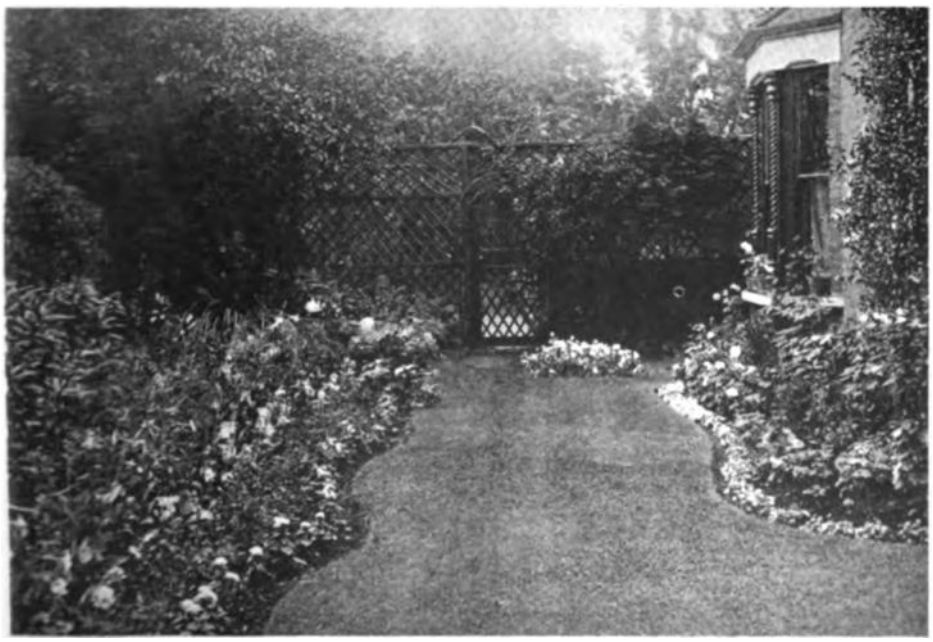
It will be conceded that the artistic appearance of many a house frontage is entirely spoilt by an indifferently planned side garden. Modern tendency is towards an open space all round the house, so that the home environment shall be airy and bright, and the opportunity is afforded, in the absence of a mass of trees and shrubs, to lay out the spare piece of ground at the side of the dwelling to artistic advantage. As one walks past a house, a swift glance takes in its frontage, and in that glance must be included the side gardens, for curiosity prompts it. Some people are content to block up their side piece of ground by a barrier of trellis and shrubs, as if they have no actual use for it, whereas they might make the ground a decorative asset.

There is another side to the question. What shall be done in the case of a side garden that gets but little light or is draughty, as often happens? It is true that one cannot expect to create a garden of colourful flowers and brilliant foliage effects in the absence of sun. Yet there are possibilities of decorative treatment. Grass will always grow, and the stone or leaden statue is not dependent upon sunlight for its beauty; these things may be employed to save the inartistic situation. Ferns suggest themselves as a help to rockery treatment, seeing that shade is essential to their well being. A fernery is a first-class solution of the problem of a dull aspect, and the building of a rockery, in conjunction with the laying down of crazy-pavement or flagstones, would create a most artistic wing to a house.

The plan of combining rockwork with paving is best achieved without the introduction of grass. If ferns are planted on the rockery, the spores will find their way to the joins in the pavement, and little ferns will spring up; or such could be planted for immediate effect, as well as the thymes, mossy saxifrages and sedums, and soon a most interesting and quaint environment to the house will be the result. N. E.



A PLEASANT FRONT GARDEN WITH BEDS OF SUMMER FLOWERS, STANDARD FUCHSIAS AND PELARGONIUMS.



A BROAD GRASS PATH EDGED WITH WIDE FLOWER BORDERS GREATLY ADDS TO THE APPEARANCE OF THE HOUSE SURROUND.

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PRUNING EVERGREEN SHRUBS AND HEDGES

The end of April is the best time to trim and train all evergreen shrubs whether newly planted or well established.

THE shortening and thinning of the shoots of evergreen shrubs is in some respects different from that of deciduous shrubs. It is not possible to frame several rules, as can be done in the case of deciduous shrubs, to improve the quality and increase the quantity of blossom.

The pruning of evergreen shrubs is not desirable when cleaning through the shrubbery borders in winter. The best time to prune and thin the branches of most evergreens is in spring, about the end of April in most cases—earlier in the south and west—when new growth is about to recommence. Should April or May be the flowering season, as with Berberis stenophylla, for example, defer cutting until the flowers are past. The usual reasons for pruning evergreen shrubs are to maintain shapely bushes, to prevent them becoming too large for their positions and thus perhaps crowd their neighbours.

When shrubs become too large for their positions or tall and bare at the base, it becomes necessary to cut back the branches into oldish wood. Many evergreens respond quite as well to this treatment as do deciduous shrubs. If the hard pruning is done in spring, just before growth recommences, the cut branches may look ugly for a week or two, but new shoots will soon furnish the stumps. The severe cutting, in the case of flowering shrubs may mean the loss of a season's blossoms but it allows a long season of growth and a more rapid recovery. Take care to dress the cuts with tar to prevent decay of the wood and attack by fungi. Popular shrubs that can be so treated include rhododendrons, laurels, phillyreas, Olearia Haastii and Veronica Traversii.

During April or early in May specimen hollies, yews, evergreen oaks, etc., which are kept formal in outline, should be gone over with secateurs, removing growths which tend to destroy the more or less formal character desired. It will be necessary to repeat this operation during the summer, when dealing with specimens which are kept closely cut and very formal, quite an Eton crop, in fact. Shears are more often employed for the latter.

Pruning Newly Planted Evergreens.

It is found very helpful to the bushes in practice to prune evergreen shrubs when transplanting. This, because of the disturbance and loss of roots, as it were, balances matters. The shortening to two-thirds or even to one-half the length of the branches may not be too much when there is very little soil attached to the roots. Do not be concerned if some of the leaves wither and fall from

THE CLIPPING OF SPECIMEN EVERGREEN SHRUBS, SUCH AS HOLLIES, CAN BE CARRIED OUT IN SHOWERY WEATHER.

the branches of evergreen shrubs. In fact, it is worth while assisting nature when the supply of plant food is interrupted by removing half the leaves.

The hard clipping of ivy on buildings and fences is best done in April when new growths soon refurnish the bare appearance.

Pruning and Clipping Hedges.

The hard pruning of evergreen hedges is best done in spring when new growth is recommencing. In dealing with old yew and holly hedges it may be desirable to prune the top one year and the sides the following season. Cultivation of the ground must also play its part in the rejuvenating of old hedges. Clean the surface soil around the plants, give a top-dressing of rich turfy loam and very old decayed manure, or bone meal.

When only one annual pruning is practised this should be done when the year's growth is practically completed, say the beginning of August, which allows time for the newly cut appearance of the shoots to disappear before winter. The cutting of closely clipped yew, privet, quick and similar hedges will begin in June and be repeated twice or three times at about monthly intervals.

Prune Now, Unless Stated Otherwise.

Aucuba japonica.—The Japanese spotted laurel may have old branches cut out to the ground, shorten loose and unevenly disposed shoots.

Berberis.—If required, shorten long growths of Darwin's barberry after flowering. Clip hedges of B. stenophylla, and shorten long branches of bushes.

Cotoneaster.—Long branches of C. buxifolia may be considerably shortened if required and C. thymifolia have the loose ends of branches removed to obtain compact pleasing growth.

Escallonias.—Hard cutting back into old stems, or shorten and thin branches after flowering.

Ilex Aquifolium varieties.—Shorten loose uneven branches of hollies, cut back to older stems when growing too big.

Lonicera nitida.—Cut back loose twigs of this evergreen honeysuckle, especially when transplanting.

Mahonia Aquifolium.—The Oregon grape can be very freely pruned annually after flowering and thrives in shade.

Pyracanthas.—This is the time to hard prune the fire-thorns, though it means the loss of a season's fruits.

Veronica speciosa varieties.—Thin and prune to form shapely bushes and neat hedges. V. Traversii, when tall and leggy, can be cut down to within 2ft. of the base.

Viburnum Tinus.—The laurustinus benefits by the shortening of long branches to make compact bushes and hedges; should be closely trimmed now with secateurs.

A. O.

A SMALL HEDGE WITH SPECIMEN HOLLIES IN A SUBURBAN GARDEN.

These can be clipped and cut back now to promote a neat and tidy appearance throughout the summer months.

A YOUNG HEDGE OF YEW WHICH SHOULD BE HARD PRUNED NOW WHEN NEW GROWTH IS COMMENCING.

The leaders should be cut back 6ins. to 9ins. and the side branches trimmed sufficiently to form close and even growth from the base upwards.

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MULLEINS TO SOW OR PLANT NOW

These stately perennials, with their handsome spikes of yellow blossoms, are first-rate subjects for border planting. Many are best treated as biennials, and seed should be sown during the next two or three weeks.

AN unaccountably neglected group of plants is the mullein family, which includes some of our stateliest summer perennials. It is hard to account for the fact that this family is so seldom represented in the modern garden. Perhaps it is that most people think of verbascums as tall, ungainly plants that at the best should be relegated to the wild garden. It is true that some members of the family do grow rather large, but they are very beautiful in their right setting, and, as the following notes will show, there are many quite dwarf species that are at home in the smallest garden.

All the species may be raised from seed sown outdoors during spring and early summer, the seedlings being moved to their flowering quarters in the autumn. The hybrid sorts, however, should be bought as plants from advertisers in this journal, for they cannot be relied upon to come true from seed.

The best soil in which to plant mulleins is that of a light, well drained nature, and the sunniest spot possible should be chosen. In heavy, waterlogged soils they are apt to behave as biennials, and so must be raised from seed annually.

Mulleins are ideal plants for the herbaceous border, the taller sorts being planted at the back, of course. In the wild garden or on dry, sunny banks or slopes they are quite at home, and make a bright show during the summer months.

The genus verbascum is noted for the vast number of flowers that are crowded on the individual spike, and almost all the following will throw up spikes of soft coloured flowers throughout the whole summer.

V. olympicum (Olympic mullein) is one of the most stately of the group, with huge pyramids of golden yellow flowers and beautiful silvery leaves. It is a true biennial species, and must be raised from seed annually. Height 6ft.

V. Chaixii is a dwarfer plant, but, nevertheless, equally pleasing. The flowers are borne on a many-branched spike, and are of a pleasing shade of yellow, with a conspicuous central whorl of purple filaments. There is a white form which is very pretty, and this is listed under the name of V. C. album. Both grow to a height of 5ft. or so, and are perennial in well drained soils.

V. phlomoides is another giant species, growing 6–7ft. high, and having woolly foliage and fine spikes of bright yellow flowers.

V. densiflorum produces long spikes of coppery yellow flowers, but the spikes do not branch enough to make this species really showy in the border. The wild garden seems to be this plant's true home, and there it is really handsome with tall coppery spikes towering up to a height of 6ft. or 7ft.

V. nigrum (dark mullein) is a native plant, but not to be despised on that account. The tightly packed spikes of yellow blossom are freely produced, and make a good show in the summer border. V. n. album is a good white variety, and many people prefer it to the yellow form. Height 3–4ft.

V. longifolium (syn. pannosum) is a very handsome species with silvery foliage and branching spikes of bright yellow blossoms. This is one of the giants of the family, and will easily reach a height of 8ft. in congenial surroundings.

When we come to V. phœniceum all previous ideas of the mullein family are upset. Instead of a giant 6ft. or more in height, we have a dainty little plant rarely exceeding a height of 2½ft. Instead of the usual shades of yellow, we find that phœniceum strikes out into pleasing shades of rose, purple, red, white and lavender, while in habit it is very bushy and free branching. The purple mullein, as it is called, is very showy in the border, and whatever else is omitted, should be one of the first to be tried.

VERBASCUM PHLOMOIDES, WHICH REACHES A HEIGHT OF SOME 6 TO 7 FEET, IS A FINE PLANT FOR A NARROW SHADY BORDER AGAINST THE HOUSE WALL.

THE DAINTY VERBASCUM PHŒNICEUM OF NEAT BUSHY HABIT AND ONLY ABOUT TWO FEET HIGH IS ADMIRABLE FOR PLANTING IN A BED OR BORDER. *Here it is seen to great advantage in a bed with forget-me-nots as an edging.*

Lastly, we come to the beautiful hybrid verbascums that have recently been evolved. Of these Miss Willmott is one of the best, with tall spikes of white flowers and soft woolly grey foliage. Caledonia is another good variety, with spikes of sulphur yellow flowers suffused with bronze. Height 4ft. Harkness' Hybrid is of a bright yellow shade, and grows about 3ft. high; while cupreus is a pretty blend of copper and purple, and also reaches a height of 3ft.

There are many other verbascums besides these, but the cream of the collection will be found among those enumerated above. May I plead for a wider cultivation of these lovely plants? I am sure they will please all who care to try them in the garden.

D. B. S.

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THE BUSY MAN'S PAGE

Disbudding Roses.

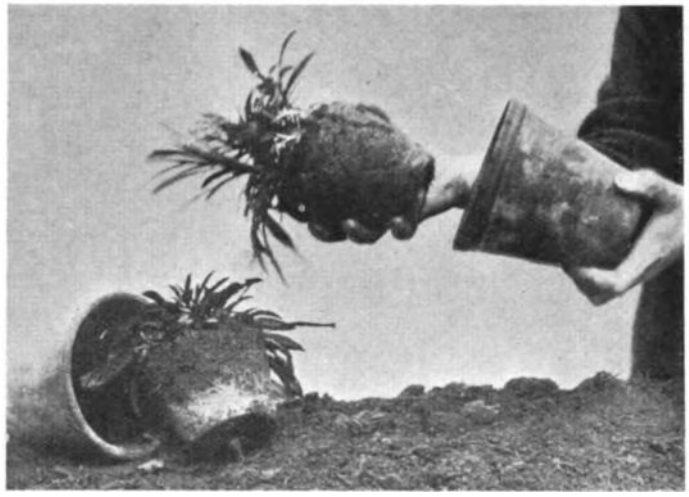
EXPERT rose-growers with exhibitions in mind are quite aware of the necessity for disbudding, both as regards the buds and the young shoots. Those who are growing roses simply for garden and house decoration would be well advised to give these matters a little consideration. Examine almost any rose bush during May and it will be seen that certain shoots are growing towards the centres. These threaten to cross each other and become crowded, and some of them will be growing out in a very awkward manner. Nothing but good results can come from the removal of some of the weakest of these shoots, although care must be taken to maintain the shape of the bush as a whole. It should be borne in mind that these small shoots will, if allowed to remain, be branches by the end of the autumn.

At Bedding-Out Time.

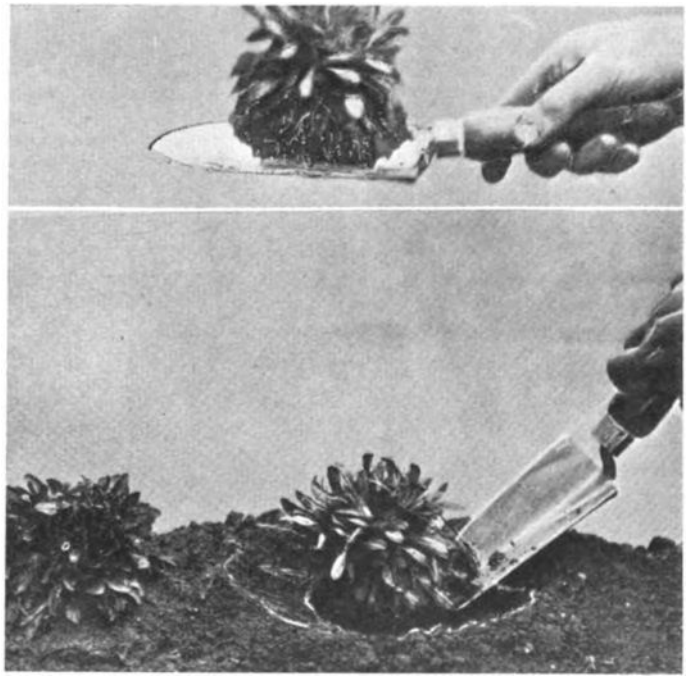
SUCCESSFUL bedding-out always depends on the way the plants are put into the ground. If the planting is done badly, a check is given to growth from which the plants do not recover until the best of the growing season has passed, and the result is a late show of blossom usually cut short by cold autumn weather. To avoid this let there be as little disturbance as possible at planting-out time. Make the hole large enough—too large, in fact—and with a trowel or small fork. If the plants are in pots, remove them without in any way breaking the matted soil and roots which all well grown plants will possess. Placing the fingers around the neck of the plant, turn the pot upside down and give the rim a sharp rap upon the edge of a wooden bench or block, and the contents will slide out unbroken. Transplanted from the ground or from boxes, the plants should be lifted with a trowel, and as large a ball of earth and roots as possible should be taken up and conveyed straight to the hole made ready for it. The least possible disturbance is then caused to the roots and a good start ensured.

How to Grow Fine Bushy Wallflowers.

WALLFLOWERS, being quite hardy, should be treated as such from the seedling stage. When not so treated, they often fail to give satisfaction. Two common mistakes are made by inexperienced cultivators: the first, sowing the seeds in boxes under glass; the second and the most common, sowing the seeds too late in the year. The seed should be sown in an open bed not later than the month of May. A point will be gained by sowing them at the end of April in a well prepared outside border. A rich border is not advocated, but one deeply dug and firmed while the soil is fairly dry. An ordinary kitchen garden soil will do admirably, and if some builders' old mortar rubble is added to it the seed bed will be an ideal one. Make shallow, flat drills; sow the seeds very thinly and cover them lightly. Before the resultant seedlings become overcrowded, transplant them at 4ins. apart in a nursery bed similarly prepared. In a very short time many will form side shoots; others, that do not form such shoots, must be stopped to cause these necessary side shoots to grow. By early October the plants will have covered the ground and be good bushy specimens, 90 per cent. possessing from five to nine branches. By March the following spring the plants will have entirely covered the soil in their permanent quarters and bear a profusion of flowers, mostly even in height. There is a vast difference between such specimens and those left overcrowded in their seed beds or those weakened by coddling. One plant grown as here advised is better than four of the last-named.



REMOVING BEDDING PLANTS FROM POTS WITH THE BALL OF ROOTS AND SOIL INTACT.



LIFTING A PLANT WITH A TROWEL AND PLACING IT IN A HOLE LARGE ENOUGH TO ACCOMMODATE THE ROOTS.

Wallflowers require a long period of steady growth.

When the Crops will be Ready.

THE following table is useful when it is wished to know how soon after sowing or planting a crop will be ready for gathering

Beans, broad	13 to 14 weeks
Beans, French	11 to 12 weeks
Beans, runner	12 weeks
Beet, turnip	12 to 14 weeks
Beet, long	18 to 20 weeks
Broccoli	5 to 9 months
Brussels sprouts	6 to 8 months
Cabbage	16 to 18 weeks
Carrot	18 to 24 weeks
Cauliflowers	15 to 18 weeks
Celery	5 to 6 months
Endive	10 to 12 weeks
Kale or borecole	7 to 9 months
Leeks	6 to 8 months
Lettuce	9 to 10 weeks
Onions	16 to 18 weeks
Parsnips	18 to 20 weeks
Peas	13 to 15 weeks
Potatoes, early	14 to 15 weeks
Potatoes, main crop	18 to 20 weeks
Radishes	4 to 5 weeks
Savoys	6 months
Shallots	15 to 16 weeks
Spinach	10 to 14 weeks
Turnips	8 to 9 weeks
Vegetable marrows	15 to 18 weeks

Garden Edgings: What to Plant Now.

THE edgings along the beds and borders play a most important part in the appearance of the garden. An ill kept, straggling edging will spoil the whole garden; a neat, close edging will increase its beauty to an almost incredible extent.

Now is the time to plant these edgings, to be ready for the summer months when the garden is at its best. There is no need to dig deeply or to lay down a lot of manure, but the ground should be well forked and a little cow manure, mortar rubble, bone meal and rotted leaves mixed with the soil.

Nowadays there is a wide choice of garden edgings. Pansies, violas and pinks (double and single) are among the favourite perennials; Virginia stock is an excellent annual edging; which at the same time is cheap and easy to grow. With the latter, all that is to be done is to sow a thin line of seed down the border with a light covering of sifted sand.

Good roots of pansies and violas should be purchased as early as possible and planted at intervals of 4ins. The plants rapidly spread until the gaps are filled up and a continuous edging is formed. Every autumn the plants should be trimmed and all loose growth cut away, leaving the new shoots in the centre to bloom in the next season.

Pinks are also easy to grow. The roots should be lifted and divided every second year; the most promising plants should be replanted and the weak stock thrown away. The chief advantage of pinks for a border edging is the neat appearance of their spiky green leaves throughout the year, both before and after flowering.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Plants for Hanging Baskets.

THERE is, perhaps, no more effective plant for growing in hanging baskets than the Campanula isophylla. The trailing growths can be allowed to hang down unhampered, and its charming blue or white flowers (according to the variety) are produced in great abundance. It is comparatively easy to plant and cultivate flowers in hanging baskets successfully, for they may be hung where they will get the maximum amount of sunshine and water can be given as required. When planting, some care must be taken to encase the soil in sacking or moss, so that it does not get washed away from the roots. The best way to water is to immerse the basket completely under water—tepid rain water is, of course, the best—leaving it until the bubbles cease to rise. Then allow it to drain for a short time before again placing it in position. This treatment will be required at least once a week in the warm, dry weather.

Another plant which might be more widely used in hanging baskets indoors is the rat's tail cactus (Cereus flagelliformis). It needs light and air and a fair amount of heat, and should therefore only be grown in a sunny window or similar position. For a permanent outdoor position periwinkle and hardy ferns could be used.

Other suitable basket plants for summer display are Fuchsia procumbens, F. Golden Treasure, Campanula Loreyi, Asparagus Sprengeri, ivy-leaved geraniums, Lobelia tenuior (bright cobalt-blue flowers with a white centre), Lysimachia Nummularia, Saxifraga sarmentosa (mother of millions) and Nepeta Glechoma variegata.

A basket in which half-hardy plants are used will, of course, need protection from frosts. Where a greenhouse is available this is simple, or the basket, when planted, could be stood on an inverted pot in a cold frame.

A Beautiful Flower for a Town Garden.

ONE of the loveliest flowers for summer decoration is the sweetly scented Datura suaveolens, listed in some catalogues as brugmansia. Knightii is the double white variety. This plant has a woody stem and attains a height under very favourable conditions of 10ft. to 15ft. The leaves are elliptical and shiny above. The flowers are borne in August and are white and pendulous like candelabra. They are famous for their fragrance and their graceful habit.

Although strictly speaking a greenhouse shrub, the plant can be planted outside in the summer, particularly in sheltered gardens, such as are usual behind town houses. As a specimen tub plant there is nothing more suitable for the cool conservatory. The plants come to us from Peru, a country which has given us a wealth of greenhouse subjects. Naturally, being of fleshy growth, the plant requires rich feeding, especially when the flowers begin to show. It can be kept in a cool greenhouse during the winter, but it should be *almost completely dried off*. After starting into growth, the stems are cut severely back, just as one does with a fuchsia, to produce young shoots on which the flowers are borne.

DATURA SUAVEOLENS FLOURISHING IN A SMALL COOL GREENHOUSE.

Culture of Water Lilies in Tubs.

THE cultivation of water lilies in small town gardens is becoming increasingly popular. Among the new Marliacea hybrids, there are several beautifully coloured varieties which are quite easy to cultivate successfully. A depth of water of 9ins. to 18ins. or more is required for water lilies, according to the variety. If you have no pond, it is possible to make one by the simple process of sinking a tub into the ground, and many fine blooms have been secured in such a simple "lily pool." Most water lilies like a rich soil, and a simple and easy method of planting them is to use a wicker basket. Use a compost consisting of two parts rich loam, and one part decayed manure. In this the roots should be made very firm, and the crowns should just show above the surface of the soil. The basket can then be sunk in the water, allowing about 9ins. to 18ins. of water above the plant, according to its size.

Pygmæa alba is the smallest flowered variety, and this is very charming, producing masses of snow white flowers. It can be grown in quite a small tub. Marliacea albida is a very large plant, with a delicious perfume, and white flowers. The variety carnea is also fragrant, with flesh coloured flowers.

When new plants of water lilies are purchased, they should be immediately placed in water when they arrive and covered with a cloth to keep the sun from injuring the foliage.

If the plants come from a nursery near to hand and there has been little delay between the purchase and delivery, it is sufficient to lay a damp cloth over them for a short time until they are planted.

It should be remembered that all water lilies like plenty of sunshine, and if given the full sun will repay with an enormous wealth of blossoms.

A few goldfish in the lily pool are desirable, as they help to keep the water pure and also devour the larvæ of the mosquito.

NYMPHÆA MARLIACEA ALBIDA, A BEAUTIFUL WHITE WATER LILY FOR GROWING IN TUBS

The Town Gardening Handbook.—This volume, the official handbook of the London Gardens Guild, is now published, and is obtainable from all booksellers and newsagents. The price is, cloth covers, 2s. 6d., paper covers, 1s. 6d. It is the one book for all amateurs who garden in town and suburb.

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NOTES ON THE FLOWER GARDEN

Items for Present Attention.

FROM now onward many items requiring immediate attention will have to be dealt with, and can be performed to time with a little judicious planning. The following are among those which come under this heading: Lawns should be well swept and rolled and mowed weekly, after which the edges around the beds and borders may be trimmed. Fork through herbaceous borders lightly, cleaning off any weeds. Beds planted with spring-flowering subjects should, where possible, have the hand cultivator drawn carefully between them. The pruning of all roses should be finished at once, renewing the ties on pillars and ramblers where necessary—they will need it later on. Thin out growths of perennial phloxes where these are overcrowded, retaining the strongest growths only. Complete planting gladioli; and put out border carnations on well prepared ground, if not already done. Holly hedges may be clipped now, and ivy growing on walls may safely be cut back now. Wet days will be well spent in pricking off the various seedlings that are to provide display during the summer months.

Stakes of various heights to be used for support in the herbaceous borders should be pointed and tied in bundles, if this was overlooked during the winter months; also bunches of twigs for supporting sweet peas in their early stages. Make further sowings of any annuals that have failed. There is still time for these to make good any defects that may have occurred from this cause. Labels may also be written in readiness for sowing half-hardy annuals in the borders. These small details count for much when fine weather prevails and outside work can be proceeded with.—W. F. F.

STATELY HOLLYHOCKS IN THE SUMMER BORDER.

Hollyhocks as Biennials.

Seed Can be Sown Now.

AMONG the stateliest and showiest of our garden plants, hollyhocks are not the least important, their height, coupled with their freedom of flowering commanding attention. It is sometimes puzzling to anyone unacquainted with their rapid growth that comparatively small plants, put into their quarters in spring, should by August have thrown up a flowering spike anything from 6ft. to 8ft. Unfortunately, these handsome flowering plants are liable to attack by a fungus, which, commonly known as "rust" disease, plays havoc very speedily with the foliage and eventually destroys the plants, more particularly those which have occupied the same ground for a couple of years or more. This disease has led many growers of hollyhocks to treat them as biennials, sowing one spring for blooming in the summer of the following year. To do this, one is able to steer clear in a large measure from the fungus, as it gives one the opportunity of planting out in a fresh piece of prepared ground. I use the word "prepared" advisedly, inasmuch as there is scarcely any plant in the garden to which the term "gross feeder" can be more fitly applied. One has only to leave a plant to itself for two seasons, and after that to dig it up, to find that the roots have so permeated the soil as to rob it of every atom of nutriment. Besides this, plants which remain in the ground develop suckers. In the circumstances, it is not surprising that many who cultivate hollyhocks have come to the conclusion that it is much better to prevent disease than attempt to find a remedy for it; and the best possible way is to sow seed every year for blooming the next.

Preparation of Ground.—This is of paramount importance, and should be done thoroughly, trenching or deeply digging it, working in what rotted manure is possible. Should the soil be naturally very heavy, it is advisable to lighten it a little by incorporating sand or grit along with vegetable refuse or leaf-mould, leaving it rough for the winter if it is not intended to plant out before spring. Seed may be sown in boxes of light soil in a cold frame in May or June—or in a warm border in the absence of a frame—transplanted, or potted and left in the frame for the winter; but this latter is only essential in very exposed localities where it is scarcely worth risking planting out seedlings in late autumn.

Final Position.—Select a place for hollyhocks where the sun reaches them, and a tall stout stake for each is a necessity. In June, old manure as a mulch spread over the surface will greatly help them, and should the weather prove dry copious waterings and occasional supplies of liquid manure will do much towards building up the superb spikes of bloom that are an attraction to any garden.—W. L.

Violet Cultivation.

IT is usually thought that the pure air they require makes violet growing impossible anywhere near a large town. If, however, reasonable care were taken in the selection of a site for the bed, and they were given plenty of attention, they could be grown with success in many suburban gardens.

The safest varieties to start with are the single blue and white and the double Parma. If winter blooms are wanted, the best time for planting is April, and the preparation of the bed should be carried out at once. The best position for a bed is on the north-east side of a fence or hedge, but not in the shelter of a high wall or house; although the plants need partial shade during summer, they will not thrive in the dense shadow cast by masonry.

Any good garden soil will suit violets, but deep digging and careful preparation is essential. Heavy soil may be improved by the addition of road grit and leaf-mould, but rank manure should not be used, as it will cause the plants to "run to leaves." Very light soil is improved by burying old cow dung fairly deeply when preparing the bed, as this helps to keep it moist during summer.

When the young plants are received they should be planted out at once, at least 8ins. apart. If planting is done during dry weather, they should be puddled in, as it is important that they should become established as soon as possible. It is also advantageous to protect them at first with inverted flower-pots during the heat of the day.

The ground round the plants should be forked up frequently to prevent the formation of a crust, and they should be watered freely and regularly, not sprinkled, but given a good soaking.

All runners should be removed, as if they are left the older plants will soon become worn out and cease flowering.

If the position is sufficiently sheltered, winter flowers may be produced in the open, but to make certain it is as well in early autumn to transfer the plants to cold frames, where the crowns should be as near the glass as possible. They should be watered freely and have plenty of ventilation until it becomes necessary to take precautions against frost. Under these conditions flowers should appear early in November, and the period of flowering should be of considerable length.

Blue Alkanet.

Plant Out Now.

THE lovely blue alkanet (Anchusa) will at times suffer severely in the winter, especially where the soil is wet and cold. The propagation of these plants is such a simple matter that there is no reason why anyone should be without them. Often plants of blue alkanet are not so completely dead as they may appear to be and there is still some life in the fleshy roots. By means of root cuttings it is easy to secure large numbers of strong young plants in a short while. All that has to be done is to cut the fleshy roots into pieces a couple of inches or so in length and place them in pots of sandy

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soil in a frame. Keep the end nearest the crown of each piece of root (the part where the buds are) upwards and only just cover with soil. Avoid excessive dampness, and if the soil is moist at the start no additional water will be needed until the roots start to grow. They may be planted out in the borders at the end of April or in early May. The two best varieties of A. italica are the Dropmore and Opal.

Decorative Plants for a Sunny Border.

LIBERTIAS possess a charm of their own; from tufts of iris-like leaves, there appear in summer panicles of white flowers, persistent and decidedly decorative. They enjoy a warm border and a light, gritty soil and are propagated by seeds or by careful division of the roots in spring; frequent disturbance is undesirable and moreover, large established "pieces" possess a greater decorative value than do smaller plants. Bulbous subjects planted with libertias are very happily placed provided they are not crowded by their more ample neighbours; for instance, a warm border furnished with libertias, thinly planted and interspersed with tigridias, cypellas, etc., would be very charming, the iris-like foliage proving an admirable foil to the brilliantly coloured blossoms of the bulbs. The species usually met with are L. formosa from Chile, with white waxy flowers, and the somewhat larger growing L. ixioides, from New Zealand, with whitish blossoms, a coarser plant than the aforementioned species; grand flora, paniculata and pulchella are others not so frequently grown.—R. A.

LIBERTIA FORMOSA, WITH ITS TUFTS OF DARK GREEN IRIS-LIKE LEAVES AND SHEAVES OF HANDSOME FLOWER SPIKES.

The African Lily for Growing in Tubs.

FOR more than two centuries the African lily (Agapanthus umbellatus) has been grown in British gardens. The plant is not only handsome with its glorious blue flowers, but it is also extremely easy to manage. It is only needful to keep it free from frost during the winter, and many growers store their plants in a shed or a cellar during the cold weather. In warm, sheltered gardens of the south and west, the agapanthus does quite well in the open border, and here, in course of time, it will develop into a huge plant. Probably the plant would succeed in this way in many localities, especially if it was protected with dry litter or bracken during severe weather. Mostly the African lily is grown in large pots or tubs. It thrives best in ordinary potting soil, such as loam, leaf-mould, old decayed manure and coarse sand. Repotting may be carried out in the spring, but this is seldom desirable, as plants which have not been moved for some years flower best. Increase is easy by division of the roots, and propagation by seed is also possible.

With the return of fine, warm weather, it is most important that the agapanthus should have abundance of water. Frequent applications of liquid manure will also prove very helpful. During the winter resting period of the plant very little water is needed. Tubs or pots of agapanthus are very handsome when stood in prominent positions, such as by the side of a path or near the house door. In a sunny position the flowering season is prolonged over a considerable period.

There are six or eight varieties of the African lily. On the whole, most imposing is the type with its many-flowered umbels borne on stalks 2ft. to 3ft. high; the white variety alba has pure white flowers; maximus is of very vigorous growth with rather larger leaves; minor is a miniature African lily, needing only a 5in. or 6in. pot and growing to the height of about a foot—this plant flowers very freely; variegatus, a pretty sort with white green-striped leaves; and flore pleno has double blue flowers.

AFRICAN LILIES PLANTED IN TUBS ARE USEFUL FOR DECORATION IF GIVEN A POSITION ON THE ENTRANCE PATH TO THE HOUSE.

Plant Periwinkles to Cover Old Tree Stumps.

THE treatment of a tree stump often presents difficulties, especially if this, as sometimes happens, is in rather a shaded position. In such a position there is no plant so useful as the periwinkle (vinca) in one or other of its forms. Practically all these grow with rapidity in any soil or situation. The best plan is to set strong roots round about the base of the stump and then allow the shoots to trail over the wood. The common periwinkle (V. major) is of very vigorous growth indeed, and there are some fine forms with variegated foliage. The lesser periwinkle (V. minor) is a much smaller plant, but this also grows with great freedom and is more prone to ramble. There are several varieties well worthy of cultivation; a white-flowered one (V. m. alba), a reddish one, and some double forms, in addition to several kinds with variegated foliage. Two other species of periwinkle are to be recommended. The first, V. herbacea, is a native of Hungary, and is a very attractive plant with pale blue flowers; V. acutiflora, from southern Europe, has a habit of producing its delicate mauve blooms in the late autumn and winter, and is worth growing on this account alone. It should be noted that the last species must be given a sunny and somewhat sheltered position, as it is rather more tender than the other garden periwinkles.

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ENEMIES OF THE ROSE

Immediate remedial measures must be undertaken at this season whenever disease becomes apparent on your roses. Prevention is always better than cure, and timely and systematic spraying with approved washes will add greatly to the appearance and flowering qualities of the bushes.

TO the admirer of our national flower, the rose, it will come as a rude awakening to learn that there are over forty species of insects and at least a dozen fungus diseases which attack this popular plant. But he need not be unduly alarmed, for he can cope with nearly all the troubles by keeping a critical eye on his plants and spraying with the necessary materials as soon as the pest or disease is observed. Roses in most parts of the country are troubled with two pests—green fly (aphides) and caterpillars; and two fungus diseases—mildew and black spot.

Errors in Cultivation.

Excessive mulching with farmyard manures, and heavy dressings of nitrogenous artificial manures are to be avoided, for both these treatments induce sappy growth and delicate foliage, thereby laying them open to attack by aphides and mildew. Lack of potash in the soil accounts for increased susceptibility to fungus diseases, and this may be remedied by successive applications of wood ashes or kainit.

Badly drained soils and heavy waterings of light soils are to be guarded against, for the vitality of the plants is lowered, rendering them liable to attack by various fungi. Roses are lovers of fresh air and sunshine, but they are often grown in small enclosed gardens in which a static atmosphere is the rule rather than the exception, with the result that under such conditions mildew is rife. Failure to attend to the requirements of plants in the way of a plentiful supply of fresh air and sunshine is to court disaster. It is a fallacy, long exploded, that roses need a heavy clay soil, for they will flourish on light soils provided that they are supplied with the necessary nutrients.

Preventive Measures.

As wild roses act as hosts for nearly all the pests and diseases to which the cultivated plants are heir, attention should be paid to hedgerows in proximity to rose gardens and the wild plants treated against the troubles to which they have succumbed. All prunings should be burnt in order to destroy the eggs of various insects (*e.g.*, aphides and moths), the boring grubs of many sawflies and the resting stage of several pathogenic organisms. Fallen leaves are a constant source of trouble in carrying over many fungus diseases, especially black spot, and all leaves should be raked up in the autumn and burnt.

A SHOOT OF A ROSE BUSH AFFECTED BY MILDEW.

Remedial Measures.

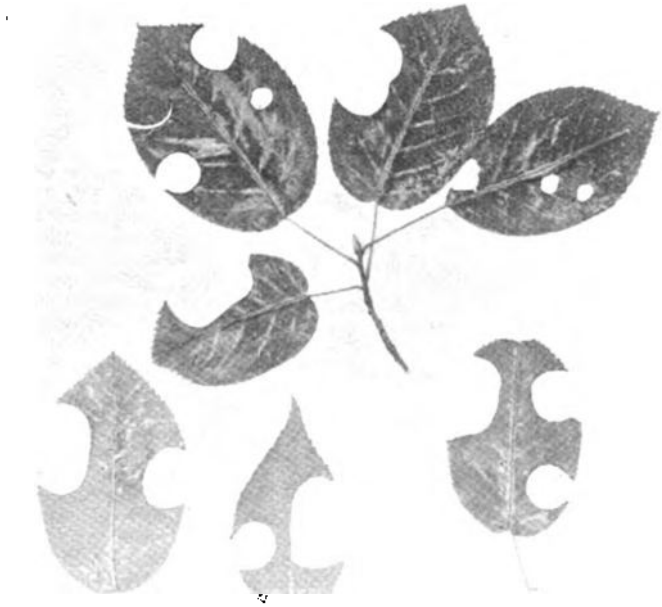
A great amount of useful work can be done by handpicking the caterpillars of moths and false caterpillars of sawflies, and destroying them in hot water or in water in which a little oil has been placed.

When spraying is resorted to, it is essential that an efficient machine be used, for disappointing results will follow the use of an inferior one. For use in small gardens it will be found that either a continuous-spraying syringe or a pneumatic (compressed air) sprayer will give satisfaction. The type of nozzle is another important factor in efficient spraying, and two kinds are necessary, *viz.*, a fairly coarse jet for use with contact washes against aphides, leaf-hoppers, cuckoo-spit and scale insects, and a fine nozzle which gives a mist-like spray for use with lead arsenate wash and fungicides.

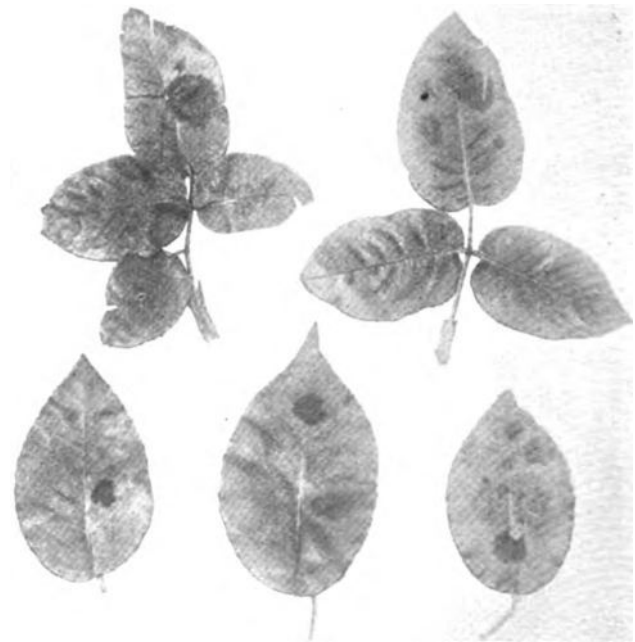
When spraying against sucking insects, a thorough drenching should be given to all parts of the plants, paying particular attention to the under surfaces of the leaves and the young growths. On the other hand, when lead arsenate wash or a fungicide is used, it is equally essential to coat both surfaces of the leaves thoroughly, but drenching must be avoided in order to eliminate waste by the wash running off the foliage on to the soil.

One application of any wash is usually insufficient to ensure control; this applies especially to lead arsenate wash and fungicides when they are used prior to unsettled weather. Never apply a spray fluid during hot, sunny weather, otherwise scorched foliage will result, and do not choose a cold day but rather wait until a dull, mild day or apply in the evening when the power of the sun is reduced.

Spray fluids should be obtained in a form ready for immediate use and always diluted with soft water. Useful insecticides against



ROSE LEAVES ATTACKED BY THE LEAF-CUTTING BEE.



THE BLACK SPOT FUNGUS ON ROSE LEAVES.

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(1) sucking insects are nicotine and soap, quassia and soap, and paraffin emulsion, and (2) biting insects are freshly ground hellebore powder and lead arsenate. Copper and sulphur in some form or other are the constituents of most fungicides, the best being Bordeaux and Burgundy mixtures, ammoniacal copper carbonate, liver of sulphur (potassium sulphide) and sulphur (flowers or green).

A useful combined dust can be made by mixing ninety parts of sulphur with ten parts of lead arsenate powder, and will be found most efficient against leaf-eating caterpillars, sawfly grubs, weevils and mildew.

To facilitate the identification of the troubles to which the rose is heir, we will consider them in tabular form. G. F. W.

INSECT PESTS AND FUNGUS DISEASES OF ROSES.

A.—INSECT PESTS.

Pest.	*Symptoms of Attack.*	*Remedial Measures.*	*Remarks.*
Green fly (aphides) ..	Yellowing of foliage, sometimes accompanied by curling; young shoots wilting and clustered with aphides; sticky exudations on lower leaves.	Frequent sprayings with nicotine soap wash or quassia soap.	Spray at first sign of pest to prevent destroying their natural enemies, *e.g.*, ladybird grubs, hover fly grubs, etc.
Leaf-hoppers	Yellow, mottled foliage; premature leaf fall.	Paraffin emulsion in June directing wash on to under surface of foliage and on ground around attacked plants.	
Cuckoo-spit	Spittle or froth-like exudation on stems and shoots.	Frequent forceful sprayings with nicotine soap wash.	
Scale insects	Scale-like growths on stems and shoots.	Forceful applications of nicotine soap wash in spring. Rub off old scales in winter with brush dipped in methylated spirit.	
Thrips, red spider ..	Mottled foliage; flowers discoloured.	Frequent syringings with clear water; use nicotine soap in bad attacks.	Choose a dull day for the treatment of the flowers.
Gall "fly"	Moss-like growths on leaves and stems.	Cut off and burn galls in August.	Bush roses susceptible. Cut off galls on hedgerow plants.
Moth caterpillars, false caterpillars of sawflies, leaf weevils.	Foliage and flowers eaten entirely or skeletonised; young shoots devoured.	Handpicking. Lead arsenate wash soon after buds open out and again later.	Watch for egg masses of lackey and vapourer moths in winter and cut off and burn.
Leaf-cutting bee ..	Circular and oval areas cut out of leaves	If bees can be traced back to nest, it should be destroyed at night when the makers are at home.	
Leaf-rolling sawfly ..	Leaves rolled and folded over.	Handpick the rolled leaves and burn. Early sprayings with paraffin emulsion will act as a repellent to egg-laying. Removal of top 4ins. of soil round bushes in December, replace with fresh soil.	Susceptible varieties: Tea Rambler, Captain Hayward, Baroness Rothschild.
Boring sawflies ..	Shoots dying through tunnelling of larvæ.	Cut off and burn affected shoots.	
Tortrix moths, caterpillars.	Leaves spun together and devoured; flowers and buds eaten into.	Early applications of nicotine soap wash to kill young larvæ before they spin.	
Chafers: garden, rose and cockchafer.	Foliage and petals devoured by adults; larvæ of two last-mentioned feed on roots with result that plants wilt and appear unhealthy.	Handpicking or jarring chafers on to greased boards on dull days; handpicking larvæ and forking in naphthalene round plants just before rain.	Flowers of climbing varieties preferred.
Weevils, raspberry, etc.	Buds, foliage and young shoots devoured.	See under chafers. Trap adults in May and June under pieces of sacking placed round attacked plants. These insects are nocturnal feeders and hide away in daytime.	

B.—FUNGUS DISEASES.

Mildew	Whitish spots on young foliage, later spreading over entire leaf, causing distortion and leaf fall; patches later turn brown.	Frequent dustings with green sulphur or spray with liver of sulphur and soap, Bordeaux mixture. Burn prunings.	Susceptible varieties are Mrs. John Laing, Mme. Gabriel Luizet, Mrs. R. G. Sharman Crawford, Joseph Lamy, Philadelphia Rambler.
Black spot	Black and purplish spots on upper surface of foliage leaf fall in bad attacks.	Early applications of Bordeaux mixture or ammoniacal copper carbonate. Pick up and destroy fallen leaves; burn prunings.	Susceptible varieties, Juliet, Una, Grüss an Teplitz.
Rust	Rusty patches on foliage which later become dark.	Pick up and burn diseased leaves; cut out and burn diseased wood; spray as soon as buds burst with liver of sulphur and soap.	Common on wild plants in hedgerows.
Leaf scorch	Scorched-like patches on foliage; premature leaf fall.	Pick up and burn fallen leaves; spray as soon as buds burst with liver of sulphur and soap.	
Chlorosis	Leaves become yellow and shrivel; premature leaf fall; stems sickly.	Spray plants with iron sulphate, 1 oz. dissolved in 6 galls. water; lightly fork in 1 oz. iron sulphate crystals round each plant in early spring.	Prevalent on calcareous soils.

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MOWING AND MOWING MACHINES

THE beneficial effect that close and regular mowing has on turf is simply extraordinary, and the truth of this is very apparent to the observant. If grasses are allowed to grow to maturity and seed the plants are actually exhausted, many die, and the growth of the rest for the remainder of the year is negligible, unless the season happens to be warm and wet.

If, on the other hand, it is regularly mown short, the strength of the plant is thrown back to the roots, which form a dense mat and throw up a multitude of fresh green blades in place of a few, relatively speaking. Such continue to grow as long as moisture and temperature permit, and so form what we know as turf.

When grass is not cut, the tall varieties submerge those of a dwarfer character; but if it is closely mown, exactly the opposite happens and the dwarf grasses expand, crowd and starve their more robust relatives.

The change in the condition of turf from coarse to fine has led to much controversy, and it has actually been stated that the variety and nature of grasses can be changed by close mowing. This is only half true; the variety of grasses cannot be changed by mowing, but their habit of growth can.

Some broad-leaved grasses can be forced by partial exhaustion to produce finer herbage by constant mowing, others die out, and the finer varieties become more prominent.

The average lawn that is abandoned during the winter assumes a coarse, dingy, ragged appearance, which is not wholly eliminated until it has been mown several times in the spring. This clearly proves the importance of close mowing all the year round if a fine, close, durable turf is required.

Roller Machines with a 12in. to 16in. Cut. Until quite recently, mowing machines had developed to a pitch which became practically fixed, and little or no improvement was made in them. A new machine, however, was put on the market by the J.P. Super Lawnmower Company, which embodies many novel and valuable features. The machines are made in two sizes, 12in. and 16in., their mechanism is both dust and dirt proof and runs in oil, with the consequent reduction in friction. Ball-bearings are fixed to the back axle and rotary cutting cylinders, which makes them easy to push; while the adjustment for setting the cutter and the roller bearing front rollers is effected by two hand wheels, which simplify matters and eliminate spanners.

Then Ransomes brought out their "Marquis" with a 12in. and 14in. cut, which is claimed to be the only machine on the market fitted with ball bearings at every journal.

Other excellent machines are Ransomes' "Automaton," Shanks' "Caledonia" and Green's "Silens Messor." All these are offered with gear and chain drive in many different widths of cut. The gear-driven type requires fewer adjustments than those driven by chains, but the latter type is easier to push and gives the better results.

Side Wheel Machines, 13in. to 19in. Cut. These are very easy to push, but, unfortunately, they do not give the pleasant "light and shade" effect of the roller machine, and can only be recommended by those who want to get over the work as quickly as possible without regard to the finished effect.

GREEN'S "SILENS MESSOR" LAWN MOWER.
An efficient hand-power machine.

Many people own good and efficient machines of well known makes, and, although desirous of cutting out hand labour, hesitate to scrap their machines and purchase a motor mower.

This class is adequately catered for by what are known as motor pushers. These are self-contained power units, which can be attached to any make of lawn mower of the roller type with a cut of from 16ins. to 27ins. I have personally operated the "Rendle Motor Pusher," both with a mowing machine and a heavy roller, and it did its work splendidly. Ransomes also make one which carries the operator as well as pushing the mowing machine. The running costs of these machines are very small, as they consume only about one pennyworth of oil and petrol for each 1,000 sq. yds. mown, or about 5d. an acre.

The motor proper developed slowly from a makeshift combination of a lawn mower fitted with a petrol engine, to self-contained, complete and efficient units, designed from start to finish by experienced motor engineers. The motor mower is, without doubt, the machine of the future, and those who have any doubts in regard to its reliability, efficiency and economy should, if possible, make a trial of one of the numerous makes.

Many gardeners are, perhaps, a little conservative, being content with the old hand machines; but after working for one day with a motor machine they will be converted by its success, as it undoubtedly cuts out half the mowing hours and three-quarters of the labour.

There is no doubt that hand and horse machines are doomed, for the simple reasons that they are uneconomical in time and labour and not as efficient as the power machines. The secret of good mowing lies in the excellence of the bottom blade, the diameter of the cutting cylinder, the number of knives fitted, and the speed at which it revolves. It is obvious that bottom blades of equal merit can be fitted to any class of machine, but the size of the cutting cylinder and the speed at which it revolves are strictly limited in hand-operated machines, because any increase in either calls for extra effort which is not forthcoming. This disability cannot, however, be associated with power machines; it is simply a question of design; and as a power machine does not get tired towards the end of the day, the machine travels along and the cutting cylinder revolves at the designed speeds without variation.

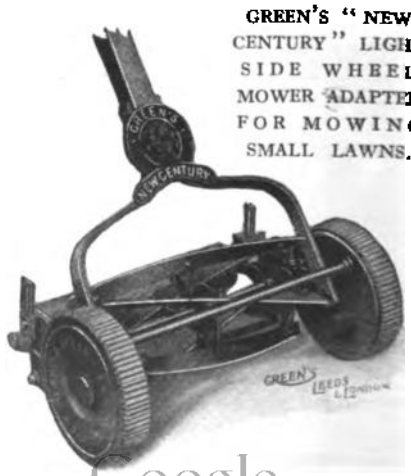
The secret of good turf lies, to a large extent, in close and frequent mowing, and as power machines will cut as closely as they can be set, without extra effort, it is plain that they have an enormous advantage over the hand machines, which are difficult to push if close set, unless, indeed, the grass is cut daily during the growing season.

How to Choose a Machine.

For small areas, where a power machine would, obviously, be uneconomical, there is

RANSOMES' "MARQUIS" LAWN MOWER.
A serviceable machine for general use.

THE J.P. SUPER LAWN MOWER IS LIGHT RUNNING AND HAS ADJUSTABLE CUTTING BLADES.



GREEN'S "NEW CENTURY" LIGHT SIDE WHEEL MOWER ADAPTED FOR MOWING SMALL LAWNS.

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no alternative but to use a hand machine. For large areas, select a power machine with a cut of 16ins. to 42ins., according to acreage and circumstances.

In order to arrive at the most economical machine, let us take a definite area of an acre and find out the distance machines of various widths will have to travel to mow it. With this information, it will then be an easy matter to make the same calculation for any area. As this is purely for the sake of comparison, no allowance is made for turning or overlapping, as both of these depend on the skill of the operator and the shape and lay-out of the ground.

Width of Cut in inches.	*Distance travelled in yards.*
12	14,520
14	12,445
16	10,890
18	9,680
20	8,712
22	7,920
24	7,260
30	5,808
36	4,840
42	4,148

Motor Mowers, 16in. to 22in. Cut.

There is a wide range of such excellent machines that it is a matter of very great difficulty to make a choice and one is usually influenced in the end by some unimportant feature. There is, however, one very important point to bear in mind when buying mowing machines: that it is best to buy from an established firm with a good reputation. Some buyers put price before everything, and they are right in doing so if the price is right; but if they simply buy the cheapest they generally buy trouble. Full particulars of these various makes will be found in our advertisement pages, and the information given there should be studied closely, and further particulars obtained from the respective makers.

A DENNIS MOTOR MOWER IN USE.

This machine is among the best of the heavier type of motor mowers and is suitable for use in large areas.

Motor Mowers, 24in. to 30in. Cut.

Many firms also make this class of machine, but the great break is made by the "Dennis," which is built on the lines of a motor with a specially designed chassis. The 4 h.p. four-stroke engine is easier to start than the usual two-stroke, and the driving rollers are fitted with differential gear in accordance with motor car practice. It has many other strong points, and, like most other powerful engines, can be fitted with a trailer seat.

It is obviously impossible, without taking up an enormous amount of space, to discuss the question of mowing machines closely. Many have been passed over altogether, or with only a few words, that may be excellent machines. In fact, I have only attempted to draw attention to the outstanding features of some of what I consider to be the best.

How to Clean Mowing Machines.

The majority of people are reluctant to bring water into direct contact with mowing machines, and yet they do not hesitate to use them when the grass is heavy with dew or drenched with rain, and put them away covered with wet grass and dirt, which dries and hardens into position.

All mowing machines—hand, horse or motor—should be thoroughly cleaned every day by using a hose or water can and a soft brush. The water will quickly remove all the grass and dirt from the knives, gears and machine generally, without doing any damage at all; the paint and oil will protect the metal. After cleaning, run the machine for a few seconds with the handles depressed and the blades clear of the ground, and so get rid of as much water as possible; then oil and grease where necessary, and it will be clean and ready for use when next required. The motor of a power machine should not be cleaned with water; all that need be done is to wipe it over with a greasy swab.

REGINALD BEALE.

FOR SCOTTISH GARDENS

Seasonable Work in May—Planting and Treatment of Vegetables.

TO the amateur who cultivates his own garden May is a month when there is not the same necessity to observe the "ca' canny" policy which guided his efforts earlier in the season, for the risk of injury to plant life arising from the vagaries of the climate is almost negligible in a normal year. Main crop sowings of vegetables are among the first operations that demand attention, and hardy annuals should also be sown in the beds or borders where they are to flower, and by the third week a start may be made with the interesting work known as the bedding out of summer flowering plants.

When sown in May, turnips has less chance of running to seed than plants that were sown earlier in the season, and in small gardens where there is only room for one crop it is customary to rely on the later sowing which provides the household supply of turnips from the beginning of July onwards.

Beet is usually grown for winter use, and as the plants have a very long period for development it is not advisable to sow earlier than the middle of May. If space has to be considered, it is a good plan to adopt a system of crop rotation by sowing beet at a much later date in ground previously occupied by spring cabbages and first early potatoes. As the plants require to be thinned out to 4ins. or 5ins. apart, the seed should be sown thinly in narrow drills sufficiently wide to enable the hoe to be used freely, and a light dressing of nitrate of soda or sulphate of ammonia at the rate of 2oz. to the square yard applied in the last week of July or early days of August has a beneficial effect on the weight of the roots.

Dwarf beans are occasionally disappointing in small gardens, but the cause lies not so much in the soil ro situation but in wrong methods of culture. As beans of the dwarf French type are very tender and are susceptible to cold winds or late ground frosts, it is not safe to make the first sowing before the end of May, and when allotted a sunny position in the border they seldom fail to produce pods in abundance in late summer and early autumn. A secondary cause of failure is overcrowding. There is a tendency on the part of inexperienced gardeners to sow the seed too thickly and afterwards fail to appreciate the benefits of judicious thinning. Well grown plants require a minimum space of 6ins. between each, while the rows should be at least 18ins. apart. No special preparation of the ground is necessary beyond that provided for leguminous crops, but a sprinkling of nitrate of soda between the rows during growth promotes production and weight. Moisture is essential to success. During dry weather the plants should be soaked twice a week, and when the pods have come into bearing they should be pulled while they are quite young and tender. When allowed to develop the pods become coarse and tough, while the plants go out of bearing more readily.

With the advent of May, cauliflowers that have been hardened off can be planted out of doors in their permanent quarters. Cauliflowers are not cultivated in Scottish gardens as extensively as the other members of the brassica family, because, being more tender, they are not so easily grown, while losses are a common experience in consequence of attack by maggots and other ground pests. Another objection which is sometimes urged against the cauliflower is that the hearts all mature about the same time, and consequently some of them decay before they can be used. Small growers seldom raise their plants from seed, but depend on the nursery trade for their supplies. In this connection a word of advice may not be out of place. Try to obtain autumn-sown plants. Though they may be smaller in size they are hardier and better provided with roots than the spring-sown specimens. The latter are deceptive in their appearance. The large leaves are of a delicate green shade of colour, but as they have been grown in frames and put into the market before they are thoroughly hardened the plants are softer and collapse more readily when transplanted. Cauliflower should be put out in a dull or showery day when the soil is moist, and they should be plentifully supplied with water in dry weather, otherwise they are liable to form heads that are too small for table use. As a protection against the small white maggots which attack the stems and roots place the plants in a puddle composed of water, soil and soot, and place a creosoted disc round each stem so that it will rest on the surface of the ground. These discs are most effective for the purpose and are cheap to purchase. Allow a space of 18ins. between the plants and 24ins. between the rows. Like all other members of the cabbage family, cauliflowers take a great deal of nourishment out of the ground, which should be deeply dug and well manured beforehand. Firm planting means firm growth, and a light dressing of nitrate of soda given three or four weeks later is advantageous to the development and maturity of the plants.

ST. MUNGO.

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WHAT OUR READERS SAY

CHOICE FLOWERING SHRUBS.

SIR,—To persuade a man to change his politics is a difficult task, but I verily believe such a task fades into insignificance compared with that of persuading an amateur gardener to curtail a certain line of his hobby and develop another. In true British fashion he places his back to the wall and defies all comers to prove that any other phase of gardening is better than his, and it is this attitude I would like to see proved wrong.

The phase of gardening I would like to see made much more popular is the cult of the flowering shrub, particularly the so-called tender or half-hardy sorts, which may be easily grown by thousands of people living around our sea coasts. That these choice subjects are not confined to Cornwall and the Scillies is proved by the fact that they are grown on many parts of the coasts of the British Isles. Mr. T. W. Briscoe, a constant correspondent to this journal, has charge of a wonderful garden at Chepstow, on the Severn; Sir Herbert Maxwell has often described the choice plants growing in his gardens in Scotland; Lady Byng is planting many tender shrubs at her home on the East Coast; while in Ireland a number of gardens exist in which these subjects flourish and prosper.

Why, then, are they not more grown in our coastal districts? The answer was given me by a friend last week who had seen Erica melanthra, Edwardsia tetraptera microphylla and Erica australis in full bloom for the first time in his life. "I couldn't grow them and could not afford them." This from a man who grows about a thousand rose trees for a hobby and whose garden is ideally situated for such shrubs! The cultural treatment presents no difficulty, and 7s. 6d. would purchase the three shrubs and all their beauty, while scores and scores could be raised from seed at less than half this cost. Again, I believe the very beauty of many shrubs leads people to think they are extremely difficult to grow, and I am sure that few could see Acacia Baileyana, with its delicious fragrance and yellow glory, or the leptospermums with their masses of white or pink or deep crimson flowers and copper-coloured leaves, or a wind-break of Metrosideros tomentosa towering towards the heavens and presenting a sheet of scarlet flowers for the world to admire, without desiring the same plants for their own gardens. Yet if only it was realised that the growing of such shrubs is as easy as growing laurels, hydrangeas and even privet, and if only the veil of ignorance that surrounds them was lifted, I am certain they would be added to hundreds of gardens.

Any of the following, to mention only a few, whether grown as a single specimen or in groups, would be a thing of beauty, if not for ever, at least for many, many years, at a minimum amount of expense and labour: Cassia corymbosa, Tricuspidaria lanceolata, Diosma gracilis, D. uniflora, Embothrium coccineum (the Fire Tree), eucryphias, Fremontia californica, leptospermums, some of the olearias and acacias, Gaya (Plagianthus) Lyalli, Prostanthera rotundifolia, callistemon and metrosideros, and Lomatia ferruginea.—P. E. CHAPPELL, *Cornwall.*

WATERPROOFING A CEMENT PATH.

SIR,—I was very interested in your correspondent's letter about making a cement path, but I have always found that cement yields a certain amount of dust when swept, and your readers may like to know of a remedy for this. It is the colourless waterproofing liquid that is used for damp walls—there are many brands on the market, such as "Waterex" and "Szerelmey" liquid. Put on after the cement is dry, it causes a film impervious to water and assists greatly in the preservation of the surface.—B.

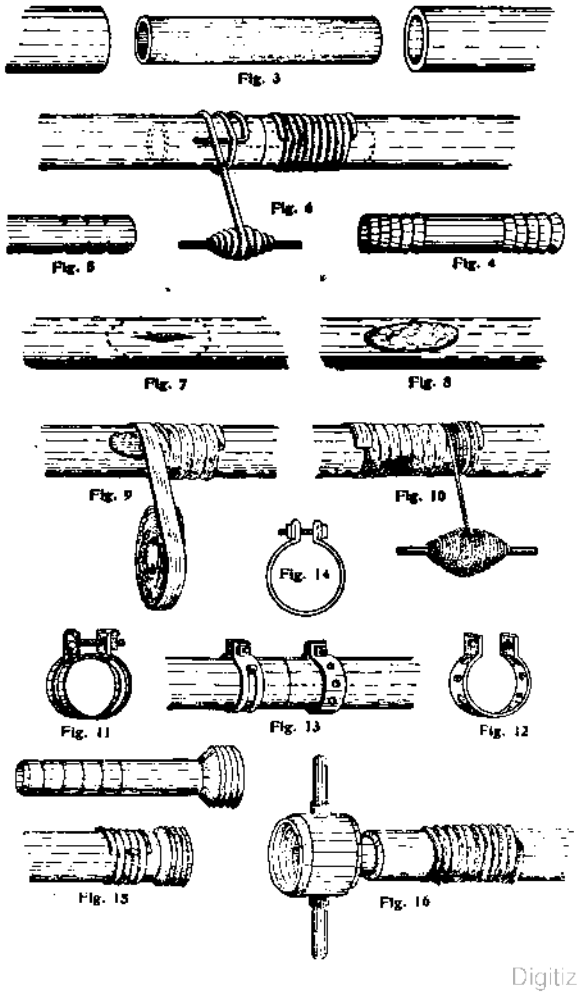
THE CARE AND REPAIR OF GARDEN HOSE

ORDINARY garden hose is made of rubber and is generally strengthened by an internal lining of canvas, either 1-ply, 2-ply or 3-ply, the latter being the strongest and able to withstand a considerable water pressure. It is made in three sizes, ½in., ¾in. and 1in. A much stronger variety of hose in the above sizes and in 2-ply and 3-ply, is bound or armoured with coiled wire. With careful use, garden hose will last for many years, but when not in actual use, it should be coiled up and hung in a cool, dry place, being rubbed with a rag dipped in glycerine to keep it soft and pliable. At the end of the season, all water should be drained out of it and it should be kept free from frost. When again put in use, the next season, it is best placed in a tub of water for a short time. This has a softening action and prevents the rubber from becoming hard and brittle.

Damage to hose is generally caused by allowing it to lie on the ground where it can be trodden on, or by exposing it to extremes of heat and cold. To prevent damage, the hose should be coiled on a reel after use and placed in a convenient position out of the way.

The usual method of attaching a length of hose to the water tap is either by means of a brass union joint which is screwed to a specially made tap, or by the tap union shown at Fig. 1; this union is made to fit the usual sizes in taps and hose. The rubber cone is the only portion liable to wear, but it is easily renewed by unscrewing the top portion, as shown. Another method of attaching hose to a tap is by means of a brass clip, as at Fig. 2, which shows a length of armoured hose attached to the end of an ordinary tap. It is a good plan to fit about 12ins. or so of coiled wire on all lengths of hose at the tap union end, as the tubing is liable to be bent at this point.

When it is necessary to join two lengths of hose, either to lengthen it or to cut out a damaged part, the two ends should be pushed over a length of brass or iron tubing, as shown at Fig. 3. Specially made connections are available to suit the various diameters and are shaped as at Fig. 4, and although these connections are convenient, any kind of tubing, provided it is of suitable diameter, can be used, but the ends should have file cuts, as at Fig. 5. The hose should be secured to the connection with copper wire of 18 gauge, and in order that considerable pressure can be applied when binding, the wire should be wound on a length of round wood, as shown at Fig. 6. Begin binding by folding a short length of the wire at right angles and place this end in line with the hose, next wrap the wire as tightly and as closely as possible and finish off by pulling the end under two strands, a hole being made with a bodkin or a wire nail.



Splits in the hose, provided they are isolated, may be repaired by covering the hole with a rubber patch. The rubber surrounding the break, as at Fig. 7, should be cleaned with fine glasspaper and then coated with rubber solution, apply the same liquid to a rubber patch and when tacky, press in position. The patch should be pressed firmly in position, as at Fig. 8, and then the hose bound with insulating tape, as used by electricians and shown at Fig. 9. The tape may be covered afterwards with string, as at Fig. 10, this will make a perfectly sound job.

Other methods of joining two lengths of hose are shown at Figs. 11 to 16, the first being a brass clip, as shown at Fig. 11. A good clip can be made from Meccano strip, as at Fig. 12, and also at Fig. 13., or with a length of brass strip, about ½in. wide and one-sixteenth thick, as at Fig. 14. The metal screw unions shown at Figs. 15 and 16 are useful for large diameter hose; they should be attached with wire in the ordinary way.

An exceedingly useful hose connection is shown at Fig. 17. It is obtainable at any general merchants. Its advantage over other forms of hose connections is the simplicity with which it can be attached, and, although it only takes a minute or so to fix, the joint between the two lengths is strong enough to stand the considerable strain that garden

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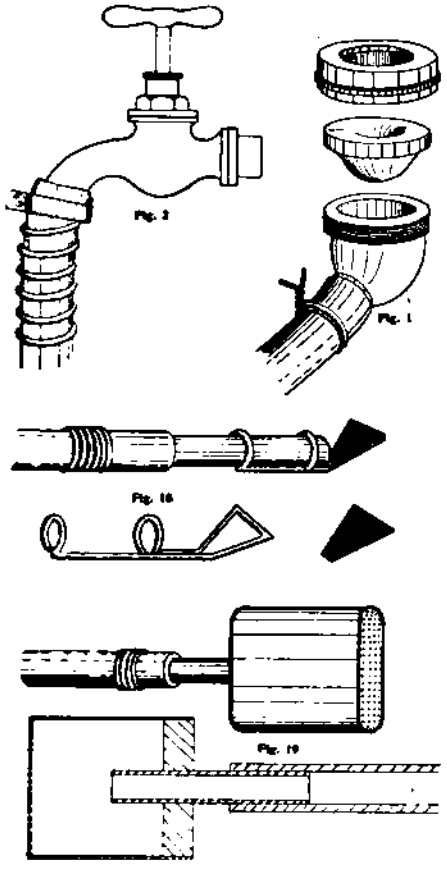
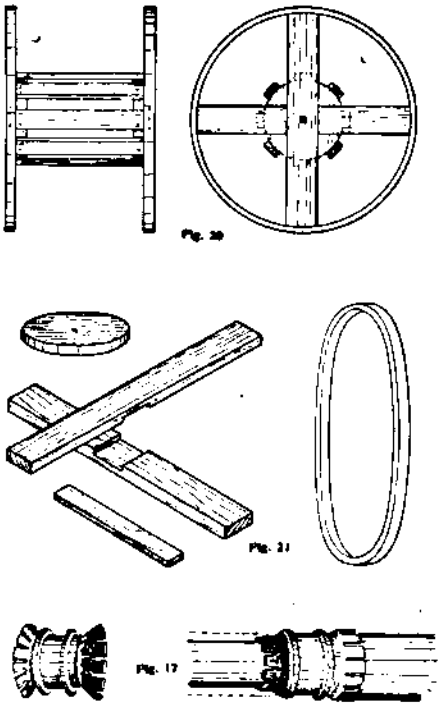


hose is subject to and, what is quite important, lengths of hose of different diameters can be joined together with the same fitting. Those who do not wish to make their own fittings cannot do better than obtain these.

There are several kinds of branch pipes, fitted with jet and rose, available, but at times it is convenient to use a spreader, particularly when watering borders. An easily made spreader is shown at Fig. 18 this consists of a length of galvanised or brass wire bent to the shape shown and then soldered. The sprayer may be a plain piece of tinned sheet iron or zinc, but galvanised gauze is particularly effective. If the wire is fairly stout, about 14 gauge, it will be quite strong enough to stand rough wear. Another form of sprayer is easily made and consists of a small tin, as shown at Fig. 19, with perforated end. The bottom of the tin is punched with fine holes, and a ½in. thick piece of wood inserted at the top; the sides of the tin being secured to it with brass screws. The hole for the branch pipe should be a tight fit and when the sprayer is in use the water will cause the wood to swell and prevent any leakage.

Several forms of hose reel are obtainable and, as the use of this appliance is essential to the preservation of the hose, one should either be bought or made. Certain of the metal drums now on the market are excellent and will satisfy every need, but to those who prefer to carry out the work for themselves, the following details may prove useful for making a simple type of wooden drum. A simple form of reel, made of wood, is shown at Fig. 20, and consists of two hoops with a cross framing, to which a drum is attached. The various parts are shown at Fig. 21 and comprise two ordinary wooden hoops about 18ins. diameter, or two hoops from a cheese box; two frames of wood, equal in thickness to the width of the hoops, the same length as the diameter of the hoops and about 3ins. wide. The cross pieces are



joined together by means of a lapped halving joint, as shown, and are shaped to the same curve as the hoops, to which they are nailed or screwed. The drum is made from two pieces of 1in. wood cut to a circle 9ins. diameter and then joined with at least eight lengths of 1in. wood cut to a length of 12ins. and a width of about 1½ins. When complete the reel should be coated with paint or varnished, making it a well finished and attractive job.

SUCCESS IN THE AMATEUR'S GREENHOUSE

Careful ventilation. Judicious watering. Ample space for every plant. These are ideals the amateur cultivator should strive after.

THE amateur's greenhouse is not always the success it might be, and in most instances this is by no means due to lack of zeal on the gardener's part. Often enough the reverse is the case. Gardening under glass is not the same as outdoor gardening, and no doubt hundreds of amateurs fail through what one might call "cooking" their plants. The best plan where there is one small greenhouse is to have it heated just sufficiently to keep out frost or to maintain a temperature of about 45° during hard weather. In such a house it is possible to grow many plants and flowers useful for taking into the house. In summer, tomatoes may be grown, together with tuberous begonias, and such pot plants as will do under the shade of the tomato foliage. A very common fault in such houses is overcrowding. Too many plants are grown, with the result that none succeeds as it should. Another fault is in failing to ventilate the house adequately. Air *must* be admitted on all favourable occasions, but care must be taken to avoid draughts. What is needed is air without a cold draught. Some greenhouses have a very poor system of ventilation—the writer's, when he first began to use it, had very little bottom or side ventilation, and until this was righted nothing would grow really well. The ideal in greenhouse management is an equable temperature. This is obtained by fire heat in cold weather and judicious ventilation in warm weather. The present is a most trying time for the novice, because the sun may shine brightly and yet very keen winds prevail. Experience alone will tell just how to deal with difficulties, but when cold winds prevail we must ventilate first of all on the "leeward" side and be most careful of draughts on the windward side. One thing is certain, then—success depends upon *air*.

Watering of pot plants is a point needing more than ordinary care. The person who waters his greenhouse plants to time-table is asking for trouble (and usually gets it). At the present time watering should be done in the forenoon, where possible, and none done late in the day. There is no rule about watering. Perhaps the best advice is to let a plant become almost dry, then give it a good soaking. Little dribblings lead to trouble.

Among the many suitable plants for the amateur's greenhouse, primulas will always be favourites. In a greenhouse where frost is kept out these plants do very well indeed, and provide a display of colour in winter; in fact, a succession may be kept up by sowing seeds at intervals from now until July. For autumn and winter display seed should be sown now and in succession for later blooms. Primulas are of very easy culture. The seed, which is somewhat erratic in germination, is fine and needs no covering. The plants are best grown as cool as possible—damp is their greatest enemy in the colder months. When the seedlings are ready for potting the cold frame will suit them best, where they may stay, shaded from strong sun, until the end of summer. P. malacoides in all shades of mauve pink, and in white, is a general favourite. P. kewensis is yellow and worth growing. P. obconica is certainly very choice and prolific, the newer varieties being very fine. However, in spite of claims often made to the contrary concerning the newer varieties, this plant affects some sensitive skins, bringing out an uncomfortable rash on many. A little vaseline smeared on the hands before handling the plants is said to ward off ill effects.

Another useful plant for the novice is the cineraria. A great point in growing these plants is to keep them on a cool ash bottom, and shade from strong sunshine. They are apt to be attacked by black fly, but periodical fumigation will keep this pest at bay.

It is quite possible, also, to succeed with azaleas in the amateur's greenhouse, for, although so often forced, these plants really like cool conditions. The best varieties are expensive, but quite suitable plants may be purchased from nurserymen in the autumn. After flowering, the plants are syringed and kept in the greenhouse, later being stood outside in partial shade for the rest of the summer. When flowering, care must be taken to keep the blooms dry.

Success in tomato culture depends on careful ventilation, and watering in early stages. The house must be kept dry. Quite a number of amateurs of my acquaintance grow only tomatoes in summer and chrysanthemums in autumn. However, in such cases it is not wise (where there is only one greenhouse) to try to raise your own seed. The fairly high temperature required by the latter will spoil the chrysanthemums. The only course is to purchase plants (from a good source) ready for final potting.

An article which appeared in THE GARDEN on January 29th, listed half-hardy and hardy annuals for pot culture: these are useful, and plants may be purchased now from advertisers in these pages. In conclusion, may I repeat the rules for success—careful ventilation, judicious watering, space enough for each plant to develop.

T. H. H.

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THE KITCHEN GARDEN

Tomato Plants to Fruit Outside.

PLANTS that are grown in the open air throughout the summer are subject, of course, to the weather conditions prevailing. We do not know what kind of weather we shall experience, but we do know that a good beginning is very essential to success, and we can all make that good start because it is possible to buy splendid forward plants from firms advertising in THE GARDEN if we cannot raise them in our own gardens. It is not safe to plant out the tomatoes before the end of May without adequate protection, but it is advisable to look well after the plants in the meantime. Their general treatment in a cold frame now is contained in the following points: To remove, every week, the tiny side shoots growing from the axils of the main leaves and main stems; to attend to ventilation and watering daily. Growing close together, the plants do not require water very often, only sufficient to maintain the soil in an even state of moisture. But they do need ample supplies of fresh air during fine days, and also on dull days if direct cold currents of air can be avoided. This treatment is conducive to sturdiness of plants. Prepare the outside border now.—HANTS.

Thinning Out Seedlings.

UNFORTUNATELY, owing to the recent heavy and very frequent rains, tiny slugs have done much harm in the vegetable garden in some districts. Carrots, radishes, lettuces, especially, have suffered a great deal, and instead of thinning out the crops of carrots more seeds must be sown. Where the soils are naturally light the young seedlings have not been eaten badly. Some growers are afraid to thin their crops at an early stage as they fear blanks; but there should not be any hesitation on this point, especially in the case of carrots, parsnips, beet and turnips. When the surplus seedlings are removed at an early stage, their careful withdrawal does not unduly disturb those seedlings retained, and the carrot fly grub cannot gain establishment easily. The tiny isolated seedlings—by isolated I mean seedlings growing, perhaps, about 1in. away from others that are crowded—along the rows are the ones to retain; but as a rule the seedlings grow more closely together, and then it is necessary to select the one you want to keep, place a finger on the soil close to it and then draw out those not required, and so prevent undue disturbance of the little tap-root. Immediately the rows are thinned use the Dutch hoe between them and also water the retained seedlings with clear water passed through a fine-rosed watering-can. This should be done to settle the soil firmly around the plants, when they will make rapid progress.

The First Crop of Dwarf Beans.

THE first crop of these beans is, sometimes, a failure or a partial one. They may not fail totally, but as a remunerative crop are often most unsatisfactory. Sowing the seeds too early in a cold, retentive soil is the main cause of failure. I have tried early sowing in the open border—early in April—and found that the resultant plants did not make the same satisfactory progress as those resulting from seeds sown late in that month and early in May. If the soil is of a heavy nature, the best plan will be to sow seeds in May; if sandy, light and naturally warm, the first sowing may be made late in April. Dwarf bean plants must grow rapidly if they are to flower freely and bear a heavy crop of succulent pods. Starved, checked plants are of little value. Select the warmest border now in which to sow the seeds. Later on a more open quarter will be advisable, as from midsummer to early in August the very warm border would be conducive to the spread of red spider on the plants. The soil should be rich and deeply dug, and early varieties should be selected for this sowing. Many cultivators sow the seeds in double rows; if ample space be left between the double lines, fine crops may result. But I much favour the sowing of the seeds at 7ins. apart in single rows 18ins. asunder. Each individual plant has ample room to grow in and the pods grow straight all round the upright specimens. If it is convenient, have the rows of plants due north and south. Bury the seeds 2ins. deep.—G. G.

THE SPRING ROSE SHOW

ALTHOUGH the Spring Show of the National Rose Society on April 22nd last was not equal in merit to those of former years, there were sufficient exhibits of good quality to engage the attention of the large attendance. Princess Mary came early in the day and made a prolonged inspection of all the exhibits. To the general garden lover the chief points of interest lay in the large trade exhibits, which contained many splendid blooms. The new rose stand drew the accustomed crowd of enthusiasts, but, apart from the gold medal variety and two new dwarf polyantha varieties, the seedlings did not require prolonged inspection. In several of the trade exhibits the new dwarf polyantha named Golden Salmon, attracted a deal of admiration. It is an especially bright variety that will be an effective plant in the garden.

The large trade groups of cut roses were very beautiful, and Mr. Elisha J. Hicks won the first prize with a handsome arrangement of generous pillars of Lady Reading, Coral Cluster, Paul's Scarlet Climber, Lady Hillingdon, Maréchal Niel and Mme. Butterfly, rising above vases of such H.T. varieties as Charles E. Shea, Souvenir de Claudius Pernet, Angele Pernet, Maman Cochet, America and Mrs. George Norwood. The second prize was won by Messrs. B. R. Cant and Sons, who had vases of Mrs. Beatty, Lady Wakefield, Golden Ophelia, Padre, Mme. Butterfly and other good roses. Mr. George Prince was third.

The groups of pot roses arranged on the floor were particularly effective; while only Messrs. Chaplin Brothers exhibited a circular group of general roses; theirs was an admirable exhibit and contained a great many excellent plants. They had tall standards of American Pillar, Excelsa, White Dorothy and other free-flowering varieties, with shorter, though still tall, standards of Dean Hole, J. G. Glassford, Rev. F. Page-Roberts, Mrs. George Shawyer, Mrs. Henry Bowles and Margaret Horton. The groundwork was composed of generous batches of such dwarf polyantha roses as Golden Salmon, a new variety of delightful bright colouring and great freedom; Susanne Miller, Superba and Ellen Poulsen.

The first prize group of polyantha roses was an excellent arrangement by Mr. J. H. Pemberton. From a profuse groundwork of Juliana, Golden Salmon, Echo and Edith Cavell rose equally well flowered standards of Rudolph Kluis, Greta Kluis and Ellen Poulsen. The second prize group of Messrs. William Cutbush and Son was not quite so well balanced, but the base of Locarno, Golden Salmon, Orleans Rose, Rudolph Kluis and such sorts was admirable. Messrs. F. Cant and Co. were third.

In both sections of the show the exhibition roses were excellent and fully worthy of the best traditions of the National Rose Society. The first prize twenty-four blooms in not fewer than eighteen varieties, staged by Messrs. B. R. Cant and Sons, was a well balanced exhibit.

In his second prize stand Mr. Elisha J. Hicks had good blooms of Mrs. Elisha Hicks, H. V. Machin, Mrs. E. Mawley and White Maman Cochet. Mr. A. T. Goodwin was first in the class for twelve blooms of any one variety, with superb specimens of Maréchal Niel.

Although there were not many baskets of roses, the quality was excellent. Mr. A. T. Goodwin won a first prize with a basket of gorgeous Maréchal Niel, and was also first with the same variety and a fine basket of Frau Karl Druschki. Messrs. Chaplin Brothers won a first prize with a handsome basket of Mme. Butterfly.

AMATEUR SECTION.

While it was not to be expected that they could compete with the trade growers in the size of groups of cut roses, in quality the amateurs fully held their own and the four groups were an important feature of the show. Mr. G. J. Holland, Sutton, was first and he had delightful vases of Dean Hole, Mme. Butterfly, Mrs. C. Lamplough, Caroline Testout and Lord Lambourne in a wholly admirable exhibit. Mr. G. A. Hammond, of Burgess Hill, was a good second.

Mr. E. J. Holland also won chief honour in the section for exhibition roses shown in boxes, and among his twelve were excellent specimens of Louise Crette, Mrs. Campbell Hall, Mrs. C. Lamplough and Dame Edith Helen. Mr. Sydney J. Jackson, Epsom, was a worthy second and his box included an almost perfect specimen of Mrs. Foley Hobbs, the best bloom in the amateurs' classes.

Mr. J. W. Hart won first prizes with six blooms in not fewer than three varieties, and with six beautiful blooms of Mrs. Foley Hobbs. Mr. Sydney J. Jackson was first with six vases of handsome roses in mixed sorts and also with a handsome basket of Marechal Niel, where Mr. E. J. Holland was second with Mrs. Foley Hobbs.

The decorative classes were fully equal in attraction to those at former spring shows. In the open class Mrs. Tisdall, Woodford Green, had the best dinner table decoration, in which she used Roseland a very effectively, while Mrs. L. R. May, Waltham Cross, was second with Mme. Butterfly. These two exhibitors were similarly placed in the class for a bowl of roses.

NEW ROSES.

While a fair number of seedling roses were submitted only one received an award. New varieties that most impressed us were two dwarf polyantha varieties, both shown by Messrs. Chaplin Bros. Susanne Miller is a charming little semi-double pink rose of great freedom in flowering, while Scarlet Leader has larger flowers of the same type and bright scarlet colour. Both varieties would be effective garden roses

GOLD MEDAL

Charles P Kitham.—This showy hybrid tea rose received a certificate of merit at the Society's autumn show last year, when it was seen to rather better advantage in several respects. We suspect that the plants had been forced in a higher temperature than usual in order to have the flowers open for the present show. This would account for the thinness of the foliage and the lack of colour on an occasional petal, which gave the false impression of colour fading. But, nevertheless, it is a handsome rose of orange scarlet tinged with salmon. Shown by Messrs. G. Beckwith and Son.

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DAHLIAS FOR BEDDING (see page 290).

MAY 17 1927

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THE GARDEN

VOL. XCI.—NO. 2892. MAY 7, 1927. PRICE TWOPENCE.

A DAFFODIL CLASSIFICATION

IT is now some time since the first classified list of daffodil varieties appeared, and during the interval, with the large increase in the number of varieties and in the crossing and inter-crossing of the various types, it has become imperative that a new list and classification be prepared and adopted for use at horticultural shows and for general garden purposes. The Council of the Royal Horticultural Society have applied themselves to the task for some time and appointed a committee which, after much deliberation issued a classification of all daffodil varieties, which has undergone much modification from time to time. The present classification which has just been issued by the authority of the R.H.S., embodies the original scheme with the various recent suggestions and modifications incorporated, and, while it seems a useful practical key on the face of it, in practice we have no doubt it will be found wanting. Like all taxonomic keys, it is too general, and in this case all group differences are based on floral characters which are anything but constant. Colour is a doubtful standard by which to judge at any time, even when a hard and fast line can be drawn between individual colours; but when there becomes a merging of the colours, then the standard becomes valueless. In the Classification just produced there are eleven divisions; on a critical examination there does not seem to be sufficient criteria for so much splitting. On the exhibition stand it would be difficult, according to this Classification, to place one flower, say, in the Leedsii division and another closely related in the Incomparabilis group.

"The Garden" Photographic Competition.

ON page 301 of this week's issue will be found the first photographs published in connection with our Photographic Competition. Readers' photographs will be published every week, and we urge all readers who are interested to send along photographs of their gardens during the summer months. Particulars should accompany all photographs so that the illustrations will prove more helpful to the majority of our readers. The rules governing the Competition will be found on page xii.

The differences are purely superficial. What seems to be required is to get down to some bed-rock standards which are fixed for certain classes and which may be accepted as a type round which other varieties can be grouped. In this way the committee would only be following the method of splitting up a large genus like rhododendron and, instead of working with specific characters, varietal characters would be accepted, provided they were fixed. The question is undoubtedly a difficult one, and, naturally, it has to be borne in mind that any classification is purely arbitrary and merely acts as a mechanical aid to identification.

Nevertheless, the list is an exceedingly useful one, and forms a valuable guide to the placing of the vast number of daffodil varieties in their respective groups. In addition, the raiser's name or that of the introducer is given in each case, which makes the list exceedingly interesting. There are a number of mistakes in the names of the varieties and also a few omissions, but these are unavoidable in a work of this description, and no doubt will be corrected in a future edition. The committee ask for assistance in obtaining correct particulars of all daffodil varieties.

About forty pages at the end are given over to a list of names of varieties either lost to cultivation or surpassed by modern varieties. A few are still in existence, but the majority have been lost. The list makes interesting reading and indicates the enormous amount of work which has been done in the development and improvement of the daffodil. It would be interesting, in view of this list, to work out the evolutionary history of our present-day varieties and, by means of dried specimens, show how improvement has been registered. It is unfortunate that all these varieties have been lost without probably any record or specimens having been retained for herbarium purposes. There is little doubt that the Royal Horticultural Society could do much by the establishment of a herbarium for keeping records of varieties (not species, as in the case of scientific herbaria), to encourage and stimulate development in many of our garden flowers, and point out along what lines improvement could be looked for. It is this lack of co-ordination which causes duplication of results and leads to the production of similar, or almost similar, varieties, especially in the case of a flower like the narcissus.

The list, despite its drawbacks, will be found serviceable, and it is a handbook which all daffodil lovers should possess, as it marks a phase in the evolution of one of our finest garden flowers. It will be found an invaluable guide to all growers and to the amateur who grows for exhibition. It is certainly true that the popularity of the daffodil has never been so high as it is at present. This year we saw the finest Daffodil Show for twenty years and, without doubt, some of the very finest varieties which have been produced, and this continued development makes it all the more imperative that we should have some sort of definite classification on which to judge and standardise results, and, moreover, keep a record of them.

This Week's Work

For Gardens in the South and Midlands.

Sow biennials in nursery beds.

Make sowings of spinach, dwarf French beans, carrots and peas.

Prepare celery trenches and plant out lettuces on the ridges.

Begin to earth up potatoes.

Make further sowings of half-hardy annuals in the open border and thin out all seedlings.

Harden off bedding plants.

Support sweet peas with twiggy sticks.

Stake tall-growing herbaceous perennials.

Spray roses with insecticide to keep down green fly.

This Week's Work

For Gardens in Scotland and the North.

Plant out chrysanthemums.

Lift and divide polyanthuses after flowering.

Sow seeds of biennials in open ground.

Prepare celery trenches.

Earth up early potatoes.

Stake sweet peas soon out of doors.

Lift early tulips as soon as the foliage dies down.

Spray roses to control aphis.

Continue transplanting lettuce, if necessary.

Make sowing of late cropping peas.

Protect Darwin tulips and Spanish iris coming into bloom.

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DAHLIAS FOR BEDDING

AFTER the spring display of bulbs, biennials or autumn-sown hardy annuals is over, the question arises as to what may be planted to give an effective show during late summer and autumn in those same beds or borders. Dahlias will be found exceptionally useful for this purpose; they are free flowering, brilliantly coloured, and, as they do not need planting outdoors until the end of May or early June, ample time is allowed to clear and prepare the ground.

All types of dahlias are more or less useful for bedding, but in my opinion two classes stand alone for their all-round usefulness and real value—the dwarf bedders and the charms. Probably these two are responsible, more than any others, for the increasing popularity of the dahlia. They appeal to many who do not find other types sufficiently useful or attractive.

CULTURE.

Provided that they are not planted in an entirely shaded position, dahlias will succeed almost anywhere in suburban or country districts. Certainly they prefer an open sunny situation with a good depth of well enriched soil; but their culture is extremely simple. The beds should be dug deeply and a good dressing of well decayed manure and bone-meal incorporated. If horse or other animal manure is unobtainable, hop manure with bone-meal will be found quite satisfactory. Plants from pots (usually rooted cuttings) or dry pot tubers may be purchased now, but unless one has the convenience of a cool greenhouse or cold frame it is wise to ask for their delivery at the end of May. By that time the fear of night frosts will have passed and it will be safe to plant outdoors, except in the north, where transplanting should be delayed until the first or second week in June, according to locality. Varieties of the dwarf bedding class may be planted as closely as 18ins. apart each way; but the charms, which are taller, need a space of 2½ft. to 3½ft. apart in which to develop fully. The former need no support other than a short stick at the outset; but in planting charms (and all other types, for that matter) a centre stake should be inserted in the position each plant is to occupy, and the young dahlia planted against it. As the plants commence to grow, three more stakes should be inserted round each one, slanting slightly outwards, and strands of string passed round them to support the growths.

Staking should be neat and unobtrusive, for nothing is more unsightly than careless staking in bed or border. Green painted stakes are useful, and their height should be slightly less than the individual varieties. Eventually the foliage should hide all stakes.

Plant firmly, and guard against slugs for the first week or two. Frequent shallow hoeings are beneficial, and unless it is considered too unsightly, a surface mulch of strawy manure or spent hops round each plant will conserve moisture and assist growth if applied about the middle of July. Although not essential, an occasional watering or feeding with liquid manure will be found beneficial at intervals throughout the season.

DWARF BEDDING DAHLIAS.

The first really dwarf dahlia to become popular was Coltness Gem, almost unknown a few years ago, but now planted more largely than any other variety in any type. Its rapid advance in public esteem is not surprising, for it possesses almost every attribute of the perfect bedding plant. It has an ideal habit of growth, blooms early and continues to flower until cut down by the first sharp frost. It carries its single bright crimson flowers well above the foliage on rigid wire-like stems, forms a shapely rounded plant which rarely exceeds 18ins. in height even at the end of the season. Only a comparatively few satisfactory dwarfs have been introduced, but it is quite certain that it is only a matter of time before we shall have a large number with the true "Coltness" habit and also the wide colour range which characterises all dahlias. Future dwarfs are not likely to be confined to single flowers; one firm at least is endeavouring to combine the beautiful semi-double form of the charms with the "Coltness" habit, and two or three of their 1927 introductions are very beautiful.

While Coltness Gem is undoubtedly the best variety at a low price, here are a few other dwarf bedders (or "mignons," as they are sometimes termed) which are all good:

Paisley Gem.—Very similar to Coltness Gem except in colour and shape. A light, bright scarlet semi-double flower, almost an orange scarlet. Very free flowering and erect, and slightly taller in growth than "Coltness."

Gipsy Maid.—A very free flowering, rich velvety black maroon, semi-double, 18ins.

Exquisite.—A pleasing shade of bright lilac pink with wiry, upright growth; 18ins.

Abingor Gem.—Best described as a bright orange counterpart of Coltness Gem; 18ins.

Salmon Beauty.—Many will like the dainty form of this novelty. It has single cosmea-like flowers of rich salmon, deepening to orange chestnut at the base of petals; 15ins. to 18ins. in height.

Histon Gem.—Semi-double flowers of an intense scarlet. A fine habit; 18ins.

Amber Queen.—A charming little dahlia, best described as a dwarf charm. The semi-double flowers are of an ivory salmon or salmon buff tone; 18ins.

Lady Aileen.—A single soft pink with a good habit; 18ins.

Golden Gleam.—One of the very best. It is extremely free, the plants being literally smothered in blooms. Rich golden orange "charm" shaped flowers; 20ins. high.

Piccaninni.—Single scarlet with dark bronzy foliage; 2ft.

Autumn Glory.—Rather tall, but very free flowering. Semi-double, rich crimson scarlet 20–24ins.

SMALL BEDDING SCHEMES CAN BE MADE VERY ATTRACTIVE BY THE USE OF MIGNON DAHLIAS IN VARIED COLOURINGS.

CHARM DAHLIAS.

This type was formerly known by the somewhat lengthy but perhaps more descriptive title of miniature peony-flowered. They are equally useful for bedding as for cut flowers. They are so free flowering that continual cutting will not detract from their bedding value. The blooms are semi-double, from 3ins. to 4ins. in diameter, borne erect well above the foliage on strong wiry stems. The bushy plants average about 3ft. in height. Although of comparatively recent introduction, the range of colouring is most remarkable, probably wider and more varied than in any other type. A few good novelties are:

Mamie.—Golden yellow, softly suffused salmon apricot, with a zone of chestnut scarlet at the base of petals; 3ft.

Clara Hart.—Brilliant crimson scarlet, 4ft.

Gloria.—Brilliant orange flame with deeper base; 3½ft.

Margaret.—Golden yellow centre, with petals flushed, "rayed" and tipped with gold. Suffused orange pink towards the tips of petals; 3½ft.

Vedas.—Clear sulphur yellow; 3½ft.

Dot.—Deep lemon, flushed soft salmon biscuit; 3ft.

Olwen.—Orange fawn, base striped and flamed chestnut; 3ft.

Irma.—Soft satin rose, lightly flamed orange chestnut at base. A variety to make particular note of for cut flower purposes; 3½ft.

Excellent varieties, typical of the best charm type, at an inexpensive price (9d. or 1s. per plant) include:

Our Annie.—Shrimp pink on yellow ground; 2½ft. Still one of the very best.

Rosie.—Deep rosy pink; 3ft.

Dazzle.—Brilliant scarlet; 3½ft.

Electron.—Very uncommon and pleasing, orange scarlet "shot" electric violet.

Mrs. Ralph Wade.—Soft buff, flushed pink and suffused yellow, with chestnut zone at base of petals; 3ft.

Norah Bell.—Scarlet flame with yellow base; 3ft.

Charmer.—Orange salmon, 3½ft.

Picture.—Orange flame on gold with chestnut scarlet base; 2½ft.

Gladys Unwin.—Soft pink with lemon and chestnut base; 3ft.

Sophire.—White with small primrose zone at base.; 3ft.

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PERENNIAL FLOWERS FOR CUTTING

WHERE any considerable quantity of cut flowers is required for house decoration, it is desirable, if possible, to set aside a piece of ground in the kitchen garden, or some other place not much in evidence, for plants specially suitable for the purpose. This, however, is not always practicable, in which case, when choosing plants for the borders, it must not be forgotten that they will have to "contrive a double debt to pay."

The perennial season may be said to begin in April with polyanthuses; single and double coloured primroses, charming when arranged in shallow bowls with mossy saxifrage; the pretty orange wallflowers, Cheiranthus Allionii, C. alpinus and C. Pamela Purshouse (a hybrid between the two first); Saxifraga cordifolius (megasea); Doronicum plantagineum excelsum and, towards the end of the month, Polygonatum officinale (the ordinary Solomon's Seal) and P. giganteum, its big brother; together with the earliest of the dicentras, the rosy purple eximia. In May come the first flag irises—all the irises, except perhaps the common blue flag, are admirable for cutting and should be as largely grown as possible—and the earliest of the peonies, corallina, the so-called Steep Holm Peony. This has comparatively small single flowers of a vivid magenta crimson which is certainly rather crude, but, when mingled with plenty of pretty blue-green leaves in, say, a big double-handled cider mug of brown glazed ware, the effect is very gay and pleasing. P. corallina is followed at the end of May by the double and single European peonies, the oldest type,—the peony of cottage gardens, with its huge flowers, light and dark crimson and flesh pink, made up of myriads of petals—being the first to open. Other May flowers suitable for cutting are Stachys (otherwise Betonica) grandiflora, rather coarse, and the red purple of the spikes just a little dingy, but effective in a mass and lasting well in water; and Aster alpinus, the deep lavender blue starry flowers of which are ideal for small vases.

In June we get the single and double Chinese peonies, loveliest of their kind and particularly beautiful when combined with delphiniums: a tall trumpet-shaped vase of clear glass filled with sky blue delphiniums of the Belladonna class and soft pink peonies such as Kelway's Lady of the West or Lovely, for instance, is a real joy to the eye. Most delphiniums are good for house decoration, alone or with other flowers; but the darker ones, especially those that have much purple in them, are apt to look dull under artificial light. Perhaps it may be suggested here that for cutting unnamed seedling delphiniums of first-class strains, such as are supplied by Messrs. Blackmore and Langdon and other firms, are quite satisfactory—or, at least, a very large percentage of them are—and they are, of course, far less expensive than the named varieties.

In June, too, come the lupins, polyphyllus and the hybrids, polyphyllus × arboreus, in their many colours, the most striking being the new Prince of Orange; the pyrethrums; the long-spurred aquilegias, which make a dainty dinner-table decoration in tall old-fashioned champagne glasses; Campanula latiloba; and Papaver orientale. The big poppies are as uncertain in their behaviour when cut as the lesser ones, and should be treated in the same way, gathering them when only a streak of colour is visible in the calyx, and late in the evening, dipping the ends of the stems into boiling water at once and keeping them in a dark, cool place until the following morning. The varieties that are most reliable are those with stout, erect stems—Perry's May Sadler, for example; the gorgeous blood red Goliath and P. bracteatum Crimson King. The well known Mrs. Perry is less sturdy of habit than the poppies just mentioned, but its soft crimson pink colour is very delicate and goes well with a silvery lilac English iris, such as Tantalus or Queen Alexandra, or with Iris dalmatica Princess Beatrice. Two other June-flowering plants, the decorative value of which is not fully appreciated perhaps, are Phlomis Samia, with pale yellow whorls of blossom on long stalks, and Thermopsis montana, which has bright golden lupin-like flowers. These two, together with Iris ochroleuca and some branches of dark foliage such as that of Prunus Pissardi or copper beech, make an admirable group for one of the big blue and white Dutch Delft jars in which tobacconists kept their stock of snuff in bygone days. Among June flowers suitable for small vases and bowls there are the old fringed white pink; the blue Catananche cœrulea (Cupid's Dart, so called because it was an ingredient in the love-potions of the dark ages); Papaver nudicaule, the Iceland poppy; Meconopsis cambrica, the Welsh poppy; and Lychnis Flos-cuculi fl. pl., with its pretty little rose pink rosettes.

All through July there is an almost overwhelming abundance of flowers for cutting. To the old white pinks succeed the Allwoodii hybrids, which will continue to bloom during the rest of the summer; while among other desirable things are Coreopsis grandiflora and C. auriculata superba; Malva moschata alba; Sidalcea Rosy Gem, Sussex Gem and candida—these three combine well with Heuchera Rose Cavalieo; the campanulas, including the dark violet glomerata, persicifolia (of this the best varieties are Telham Beauty and Ryburgh Bells, both lavender blue, and the new white Fleur de Neige), latifolia and, from the end of July to the end of August, lactiflora, with its big heads of pale lavender flowers; the erigerons, Fontainebleau (bright lavender), Quakeress (rosy lavender), Pink Pearl and Edina (white); and the invaluable achilleas, A. Ptarmica Perry's White and A. millefolium Cerise Queen, these being among the most lasting of all flowers in the cut state.

LUPINS AND IRISES PROVIDE A WEALTH OF BLOOM FOR CUTTING IN EARLY SUMMER.

SOFT PINK PEONIES ARE BEAUTIFUL EITHER AS BORDER PLANTS OR CUT FLOWERS.

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Several varieties of eryngium should be grown, including EE. Oliverianum superbum, amethystinum, planum (which has branching heads of small dark metallic blue flowers and is, perhaps, the prettiest of all); and the new hybrid, Violetta, the colour of which is more purple than blue. Eryngiums accord well with many of the soft blue and avender delphiniums, or, if a marked contrast is preferred, they may be combined with the bright scarlet of Lychnis chalcedonicum or the fiery orange of gaillardias. Of the latter, three good varieties are Barr's Taplow Red, Sydenham's Mrs. Mackellar, and Allen's Tangerine.

August is the month of phloxes, but, fine things as they are, they are not entirely without drawbacks when used for indoor decoration They drop their petals rather speedily, and many people object to their scent, which, although not strong, is a little heavy in a room. However, here is a list of half a dozen desirable varieties: Baron van Heeckeren, salmon pink; Milly van Hoboken, pure pink; Le Mahdi, red purple; Miss Ellen Willmott, pale lavender; Coquelicot, orange scarlet; Europa or Mia Ruys, white. The earliest of the heleniums—all are excellent for cutting—is the dwarf H. pumilum aurantiacum, which begins to flower in July and continues to do so until well into September. Helenium Crimson Beauty is also of low stature, but blooms later, as do the tall varieties Riverton Gem and Riverton Beauty.

Other good August and September flowering plants are Heliopsis Excelsior; Chrysanthemum maximum Barr's White Knight and Blackmore and Langdon's Arthur Chapman, both superior to the old King Edward. The pink and white flowers of Anemone japonica are rather given to droop unaccountably and annoyingly in water, but they are too pretty when well behaved to be barred. Whirlwind (white) and Mont Rocs (pink) are good.

With September come the rudbeckias, ranging from the 6ft. R. lacineata and its double variety Golden Glow, to the dwarf R. speciosa (syn. Newmanii). All have great decorative value, the deep orange yellow, star-like flowers of speciosa contrasting well with Aster Amellus King George and sprays of one of the feathe y Michaelmas daisies, such as Aster ericoides Silver Gem or Chastity, or A. cordifolius Ideal. The single or nearly single asters are, on the whole, more satisfactory for cutting than the double ones, and among the best for the purpose are Climax and King of the Belgians, both lavender blue. Grey Lady, opalescent lavender; Barr's Pink, one of the finest Michaelmas daisies so far raised; Mons, deep rose; and a new introduction of Mr. Ernest Ballard's, Mrs. George Munro, a good white.

The majority of the solidagos are too coarse to be desirable except in the wild garden, but the new S. Ballardii is a hybrid which is refined enough to be admitted into the border. The giant groundsel, Senecio tanguticus, has the same fault as the solidagos, but its handsome golden spikes last long and are exceedingly striking in a tall copper jar, or even in a brown ware pitcher, especially if combined with the shining purple brown leaves of Berberis Aquifolium (Mahonia) and sprays of deep orange yellow chrysanthemums. The small single annual sunflowers are better for cutting than the perennials, but the double helianthus Miss Mellish is an exception among the latter. One of the latest autumn flowers to open is the moon daisy, Chrysanthemum (syn. pyrethrum) uliginosum; but in a mild season ordinary outdoor chrysanthemums can be picked up to the middle of November.

Given some slight protection in the way of canvas stretched on bamboos, the Christmas daisy (Aster grandiflorus) will open its rich violet flowers as late as the first or even the second week in December, but with it the year's pageant of flowers may be said to end, and the hellebores, Iris stylosa, winter aconite, and the winter-flowering shrubs must suffice to fill the gap until the February snowdrops mark the coming of spring.

For the purpose of mixing with cut flowers, gypsophila; the striped ribbon grass, which country people call Gardener's Garters; Thalictrum aquilegifolium and T. adiantifolium (both as pretty of foliage as they are poor of flower); the grey-leaved artemisias; santolina and sea lavender, should be grown.

R. E. HEAD.

DAHLIAS IN SCOTTISH GARDENS

WITH the advent of several new types of more or less decorative merit, the dahlia has advanced rapidly in public favour and it probably comes next to the rose and sweet pea in the estimation of amateur gardeners. Its present-day popularity may in great measure be traced to the creation of the collarette type in the beginning of the present century, followed by the introduction of the dwarf bedding variety, Coltness Gem. Subsequently the star and charm race came into prominence and this season has witnessed the distribution by Mr. Unwin of the latest novelty, obtained by crossing Coltness Gem with charm varieties. The cactus form which has been in cultivation for well nigh fifty years, has made comparatively little headway in the garden, but the once fashionable show dahlia still commands the admiration of older enthusiasts in Scotland, who grow it as an exhibition flower, for it continues as a class in the prize schedules of horticultural societies throughout the country.

At a recent meeting of the Royal Caledonian Society a member expressed the opinion that the dahlia was a much overrated subject for the garden. The principal objections which he urged against it were the absence of scent and the uncertain flowering period, which was liable to be brought to a rapid and premature close by a single night's frost in early autumn. Despite these defects, which are also applicable to the chrysanthemum and the gladioli, dahlias of one type or another are grown on a more extensive scale each succeeding season and as an indication of the demand it may be noted that Messrs. Dobbie and Co. alone raise over 150,000 plants annually from cuttings, while the magnitude of the nursery trade in Coltness and other "Gems" can only be conjectured.

This, however, is not a complete index of the popularity of the dahlia. Owing to easy methods of propagation it is a common practice of amateurs to raise their plants from seed and increase their stocks by cuttings or division in spring. The latter system finds favour with those growers who do not possess facilities for striking cuttings. A great deal depends on the object which the gardener has in view. Generally speaking the plants of collarette, cactus and decorative dahlias produce better quality blooms from an exhibitor's point of view when grown from cuttings. Pot roots start to flower earlier and give quite as much bloom, but the flowers are not of the same quality. Pompons, on the other hand, show less difference and then only in varieties that occasionally expose their centres. The lesson, therefore, to be learned by the exhibitor is to produce his plants from cuttings, while the cultivator who requires plants for garden decoration and cutting should raise them from pot roots.

PLANTING OUT POT GROWN DAHLIAS IN A SHELTERED POSITION.

But the only method open to the amateur who has neither greenhouse nor frame is to plant the tubers in the open ground. This process means later flowering and risk of injury to the young growth in the event of May frosts. The climate is so uncertain and variable in Scotland that it is useless attempting the specification of a safety line either as regards time or locality, for I know gardens in south Ayrshire where dahlias have been grown out of doors for several years without disturbance or protection in winter. Actual experience in each locality is therefore the only reliable guide to follow in regard to the period of planting.

Small gardens seldom offer a choice of situation, but wherever possible select a position that is sheltered from high winds. A simple line of sweet peas or a wooden trellis clothed with rambler roses provide a screen that combines the useful with the ornamental, failing which the dimensions of an average hedge contribute to the protection of the plants. Individual specimens may be arranged in a herbaceous border, but where space permits, dahlias grown in groups are more effective if the embellishment of the garden is to be studied.

When collarette and decorative sorts are grown for that specific purpose, the soil must not be made too rich by digging in a liberal dressing of farmyard or stable manure. In that way disappointments lie. If the ground was thoroughly manured in the previous year, no further treatment is required beyond digging to a depth of 12ins. to 18ins. and the distribution of a light dressing of slaked lime before the soil is broken up. When coming into bloom the plants respond readily to applications of weak liquid manure and the more you feed the better will be the quantity and quality of the flowers. Moisture, of course, is an essential element and in a dry season water and liquid manure should be given alternately during the period of bloom.

J. Y.

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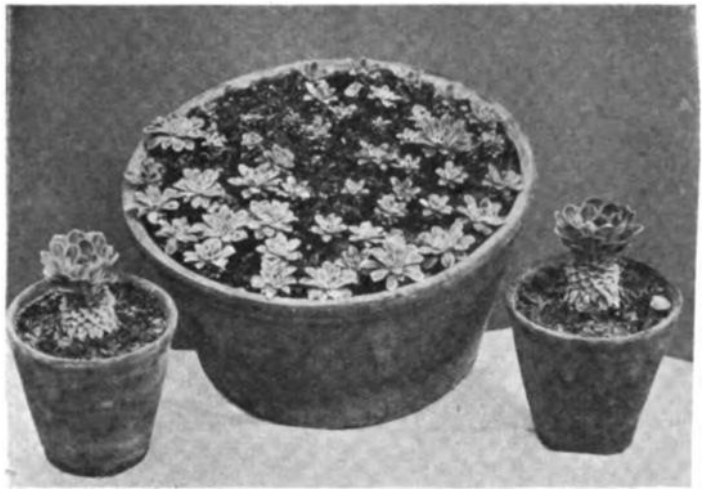
ALPINE PLANTS FROM SEED

THE ever increasing popularity of rock and alpine plants with all amateur gardeners, calls for some little account of the different means of obtaining and propagating these plants and no method is so fascinating as that of raising them from seed. By this method desirable plants may be increased a hundredfold in one sowing. For example, one seed pod of a saxifrage or gentian will produce anything up to a hundred seedlings; on the other hand you may not get one to germinate, although this will not happen if reasonable care is taken in selecting and sowing the seeds.

A word concerning the methods used in seed sowing may be of some service to the reader and I hope may be the means to success where failure has hitherto resulted. The first thing to be done is to select the plant and then the flowers from which to take the seed. The plant must be the healthiest in the batch and only the best flowers should be retained; they will frequently vary in colour or formation of petal even if they are on the same plant. From three to six flowers will be enough for most things, removing the remainder if possible; this will take some of the work off the plant and your seeds will mature more rapidly. Pick the seed directly it ripens; if you are not quite sure, when it is picked place it in full sun for a few hours. Seed should never be gathered when wet. The seed may now be shaken out on a clean piece of paper and picked over, removing all dust and any other foreign material, as this may contain other seeds which will pass unobserved when sowing. Fold the paper and name the seed clearly, or place in small envelopes, obtainable from all garden sundriesmen for this purpose. This will only be necessary if the grower has several subjects he wishes to increase and wants to make one sowing do for them all. Otherwise, I believe in sowing at once, which is nature's own way.

The question of what to sow the seed in is important. Seed pans from 3in. to 5ins. deep and 4ins. across are most suitable; care should be taken to see that they are clean and well drained by placing a large piece of flowerpot over the hole and fill to a fourth of the pan's depth with smaller crocks, covering these with half rotted leaves or fibre from the potting mould. It is most important to work with clean pots and ample drainage if one is to be successful in raising alpines from seed. Composts of soil should be mixed according to the likes of the plant, only lighter, if a little more sand, leaf-soil or peat for such as like it, is added, the whole passed through a ¼in. sieve, most plants will readily take to it and make fine fibrous roots. If it is convenient it is as well to sterilise the soil, by filling an ordinary saucepan with the soil and placing it on a stove for five or six hours, keeping the lid on. This will kill all bacteria and prevent liver-wort making its appearance so quickly. Fill the pans to within a ½in. of the top, making fairly firm, sow thinly and evenly, covering according to size of the seed, the smaller the seed the less covering required; some will not require covering at all. The pans should not be watered from overhead, but placed in a pail and the water allowed to percolate through. This will prevent the soil caking and the seedlings will not be so likely to damp off. The pans may now be placed in a cold frame with light shading day and night and kept close until they germinate, when air and light may be admitted gradually if a frame is not available, place outside in the shelter of a west or north wall or hedge with a piece of glass and paper over each pan. I have obtained good results from pans of seed that have lain dormant all the summer, by standing them right in the open in January and they have germinated in March.



RAISING SEEDLINGS OF SAXIFRAGA GRISEBACHII. THE SEEDLINGS THINNED OUT AND THEN POTTED UP SEPARATELY.

A few suitable subjects that come well from seed may be enumerated here and be of use to the reader. The mossy section of saxifrages seed freely from one good variety. The encrusted and Kabschia sections also germinate freely and a good percentage of true plants will be obtained. Saxifragas will germinate more readily without any covering. They are in most cases lime lovers and will attain their flowering stage in two or three years from time of sowing, except the mossy varieties, which will flower in a twelvemonth. Gentians are always admired and the joy and despair of all beginners. G. verna will germinate freely and sometimes flower the following year. The young seedlings will benefit with a dressing of additional leaf-soil. The seeds require little or no covering. The newer species, such as G. Farreri, sino ornata and Purdomi are all easily raised from seed and better plants are generally obtained by raising one's own plants by this means. Drabas come very easily from seed. D. imbricata is a fine rich yellow variety with mossy foliage; D. dedeana, with paper white flowers is slow to increase. Primula marginata is lovely in its margined foliage or its delicate lilac flowers and was the parent of such lovely plants as Linda Pope, which outshines its parent in foliage and flower. Primula J. H. Wilson, must not be overlooked, as its wealth of blooms are a feature in early April. This variety will come fairly true from seed. If the seed is sown on fine leaf-soil or on peat and sand, germination is much more rapid. Saxifrages, require a very open soil at all times. S. Grisebachii Wisley variety and S. longifolia soon make good sized plants if potted off singly when they attain the size of a sixpence. Raising alpines from seed is an easy and rapid way of increasing ones' collection of alpines. J. W.

A WELL-FLOWERED PAN OF PRIMULA J. H. WILSON, WITH FLOWERS OF A LILAC PURPLE.

DRABA IMBRICATA, A DAINTY YELLOW-FLOWERED ALPINE WHICH CAN EASILY BE RAISED FROM SEED.

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THE BUSY MAN'S PAGE

May Reminders.

SOW dwarf French beans in succession and thin out the early sowings 6ins. to 8ins. apart.

Towards the end of the month sow scarlet runner beans. Mark out the row a fortnight beforehand and dust a handful of superphosphate to each yard run.

Sowings of long sorts of beet may be made.

Carrots may still be sown and earlier sowings should be thinned.

Get celery trenches ready for the first batch of plants. Let them be a foot wide and deep and work in a dressing of manure.

All peas should be provided with sticks when the plants are 4ins. high.

Begin to earth up potatoes when the plants are 6ins. high. At the same time it is a good thing to scatter nitrate of soda or sulphate of ammonia at the rate of 1 oz. per yard run.

Tomatoes should be kept near the glass to make them sturdy and on no account must they be allowed to suffer from want of water.

Apples which have set their fruits should be examined and at the first trace of caterpillar, sprayed with Paris Green.

A mulching of manure will help the swelling fruits of gooseberries and currants. Keep a sharp look-out for caterpillars.

Strawberries should have a mulching of strawy manure or clean straw.

Annuals may still be sown and half-hardy sorts can be sown in the open, for late blooming.

Bedding plants may be put out, calceolarias early, geraniums, lobelias, verbenas, etc., late in the month.

Sow Canterbury bells, sweet williams and wallflowers. Sow thinly and when the seedlings are established, give them quite four inches apart in the nursery bed.

Dahlias may be put out about the third week in the month. Be sure and water them in well.

Support sweet peas with twiggy sticks, water in dry weather, and give a mulching of manure.

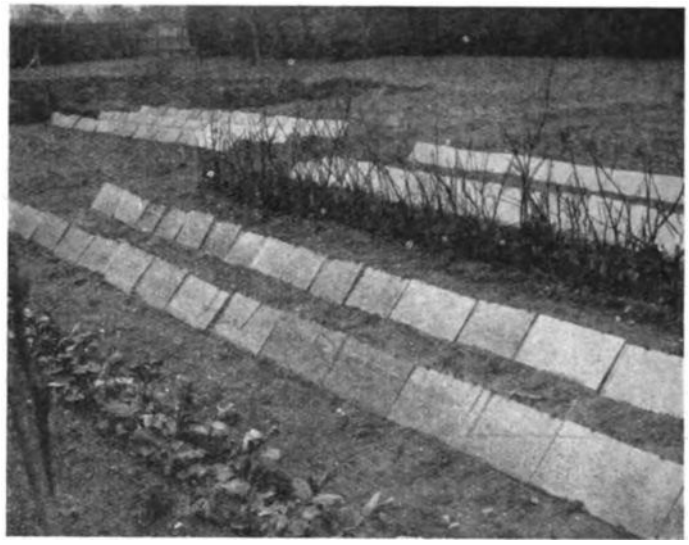
Go over violas and pansies each day, removing all the fading blooms, then a succession of flowers will be assured.

Protecting and Raising Seedlings.

A Handy Cloche.

THE man who has very little time to give to his garden will welcome any device that makes for easy work. In the simple and pleasant garden operation of raising seeds a certain amount of constant attention is needed to secure the maximum of results. In this connection the Chase Continuous Cloche proves a welcome asset. The writer has personally inspected the use and working of these cloches and can recommend them to the busy man. They protect early growths from frost, rain, wind, birds, animals and insects; they bring you earlier, bigger, better crops—and extra crops, too; they enable you to sow all the year round; they make you certain of your results; they save seeds, time, trouble and expense; they involve no extra labour; and they do not require large storage space.

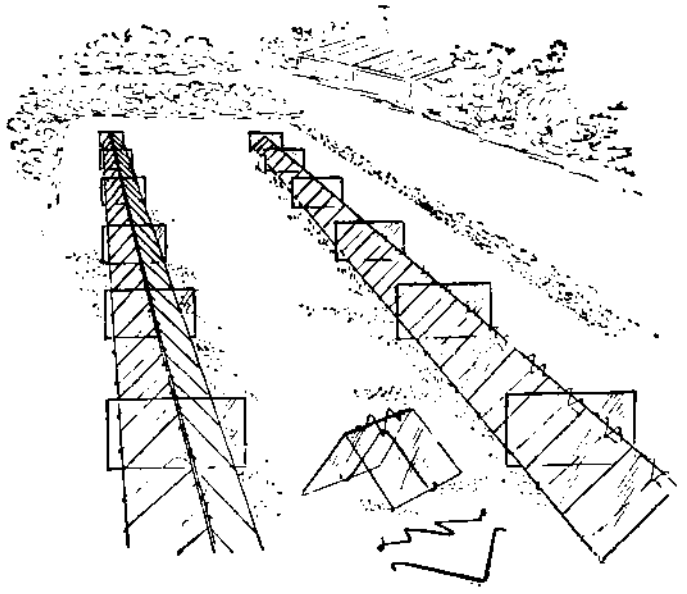
There are a hundred and one ways in which they can be used in a garden. Made of steel wire, the glasses are held firmly in position. The strongest winds do not move them, and a very important point to amateurs who are anxious to secure sturdy seedlings is that they do not "draw" the seedlings. Light can reach the plants on all sides. The "crack of air," to use an old gardener's phrase, prevents scorching. They are less expensive than the Continental bell-shaped cloches in that, if a sheet of glass is broken, it is easily replaced.



ROWS OF PEAS AND BEAN SEEDLINGS RAISED UNDER CLOCHES.
Where these have been removed the advanced growth can be seen.

Preparing for the Dahlias.

TO secure the best results it is desirable that the flowering sites of the dahlias should be well prepared in advance. Dahlias naturally prefer a soil which is inclined to be heavy, but it is essential that this should be well drained and thoroughly worked. The positions should be fully exposed, as dahlias are great sun lovers. If the ground is of a suitably heavy nature, it need only be dug deeply and enriched with old farmyard manure. If this step was not taken in the fall no time should be lost in getting the work in hand. When the soil is very light in character the spring is quite the best time for digging it. Work in rich loam and old farmyard manure to give the ground staying power. Dahlias are, of course, often employed in mixed borders, and here the actual places where the plants are to be set must be specially prepared. Note deep digging is very essential, as the plants like to send their roots down to a considerable distance and, when they can do this, the vigour of growth is greater and the flowers are much more freely produced. Allow plenty of room for each plant, the taller kinds being placed quite 3ft. apart and the others about a foot less, except the mignon dahlias, which will not need more than 15ins.



STEEL RIM SUPPORT FOR SECURING THE SHEETS OF GLASS. ROWS OF SEEDS AND SEEDLINGS ARE EASILY PROTECTED IN THIS WAY.

How to Grow Fine Polyanthuses and Primroses.

ALTHOUGH these plants are hardy perennials, they are not at all a success, as old specimens, in some soils. Even where they do live and thrive through the summer months, their flowers are much smaller than those of young stock. So it is much the best plan to raise young plants every year, even where old ones are retained. In medium to heavy soils the polyanthus and primrose grow much more freely than in light, sandy ones. Those cultivators who have to deal with light land should prepare a plot for them to grow in during the summer months, where they will be cooler than in any other part of the garden, as the summer weather is the most trying for the plants. Such soil should be prepared now and the seeds ought to be sown as soon as possible so that the resultant seedlings will have a long time in which to grow. A common mistake is that of sowing the seeds too late and then weakening them by undue coddling in a too warm position. The seeds may be sown in pots, pans or boxes. All seeds of the primula family are a long time in germinating and, as some seeds germinate sooner than others, it is advisable to sow them almost 1 in. apart, then the forward seedlings can be transplanted without the others being disturbed. The seed vessels should be clean and dry, also the crocks; drainage is an important item. Good loam, free from weed seeds, two-thirds, and sweet leaf-soil one-third, will make a suitable compost. Three-parts fill the pan or box, level the soil, water it and one hour afterwards sow the seeds, as suggested, thinly. Cover them with a quarter of an inch of soil, place a sheet of glass on the vessel, then some paper and shade, too, from bright sunshine. Transplant twice before the final planting.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

The Rock Garden.

Replacing the Spring Flowers.

IN the early part of the year the rock garden is a blaze of colour. Masses of purple aubrietia, white rock cress, golden crocuses, blue scillas, and yellow and white narcissi make the rockery the showiest part of the garden. But unless we prepare to fill the gaps which will be left when some of these floral beauties are over, the rock garden may lose a great deal of its charm later in the season. This is a pity, for though the herbaceous borders will to some extent make up for the deficiency in other parts of the garden, there is really no reason why the rock garden should ever be "at its worst," for there are at all times some plants which will add colour and interest to this feature. Now that the time for sowing half-hardy annuals has arrived, it should be possible to fill many of the bare places in the rockery by sowing a few seeds of dwarf annuals. Dwarf nasturtiums (which can be obtained in selected colours) sown now in the places where crocuses or scillas are dying down will not interfere with the natural ripening off of these bulbs, and will take their place and give a good show of bloom during late summer and early autumn. A few seeds of nemophila, night-scented stock, Californian poppy, Virginian stock or any dwarf annuals can be used here and there in this way among the dying spring flowers.

Transplanted Seedlings.

An even more rapid effect can be obtained by using a few of the seedlings raised for summer bedding. A few seedlings of alyssum, for instance, or lobelia, dwarf antirrhinum, French marigolds or any similar plants such as would be used for edging the borders are equally effective if planted out in little groups on the rockery. If you have such rank-growing subjects as stonecrops already growing, you will doubtless find it advisable to remove large portions of them occasionally, and if this is done now the bare space left can be used for transplanted seedlings. Lightly fork over the old patch of soil and add a little fresh soil before the transplanting is done.

Increasing Stocks of Perennials.

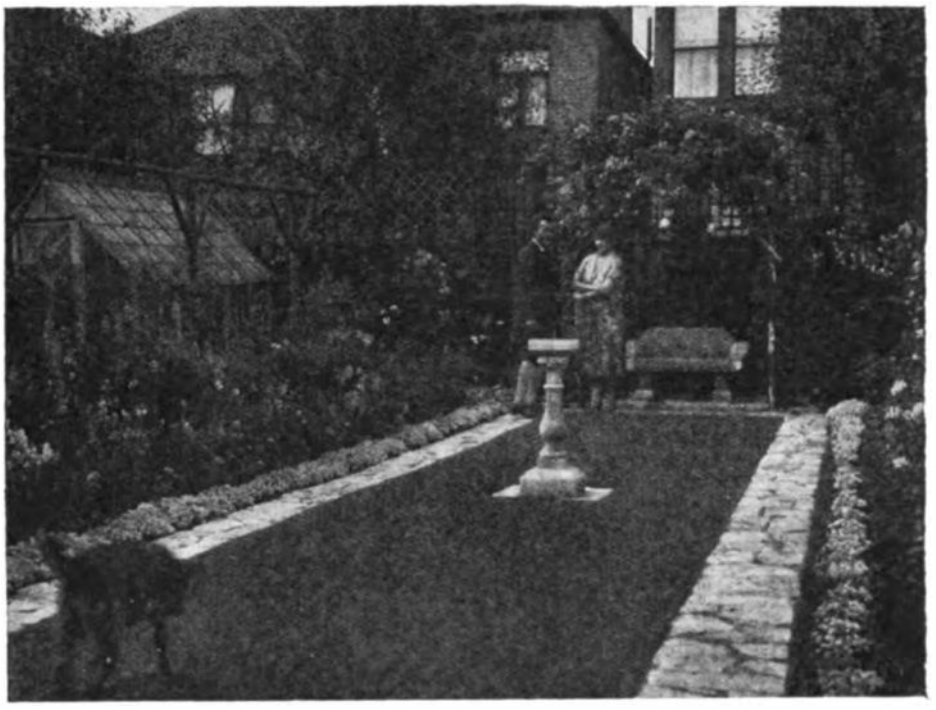
Should you wish to increase your stock of spring "carpeting" plants, the time to do this is after they have ceased flowering. Cuttings of arabis and aubrietia will root readily if they can be kept close for a short time so that they do not get dry overhead. If you cannot spare a frame for these, put the cuttings in a hollowed out nursery bed about 6ins. below soil level, and cover them with a sheet of glass. Shade them from bright sunshine for a week or two to prevent scorching. When rooted, the cuttings may be transplanted to their permanent quarters or planted out in rows so that they can develop ready for autumn planting.

A Garden of Welcome.

WHEN you enter a garden in midsummer, you feel instinctively that you know the character of the owner. Some gardens are slovenly, some are neat. Some are filled with rare blooms, but are uninviting. But such a garden as we see here seems to welcome you with a smiling "Come In." This particular garden was entered for competition in the summer of 1926 and the judge is seen in the picture on his tour of inspection. Among the many praiseworthy features of the garden are its simplicity of design, its friendliness as emphasised by the shaded seat, its neatness and the charm of its well filled borders. It is not overloaded with garden ornaments, the centre sundial and stone seat seem "just right," and the straight paths make the garden appear longer than it really is.

Small wonder that when a judge visits such a garden on a hot summer's day he feels loth to depart! Well kept turf adds considerably to the beauty of the garden. In many gardens the grass is made to serve as path, instead of the crazy paving, but the latter has an advantage in wet weather, as it enables one to visit the flower border without carrying mud into the house.

The picture shows the value of sweet alyssum as an edging. Such an edge can be planted with crocuses for early spring. These would be allowed to die off naturally, to be replaced by seedlings of sweet alyssum raised in a nursery bed in a corner of the garden.



THE MORE SIMPLE THE DESIGN, THE MORE CHARMING THE GARDEN.

Pests and Diseases.

A FUNGUS which causes considerable damage to rose trees, hops, vines, etc., is known as mildew (mealy-dew), so-called from its appearance. The first sign of the disease is the appearance of greyish spots on the young leaves and shoots. These spread and finally cover the leaf with a fine powdery layer. Often the young buds are affected, and growth and flower production are injured. Liver of sulphur (potassium sulphide) dissolved in water, 1 oz. to three gallons, makes an effective spray. Dustings with flowers of sulphur is also a useful remedy. Russian pathologists advocate spraying with bicarbonate of soda—an ounce dissolved in every ten gallons of water.

Finger-and-Toe.

This is a serious fungus disease among cabbages and other members of that family (cruciferæ). It causes the roots to swell enormously, hence the various names, "Club Root" and "Finger-and-Toe." Numerous experiments have shown that slaked lime will destroy the spores of this disease in infested land. In fact, its presence may be regarded as an indication of a deficiency of lime in the soil. In addition, if the seedlings of cauliflowers and cabbages, etc., are raised in soil that has been well salted (they are seaside plants and like salt), they are less likely to be attacked when planted out.

Silver Leaf on Plums.

The appearance of silvery leaves on plum trees might appeal to the artistic sense if it were not a sign that the trees were attacked by an internal fungus malady. Affected branches gradually die back, and as the disease spreads the whole tree may be killed. Curious purply-mauve growths appearing on the trunk represent the mature stage. These, if they remain, scatter spores which are blown to other trees and enter by means of injuries or fissures in the bark. No cure is known for the disease at present, but the disease should be controlled by destroying trees badly attacked, or cutting away and burning all silvered branches in case of slight attacks. Wounds and cuts on other trees should be painted over with Stockholm tar or creosote.

Rose Pests.

Roses are rapidly forming flowers. If maggots and green fly are troublesome, spray with nicotine wash. This is also a remedy for thrips, leaf-hoppers and cuckoo-spits. Dissolve 2 oz. of soft soap in a little hot water. Add 1 oz. of nicotine (obtainable from leading seedsmen) and make up to ten gallons with water. Spray the bushes thoroughly, it will not harm the flowers. When hybrid tea roses (such as Red Letter Day) are cut for decorative purposes, cut them with fairly long stems—that is to say, prune them at the same time. They will then break out again lower down and give a second crop of flowers. At the same time, a little artificial fertiliser sprinkled on the soil round the bushes and hoed in will help the plants to develop finer flowers.

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WORK IN THE FLOWER GARDEN

May Sowings: Plants for the Herbaceous Border.

IF the herbaceous border has room for a few more plants, here are some fine flowers to include in your seed list: Aquilegias, pyrethrums, lupins, hollyhocks, Gypsophila paniculata, sweet williams, delphiniums, campanulas in variety, gaillardias of various kinds, and Iceland poppies.

First prepare a fine seed bed, making the soil moderately firm and level. To this end the rake will be used effectively, while any lumps of soil that resist the rake may be crushed with spade or trowel, etc. A sprinkling of sand always helps to make a stiff soil become more friable. If some compost heap or rotted manure has been dug in, the soil will be in good trim for flower growing. A sprinkling of garden fertiliser may otherwise be used. Having produced a good firm seed-bed of fine tilth, just make a slight scratch for the tiny seeds, and for the larger ones drills ½in. to ¾in. deep. Sow in rows 10ins. to 12ins. apart; but in small plots the seeds may be scattered broadcast. If the ground is very dry, it will be advisable to water it overnight. Sow the seeds thinly, and lightly cover them with the rake. The very small seeds may be simply covered with a dusting of fine sifted soil and sand.

It will assist germination if the seed bed is kept moist and covered with a straw mat or a sheet of grey paper. Remove the covering when the seedlings begin to appear. Prick out the seedlings before they become over-crowded. But first water both the seed bed and the bed the seedlings are to be transferred to. Plant about 8ins. apart either way. They can then be lifted later on with a goodly ball of earth at their roots. The bed can also be kept free from weeds by hoeing.—J. W.

May Jottings: Flower Bed and Border.

THE timely staking of all those flowers that need support may save a lot of disappointment, if heavy thunder showers are experienced. What a sorry spectacle some of our fine herbaceous subjects present when caught unstaked by heavy rain. Pyrethrums with their heavy blooms, Oriental poppies, their large dazzling flowers dashed to pieces; peonies twisted and broken; and many other tall-growing subjects that timely staking might have saved.

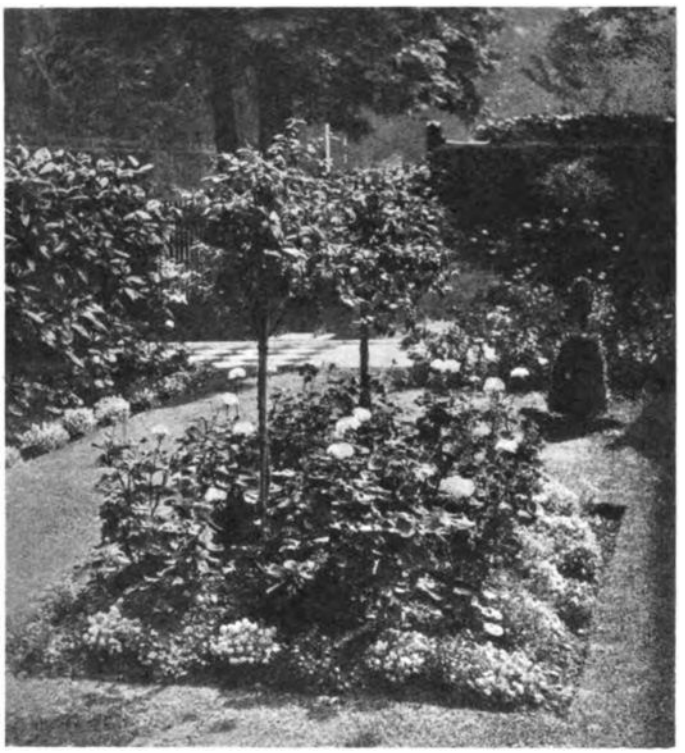
Roses will need some attention in May, as green fly is often very troublesome. A strong solution of soft soap or a good brand of insecticide are effective in keeping the fly in check. Apply the suds lukewarm during the afternoon and evening when the weather is mild or calm. Two ounces of soft soap to a gallon of water makes a good solution. One application may suffice, unless the roses are badly infested.

When dibbling out small seedlings that require planting again when larger grown, a good quantity of leaf-soil should be used, so that the plants will make plenty of roots and lift with a ball of soil attached to them. Instead of leaf-mould, a little fine turfy loam or a little well rotted manure may be used. Even in a dry season, plants will grow better when treated thus. It is always advisable to water the seedlings before pricking them out, and give them a little more water in their new position.

Bedding plants must be well hardened off before they are planted out. Even the hardiest of kinds grown under glass, in frame or greenhouse, must be gradually seasoned to an open-air life. In northern and cold districts tender subjects may not safely be exposed over-night before the end of May or the first week of June. Do not water every plant when watering, unless the soil is quite dry. If pot plants are kept continuously sodden, the soil gets sour.

A Fine Foliage Plant.

THOSE who are seeking for a plant with fine foliage should certainly consider the claims of Rodgersia podophylla. This plant, which is a native of Japan and perfectly hardy, bears leaves which measure a foot or more across and are cleft into five broad divisions. The bronzy green hue of the foliage renders the rodgersia very distinct from any other hardy plant. In a fine example the stalks bearing the leaves may be as much as 4ft. or more in height, and in any case they are rarely less than 2ft. The white flowers which, individually, are inconspicuous, are produced on tall branching spikes of a distinctive character, which makes them striking. One grows rodgersia chiefly for the sake of its foliage and the treatment should be directed towards securing a fine leafage. The rodgersia flourishes best in a peaty soil and grows most lustily where there is an abundance of moisture. On the whole, the best specimens are seen in somewhat shaded positions. The plant is of a herbaceous habit, although the leaves hang on well into the late autumn. Propagation is easily carried out by dividing the thick, fleshy, underground stems in the spring. A second species is sometimes seen in cultivation, and this is called R. pinnata. This is not such a striking plant as the first-named, for the leaves are smaller and the flowers are of a greenish white colour.—L. B.



A SMALL FRONT GARDEN WITH AN ATTRACTIVE SUMMER BED OF GERANIUMS AND STANDARD FUCHSIAS EDGED WITH ALYSSUM.

Standard Greenhouse Plants for Bedding Out.

SO many bedding schemes have a flat appearance, because of the monotony of dwarf plants, perhaps of not a particularly interesting character; a break by way of a tall plant would immediately convert the uninteresting bed into something attractive, especially if the tall subject be a standard plant that one does not often see outdoors or associate with outdoor gardening.

As a simple example of common usage in bedding schemes, the standard fuchsia illustrates the point. At the same time, some of the more choice fuchsias rarely seen outside a glasshouse might be thus employed to brighten the summer garden. Then there are standard heliotropes, brugmansias, geraniums and such plants as streptosolens and plumbagos—in fact, any hard-wooded plant—may be trained so as to occupy a place of vantage in bed or border each summer.

The standards are fairly easily trained, starting with the small plant, either from the seedling or cutting stage, and, by means of removing all shoots that appear on the sides of the stem, keep the energies of the plant to the production of a head of shoots only, leaving the stem bare. The stem grows, carrying the head higher and higher, until is evolved the typical standard that is so useful in many ways.

This may take some time, and a shorter cut would be to purchase standard trees from the nurseryman, ready for immediate effect. Not only do such plants help bedding schemes, but they are also useful for garden vases, tubs, as well as for standing in their pots upon verandas, terraces and porches.

The Decorative Aubrietia or Rock Cress.

Divide the Plants after Flowering.

THERE are quite a number of varieties of aubrietia, and few plants give a better return for a small outlay. We must look in the garden to see them in all their glory, because it is a plant that never does itself justice on the exhibition bench. That they are easily grown is beyond doubt, and if cut hard back after flowering, another but lesser crop of blooms appears. The chief flowering season, however, is from April till June, so anyone contemplating adding more varieties should procure them without further delay. They are strongly recommended for draping large stones in the rock garden and they are also seen to great advantage on old walls, where the cascades of rich blue and violet flowers are brought more or less level with the eye. They are also useful for covering banks, and are ideal for the front of borders, while they may be employed as a groundwork for tulips, etc., in beds.

An old variety, but still among the best is Dr. Mules, a rich violet purple; it possesses all the attributes of a first-rate garden plant, and if I had to confine myself to one aubrietia, this would be my choice. In pleasing contrast will be found Crimson King, while Lavender is most exquisite, with its lavender blue flowers, which are larger than most, but quite freely produced. Another noteworthy variety is Prichard's A1, a purple,

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with white eye; and quite distinct is Mrs. Lloyd Edwards, a deep violet purple; while perhaps the best of the pink shades is Lissadel Pink. There are other forms, in fact each nurseryman seems to have his own particular varieties, but those quoted may be considered to have stood the test of time and are worthy of a place in every garden, however small. Aubrietias may be divided and replanted soon after flowering, or the better plan would be to cut back the plants when blooming has ceased and directly the new basal growths appear to use them as cuttings, which root readily in a cold frame, or on a partially shaded border.—CHEPSTOW.

Clematis montana rubens.

FOR this delightful introduction we are indebted to the late firm of Messrs. J. Veitch and Sons, Chelsea, who found it in China during the early 'nineties. It is a vigorous climber, and is admirably suited for covering old trees, arches, rough supports such as oak branches, sheds and walls generally. The deep rose-coloured flowers are produced in abundance during the month of May, and the blooms are slightly larger than those of the white species, C. montana. The foliage and young stems are also slighly darker than is found in the type.

There is also a form known as Wilsoni, which produces its pearly white blossoms at the end of June and early July.

The clematis family as a whole enjoy a rich loamy soil, preferably one of a calcareous nature, so where the rooting medium is known to be deficient in lime, a sprinkling of air-slaked lime or old mortar rubble should be added at the time of planting. This work can be carried out at any period, owing to the fact that clematises are usually pot-grown till they reach their final station. C. montana and its varieties can be increased by seeds and cuttings; the latter will form roots during the month of July in a cold frame. When raising the variety rubens from seeds, considerable variation in colour will be noticed in the progeny; but many will be quite equal to the parent, both in colour, vigour and size of flower. These clematises blossom from the nodes of the pervious year's growth, so where any pruning is desirable it should be done immediately after flowering, otherwise many flowers will be sacrificed if such an operation is left till the autumn or spring.

C. montana rubens is a beautiful climbing plant, and an isolated example near the lawn is very effective. In such surroundings it should be allowed to ramble over an old tree stump or a tripod of rustic wood.—W.

A Decorative Annual for Edging.

Seeds may be sown now in the open ground where the plants are to flower.

A PRETTY annual that deserves more general cultivation is Platystemon californicus. As it is of trailing habit, it has something of the same effect as another Californian, the better known Limnanthes Douglasi. But, whereas limnanthes is within the geranium order, platystemon is allied to the poppies. The lemon white bloom, fully expanded in the earlier hours of the day, is 1½ins. across, with a bunch of stamens of the same colour and a yellow blotch at the base of each petal. The leaves are long and narrow, greyish and hairy. It can be sown in the autumn or spring, and, when once established, may be trusted to come again, year by year, in the same place.—G. J.

A SHOWY AND DWARF ANNUAL, PLATYSTEMON CALIFORNICUS.
Suitable for edgings or clumps in the border.

Mimulus for a Moist Situation.

MANY gardens contain corners and borders which are always more or less moist, where certain subjects will not thrive so well as they do in other parts. Here, however, will be found ideal places for the mimulus or monkey-flowers. They will also succeed in bogs by the water-side; but especially are they at home in damp borders. There is a class of giant forms with enormous flowers in a variety of shades and colours, which are readily raised from seeds, and which, in the south and west, usually withstand the winter, and it is from these plants that a fine display is secured throughout the summer months. They are strongly recommended, but I would also call attention to the lesser known varieties of which several have been raised during recent years. For sheer brilliance of colour they have few equals, and are especially effective in moist nooks on the rock garden, and as isolated colonies in the flower border. A very fine one is Dwarf Scarlet, compact in growth, free flowering, and, moreover, it comes quite true from seeds. Another favourite of mine is Brilliant, a form with small crimson flowers. Colt Bee is a fine shade of pure rose; while Wargrave Fire Flame, which received an award of merit from the Royal Horticultural Society, is coppery scarlet with a yellow throat. Scarlet Queen is brilliant orange scarlet and a very profuse bloomer; and Coronation bears numerous rich carmine rose flowers which are most attractive. All these florists' varieties are dwarf, ranging in height from 6ins. to 9ins. They are easily grown, but towards the autumn a few cuttings should be taken and given the protection of a cold frame during the winter months. Although many of them would pass through the winter safely, it is a wise precaution to secure the cuttings with a view of retaining the stock for the following year. Quite distinct from the above is M. Bartoniensis, a hybrid between M. Cardinalis and M. Lewisii, an ideal plant for the bog garden or border. It attains a height of about 2ft., and the dark rose flowers have carmine spots in the throat. Another good monkey-flower of the same height is M. cardinalis, an erect-growing plant with carmine scarlet flowers. All the mimulus begin to bloom about June and continue till the autumn.

The favourite flower of our grandmothers must not be forgotten, viz., the musk, or M. moschatus. For years pots of this plant were the delight of many cottage windows; but, alas! in losing its exquisite perfume it lost most of its charm, till now it is rarely honoured by being arranged with the cottager's flowers. If any Continental or American reader possesses a stock of plants with the true old musk scent, a few specimens would be readily welcomed in this country.—T. W. BRISCOE.

CLEMATIS MONTANA RUBENS IS A FIRST-RATE PLANT FOR CLOTHING A HOUSE WALL OR ANY TRELLIS WORK IN THE GARDEN.
It may be purchased in pots and planted out now.

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POPPIES FOR THE BORDER

AMONG the handsomest of border plants are to be reckoned the Oriental poppies. They have their drawbacks, it is true; their flowering season is rather short, they have an annoying tendency to tumble about especially when their big blossoms are soaked with rain, and their appearance when dying down is disreputable; but their glowing beauty more than makes amends for these defects.

Two particularly striking varieties are Goliath, which has immense scarlet flowers on 3ft. stems of unusual rigidity; and Crimson King, a splendid specimen of the bracteatum type with huge blood red flowers surrounded by green leafy bracts. It is of even sturdier habit than Goliath. Mogul is another fine deep scarlet poppy; while a comparatively recent and very showy introduction is the orange red Lord Lambourne which has delicately crimped petals. Crimped Beauty has flowers of a similar kind, as its name implies, but in colour it is pale salmon pink, and its height does not exceed 2½ft. The popular Mrs. Perry is a slightly brighter shade of salmon; Cerise Beauty is salmon flushed with cerise; Rose Queen is rosy pink just tinged with lavender; and Mrs. H. C. Stobart is almost true rose. All these are charming in colour, but they must not be placed near the red varieties unless separated from them by an ample screen of plants with either white flowers or grey or blue-grey foliage. The peculiar colour of Mahony—something between mahogany and maroon, with a dash of purple—is not to everybody's taste, but it goes well with the orange red of such poppies as William of Orange and Orange Glow and the paler shade of the dwarf Princess Ena. The white Oriental poppies are rarely very pure in tint; their petals, which in most instances are rather thin and papery, being more or less flushed with pink. Perry's White, however, which has conspicuous crimson blotches at the base of the petals, is a very fine variety.

On the whole, the best way of supporting these heavy poppies is to put stout pieces of pea-sticks not less than 3ft. tall among the young growth, driving them firmly into the ground, and, as the plants increase in height, to weave a sort of lattice-work of string between them. Bamboos may be substituted for what the West Country folk call "sticking-wood," but the latter is best. Oriental poppies can be cut half down without hurting them as soon as they have done flowering, and if, as has been previously suggested in THE GARDEN, clumps of Gypsophila paniculata or Kokejeka are grown behind them, the plumy sprays can be coaxed forward so as to veil their ugly remains. Furthermore, the dwarfer varieties of Phlox decussata may be planted in front of them to act as a further screen. The big poppies seed freely, but, unfortunately, only a small percentage of the flowers come true, the majority reverting to the old light orange red type with comparatively small flowers.

PERRY'S WHITE, A STRIKING ORIENTAL POPPY, WITH LARGE SATINY WHITE BLOOMS.

MUNSTEAD CREAM PINK, ONE OF THE DOUBLE PEONY-FLOWERED ANNUAL POPPIES, IS WELL ADAPTED FOR SHRUBBERIES.

No other perennial poppy rivals P. orientale in size and gorgeousnese; but some of the smaller kinds are admirable for the front of the border. Among these is P. pilosum, which grows from 1½ft. to 2ft. high and bears on slender stems flowers of a colour that has been described by different authorities as reddish buff, chamois and salmon, but which in fact is nearer orange than anything else. There is, however, a hybrid strain, P. pilosum × P. orientale, which varies in shade. The charms of the Iceland poppy, P. nudicaule, are familiar to all, but there is a fine orange variety, called Thibet (one of the late Mr. Farrer's introductions) which is less well known; its height is about 18ins., and it is said to be a true perennial, unlike the poppies of the ordinary nudicaule type, which, nominally perennials, are best treated as annuals. Other good varieties of P. nudicaule are to be found in the tall Harkness strain and the Coonara; the latter, which originated in New Zealand, has flowers of pretty pink and rose shades.

Equally suitable for border or rock garden is the Welsh poppy (Meconopsis cambrica), which, in its several forms—yellow, orange, double or single—is as pretty as it is hardy.

Meconopsis Wallichii, the blue Himalayan poppy, is a most beautiful plant for a moist peaty border, but it is useless to attempt to grow it in a hot dry soil full of lime.

Of the annual poppies the most effective in the border are the peony-flowered, which are 3ft. in height and have very large double blooms. Among the best varieties are Cardinal, scarlet with fringed petals; Nubian Prince, maroon red; Munstead Cream Pink; and Barr's White Colossal; but a packet of mixed seed will give excellent results. It is almost superfluous to say anything of the Shirley poppies, so widely appreciated are these dainty flowers in their delicate shades of pink, rose, yellow, orange and white. Sutton's strain of double Shirleys is scarcely so well known, but the colours equal those of the single type and they are better for cutting, although, like the rest of the poppy tribe, they are not long-lived in water.

R. H.

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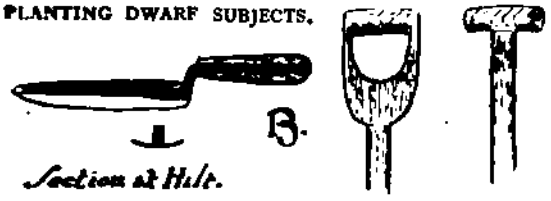
THE AMATEUR AND HIS TOOLS

I.—TOOLS FOR DIGGING AND CULTIVATING.

THE "garden tools" we see so prominently displayed in the ironmongers' windows at this season may be divided into three classes: those made for sale rather than for use; those valuable intrinsically but not recommendable for the amateur; and good serviceable tools of which the garden lover, whether amateur or professional, will never regret the purchase.

The very foundation of good gardening is proper spade digging; and the laboriousness

TROWELS OF DIFFERENT SIZES ARE USEFUL FOR PLANTING DWARF SUBJECTS.



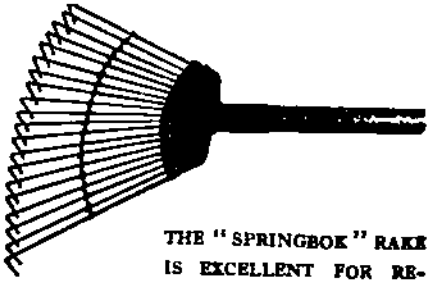
of the task may be appreciably lightened by selecting a suitable tool and by keeping it in first-rate order. When one thinks of the number of times in a single hour one has, when digging, to lift the earth-laden "pan" of the spade, the importance of balance and lightness of construction is easily appreciated. Professional gardeners who really know their work seldom use a spade larger than No. 1 size, of which the pan usually measures 11½ins. by 7ins. The amateur, especially the amateur who gardens on a stiff soil, would often do better to use a size O, which measures half an inch less each way. Then, one may save considerable weight and secure a better cutting edge by employing one of the "Neverbend" tools, which are made from the finest Sheffield saw-steel and are practically indestructible. Spades are made in many shapes to suit different markets; but those who garden for pleasure cannot go wrong if they buy the so-called "London pattern" with—it almost goes without saying—a D handle.

Many lady amateurs rely upon the "mere male" to do their rough digging; and most of the tools sold as ladies' spades are, in fact, quite useless for straightforward digging. The lady who is really anxious to do this foundation work herself cannot do better than get a standard size OO "Neverbend."

From the spade one naturally turns to the fork, a useful, even essential, tool, but one which in some gardens is used for tasks for which it is ill fitted. The legitimate functions of the fork are to break down ground already dug; to lift—or assist in lifting—shrubs and plants; to raise root and other vegetable crops; to stir or prick over the surfaces of beds and borders; and, in double-digging or trenching, to break up hard and possibly stony ground for the shovel or spade. For breaking down roughly dug ground and for pricking over beds, any good fork, even one with considerably worn-down tines, will answer perfectly. For trenching, especially in unbroken soil, a stout-tined fork with the handle steel-strapped right up to the D, and sold as a trenching fork, should be employed. To use an ordinary light fork for the purpose is merely to spoil an otherwise good tool. A trenching fork is, however, of little or no service for ordinary garden work.

For the lifting of crops and the other purposes for which a garden fork should properly be used, a broad-tined fork with a good "lift," and usually sold as a potato fork (see figure), is the most serviceable. Such a tool may be obtained in many good makes and at various prices, but the amateur cannot and must not expect to get for 3s. or 3s. 6d. a tool of the class of those for which he is asked half a guinea or more. The difference is soon apparent, both in balance and in wear. Yet the amateur with a very small and not very stony garden plot, who is prepared to restrict the use of his fork to the jobs for which it is intended, may manage quite well with a comparatively cheap tool. For those with larger gardens and for others who will go to the initial outlay to buy a really good tool, "Neverbend" saw-steel forks can be confidently recommended. These are well balanced, light in weight and wear evenly. And, above all, it is impossible to get distorted tines, either by reason of a stone jamming between them or from other causes. The tines *will* bend when sufficiently "provoked," but to remove the obstacle or the pressure is to find the fork perfect as before. This spring quality, however, does not extend to the languet; and care should be taken with *any* fork, unless perhaps a "trencher," not to use it as a lever when attempting to lift large shrubs etc., which still have unsevered root connections. An excellent fork and one which is hammer forged all in one piece—tines and straps—is the "Dreadnought," made at Wigan. This fork is made entirely from the very best quality solid bar steel without any weld whatever. The advantage of this is that it gives the fork far greater strength, for in the ordinary way the straps of a fork are welded on to the prongs and there is a danger of a fracture at the junction. For the use of ladies a fair-sized border fork is available, though most ladies can, on light or medium loams, use without undue fatigue the standard four-tined potato fork, 8ins. across and with, when new, 11½in. tines. The border fork is similar in construction to the potato fork, but made in smaller sizes.

SMALL HAND FORKS.



THE "SPRINGBOK" RAKE IS EXCELLENT FOR REMOVING MOSS FROM LAWNS.

For small planting, weeding and titivating beds the small hand-fork is invaluable. It should be of the shape shown at A on the figure, *not* with twisted tines as shown at B, this pattern being unsatisfactory in use. The same tool, but with an ash handle 3½ft. long, is particularly useful and helps to take a good deal of the backache out of gardening. See that both patterns are made of really good steel and have proper solid-turned sockets. The caution is necessary because quantities of these small forks—and trowels to match—are made (and sold) which are no better than painted sheet-iron. It has been suggested that the Legislature might well intervene to make the sale of such useless tools illegal.

The hand-fork's mate—the trowel—is really a little one-hand spade, and the best shape for it is, as shown at A in the figure. This shape, however, is by no means easy to procure, trowels with a semicircular section finding favour with most makers. Such a tool should, none the less, be sought for, and is well worth the 3s. or 3s. 6d. asked for it. Tools of this pattern can be procured, if nowhere else, from a firm of ironmongers of Guildford. The little fern-trowel shown at B is most useful to the rock gardener and also for the amateur plant-collector to take with him on his rambles.

The average amateur is over-partial to the rake; yet it is an essential tool and one which needs to be of good quality. A rake

THE NEW SHOULDER HOE SAVES TIME AND LABOUR.

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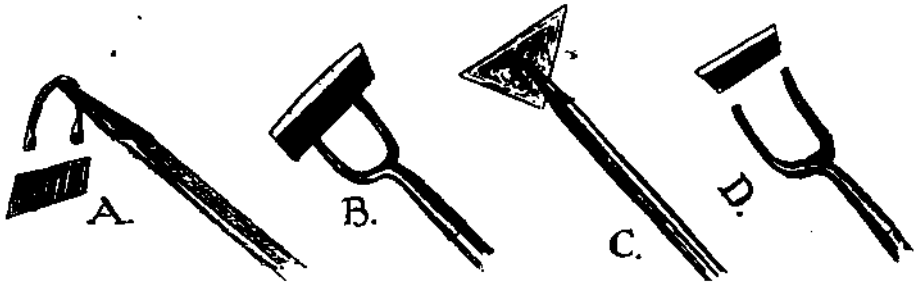
with a head about 16ins. across and with the teeth 1½ins. apart is a very useful, though seldom seen, garden tool. Rather a newcomer in this field is the well named "Springbok"



A BATTERY OF USEFUL GARDEN HOES.

rake, a moderately priced, unorthodox-looking tool which may best be described as a garden version of the well known "Parmentier" grass-harrow. *Facile princeps* for removing moss from and aerating the surface of garden lawns, it is also useful in many other directions.

Of hoes and other cultivating tools the name is legion. The three most useful types of hand-hoe are shown in the figure. These are the chop-hoe frame (A), to which blades can be fitted of various widths; the substantial Dutch or push hoe (B); and (C) the triangular hoe (for drawing seed drills, etc.), to which new blades can be fitted when necessary. For those who favour the Dutch type and use it very largely, a frame made as at D in the figure will take the ordinary hoe blades. In my experience, however, one has to get such a frame made by the local blacksmith.

A very useful aerating and weed-killing cultivator is the "Buco," made both with five tines and a long handle for border, shrubbery and kitchen garden; and with three tines and a short handle, for work among closer planting.

Where considerable spaces are devoted to one crop, there are many good and suitable wheel hoes and cultivators, of which the 'Planet Junior" tools may be taken as typical. These excellent little implements may be arranged to suit any width of row, and either to hoe, earth up or draw soil away from the rows, scuffle or break to a tilth, also for spacing drills.

Another simple and attractive "cultivator by wholesale" is the even newer "Shoulder-hoe," of which the main handle rests on the shoulder, while the work is done by drawing the cross-handles towards one and progressing backwards. It is claimed for this that it will, with less labour, do from six to eight times as much work in a given period as the ordinary chop-hoe—and do it better. This, again, will both hoe and cultivate, and is a most useful tool to possess where any considerable amount of ground is devoted to one crop, or where several crops are, for ease of cultivation, spaced at equal distances between the rows. It takes little space to store, and may quite well be used in the shrubbery and mixed border, as well as in the kitchen garden.

MIDLANDER.

WHAT OUR READERS SAY

AN ATTRACTIVE EDGING PLANT.

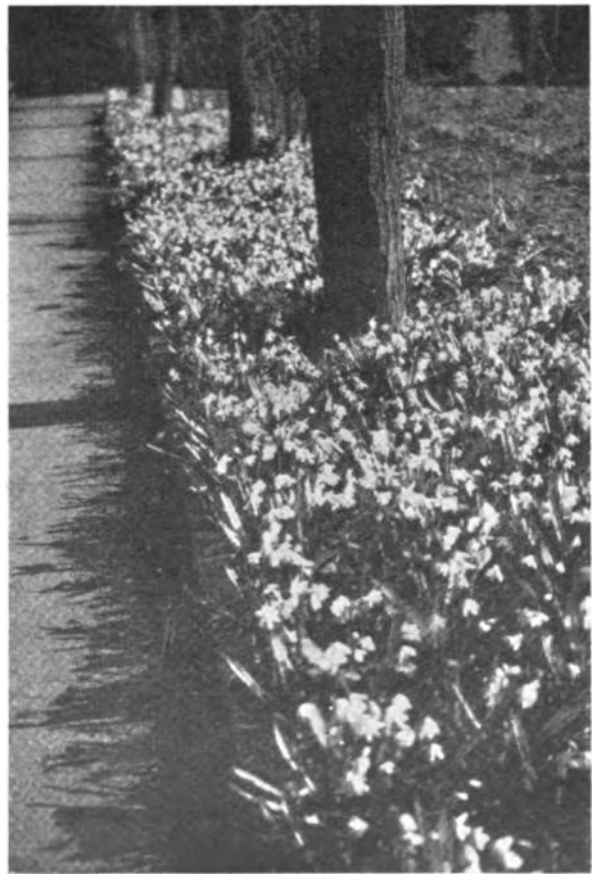
SIR,—I think the enclosed illustration of an edging of Scilla sibirica may be of interest to many of your readers. This is a spring flower which every amateur should grow. It comes up year after year without any fresh planting. It is of a bright blue shade and is about 9ins. high, and makes a fine splash of delicate colour.—MISS SMITH, *Eccleshall, Sheffield.*

GENTIANA ACAULIS.

SIR,—Referring to your correspondent's note on Gentiana acaulis, I wish all your readers who desire to grow that beautiful gem could meet with the success that I am enjoying. I have a bed about 3ft. by 5ft. on which I counted over 200 buds and fully expanded flowers the other day; it is wonderful to see how eager they seem to make a show, some plants only 6ins. across have ten buds and flowers on, these plants have kept on flowering all through last year. It is seldom there is not one or two in flower. They are planted in a bed facing east, with a gooseberry and small yew shielding them from the midday sun. The soil is a somewhat heavy loam. They certainly do not like coddling. I am about one mile from the river Dee.—S. MARTINS, *Cheshire.*

DYING BACK OF ROSE GOLDEN EMBLEM.

SIR,—Regarding the dying back in winter of Rose Golden Emblem. I, as a Kincardineshire reader, have had a few years' experience of this rose, therefo e I have had ample and annual proof of this fault with it, as well as many others in these parts. St. Mungo in his appeal to Scottish readers in THE GARDEN of April 23rd, page 271, in support of his statement (of the dying back habit of Golden Emblem), will have little difficulty in finding many to back it, at least in these northern parts. Two different gentlemen from English counties were surprised to see it flower so well here and told me they had discarded it on account of it always dying back. Of a few yellow roses we grow here Golden Emblem gives by far the best, largest and shapeliest blooms. The light soil with plenty of attention to feeding appearing to suit it. During summer it grows vigorously, making strong and magnificent growths. The later made growths are never sufficiently ripened to stand our cold winters and the tops, at least, succumb to the first hard frost, in some cases almost cut to the ground. Those with the tops only blackened usually decay well down the stem before the spring. We have had none actually die and the remaining buds always come away strongly and flower well. I should very much like to have asked the gentleman who advocated the mulching of roses (at the Hamilton meeting that St. Mungo refers to), what possible benefit (apart from manurial), or protection, mulching would be to preserve the stems of roses, as the plants in question would derive no protective help in the least. I consider it only softens and blanches the stems thus covered for the winter months and results in injury when they are exposed in late spring.—WM. GRANT, *Kincardineshire.*



SCILLA SIBIRICA, WITH ITS BRIGHT BLUE FLOWERS, MAKES AN ATTRACTIVE EDGING PLANT.

CYNOGLOSSUM AMABILE.

SIR,—I have been much interested in the notes on Cynoglossom amabile, which have appeared in recent issues of THE GARDEN. W. Linders Lea commends it as a border plant, but in my opinion such a position would not give the plants full justice. In large beds or masses is where they show their beauty to best advantage. When the plants come into flower the beds present a charming cloud of blue forget-me-not like flowers, light and graceful. The flowering period continues throughout the summer until frost cuts it down in late autumn. The plants grow here from 15ins. to 18ins. in height and beds in grass are better for having an edging of a dwarf plant. The raising of young plants presents little difficulty, as this borage is most accommodating in that respect. If it is desired to have large specimen plants to bed out, then a sowing should be made in early August on a sheltered border outdoors.

The seedlings, when large enough, may be transferred to cutting boxes of fairly good light soil, given a good watering, placed in a cold frame and kept rather close for a few days. When the plants are established,

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full ventilation should be always maintained, except during rain. If severe frost comes the frames should be closed and mats laid on. Without all the foregoing trouble good plants can be raised by sowing near the end of February or beginning of March in slight heat, if such be available. If seedlings of this sowing be attended in to the way of pricking them into other boxes, as required, and keeping them growing, they will be fine plants to put into beds by the end of May and will give a fine display of bloom. This is the method I usually follow, much less labour being entailed. They may be planted out about 15ins. apart each way without the slightest fear of not filling up the space. If any of these methods be followed in the raising of the seeds, it will be readily admitted that lifting and keeping old plants in frames throughout the winter is not worth the trouble, apart from the unsightly size they would become. I have never found old plants able to survive a winter here. If the beds which the plants occupied during the summer be not disturbed and are not dug during winter, when the ground is examined in March, hundreds of seedlings will be found pushing their way through the soil. A spruce branch or two laid on the beds will much facilitate the earlier growth of these young plants, which can be lifted, if required, the boxes placed in a cold frame and treated as stated for other seedlings. I have found Cynoglossum amabile a most accommodating plant, neither "dorty" or delicate of constitution, giving a splendid display of bloom all summer and of neat habit. I think it a most desirable plant for the amateur who has not much artificial heat at his command, and, like W. Linders Lea, presume it will be also more widely grown by gardeners as it becomes better known. —G. WILLIAMS, *Scotland.*

"THE GARDEN" PHOTOGRAPHIC COMPETITION

THIS WEEK'S GUINEA PHOTOGRAPH.

Sent in by MR. C. NIPPARD, *Bournemouth.*

This photograph represents a section of a conservatory which is circular in design. The idea has been to grow plants whose colours when combined furnish a pleasant colour scheme. The one in question is pink and white, carried out with Hyacinths Madame Kruger, Ornament Rose and Grandeur à Merveille, spikes of the latter measuring ten inches from the top to the bottom.

Cyclamen Silver Salmon and Primula obconica Giant White are arranged in small groups, this giving a more charming effect than when the plants are mixed indiscriminately. Primula obconica is a most valuable plant for the cool house, as from an April sowing plants will bloom continuously from December to June. This photograph was taken on April 11th of this year.

SPRING GREENHOUSE FLOWERS IN PINK AND WHITE.

On either side of the central lawn of this London garden are flower borders. On the shady side is a comparatively narrow border, while on the sunny side of the garden there are wide herbaceous borders divided by a path. Espalier fruit trees are grown against the walls, and in between these, standard flowering cherries, crabs, laburnums and lilacs are planted. At the end of the garden there is a small raised shrub border, which is planted with berberis, philadelphus, spiræas, flowering currants, deutzias, escallonias, etc., and in front of this is a rockery bank. The bed in the foreground is edged with nepeta and filled with mixed gladioli.—E. MILLER, *Wandsworth Common.* Award of 5s.

The pergola seen in this photograph was erected in 1925, *and against it the rambler roses American Pillar, Dorothy Perkins, Excelsa, Emily Gray and Hiawatha have been planted. It forms an effective screen and makes the garden more secluded. Lupins, delphiniums, irises and Canterbury bells do particularly well in the borders surrounding the lawn, and these plants made bold masses of colour during July, when this photograph was taken. Perennials of all kinds are also planted in the borders, and in the springtime daffodils, primroses, snowdrops and crocuses fill all the odd gaps. It makes a charming garden in a small space, and is one which can be carried out with a minimum of labour.*—D. R. BROOKS, *Stockport.* Award of 5s.

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THE FRUIT AND KITCHEN GARDEN

May in the Fruit Garden.

Reminders.

THINNING FRUITS.—Partial thinning of fruits should commence this month by the removal of the badly placed and smallest specimens. Apricots may be thinned to two to three fruits per square foot. The operation should be performed at several times to avoid too great a check to the tree.

Disbudding.—The buds on the fruiting shoots of the peach, nectarine, Morello cherry, with the exception of the terminal bud and one or two basal buds, should be rubbed out except where a growth is required for furnishing the tree. The regulation of shoots on the apple, pear, plum, cherry and apricot should commence. Do a few shoots at a time.

Apricot—Pinch growths not required for extension to a few buds.

Morello Cherries.—Keep a look out for the appearance of black fly, and at the first sign dust the trees with tobacco or hellebore powder. All wall trees should be carefully inspected for the appearance of pests, old leaves should be removed and means taken to combat the attacks of aphis, etc., on its appearance. "Abol" insecticide at the given strength may be used against aphis. Mildew may be combated by dusting with flowers of sulphur.

Strawberries.—Hoe in between the rows and get straw ready for bedding between the plants. Some of the early varieties may start to flower, and it is advisable to have some light material handy to protect them at night in case of frost.

Gooseberries.—A mulching of rich manure should be placed round the bushes. Superfluous shoots should be removed from the centre of the bush to let in light and air. The fruit can be thinned and the thinnings used for pies, etc. Watch for the appearance of caterpillars on the bushes and use "Katakilla" or some other suitable insecticide as a remedy. If arsenate of lead is used, great care must be taken to wash thoroughly all berries before using, as arsenate is highly poisonous.

Raspberries.—Those which have not received a mulch of manure earlier will greatly benefit from waterings with dilute liquid manure and covering the roots with grass cuttings. Growths which come up in excess of those required for next year's fruiting canes should be removed.

Wall Trees.—Wall trees which are dry should receive thorough waterings.

Grease Bands.—Remove and burn.

Coverings which were placed over trees to protect the blossoms from frost should now be removed, as the blossoming period is over and it is necessary that the tree should get all the light and air possible.—D.

Vegetable Notes for Northern Gardens.

Work for the Month.

DURING May, make a practice of hoeing as often as possible. Remember, weeds are easily killed while small, and by hoeing one prevents the surface soil getting hard and drying out so fast. This is the month for sowing carrots, beet and beans. The former may be grown on many kinds of land, deep sandy loam being the best for intermediate and long types and the early stump-rooted varieties for heavy land. The carrot fly can be kept off to a certain extent by mixing a little paraffin with dry earth or sand and sowing along the sides of the plants; but I much prefer a preparation called "Terrafumite." I have tried it for several years without a failure. It requires forking in a few days before the seed is sown, and, after the plants can be seen in the rows, a little sprinkled along the rows and worked in with a hoe. Sow the seed in rows a foot apart and thin out as soon as the plants are big enough to handle. I find that it pays to thin out to 4ins. apart and to use every other seedling when large enough for cooking purposes. A little "Terrafumite" used about the end of the first week in July will keep the rest of the plants free from fly and grub.

Beet can be sown in rows 9ins. apart, and thinned out early to 4ins., later taking out every other plant. Sown early in May, excellent roots can be had for use during the summer and autumn; but sow a few rows at the end of the month or even the middle of June to keep during the winter. About the middle of the month sow dwarf beans, allowing a distance of 18ins. between the rows. A good way is to dibble a hole about 3ins. deep and put two seeds to a hole, which should be about 15ins. apart. Later, if both come up, destroy one. Make a practice of sowing a pinch of lettuce seed every fortnight. If any seedlings are transplanted select a spot rather shady and give plenty of water. Radishes may easily be grown in most gardens, but they, too, like a moist and rather shady place; otherwise, if sown out in the open allotment or sunny garden, they quickly go "woody."—F. C. K.

TYPES OF SEEDLING TOMATOES.
The one on the left is a normal plant, and should be potted; the one on the right should de discarded.

Earthing up and Feeding Early Potatoes.

THE earthing up of the first crop potatoes in good time serves two useful purposes. The additional soil helps to guard the tops from late frosts and induces early swelling of the young tubers. If potatoes are not earthed up at all, the crop is rarely as heavy as in the case of earthed up ones. Furthermore, the tubers are smaller. The best manure for the potatoes is good, well rotted farmyard manure that has been stored in an open shelter and not exposed to the rains; it should be mixed with the soil before, or at planting time. It is too late now. A quick-acting stimulant may be applied now, however, with very beneficial results. Sulphate of ammonia, at the rate of 2lb. per 40 sq. yds., should be applied very evenly on the soil immediately between the plants in the rows and not between the rows themselves, just prior to the earthing. The soil will then cover in the stimulant and the roots will quickly benefit. In the case of all early potatoes and in all soils except those that are very sandy, the soil drawn up should form a ridge sharp at the top, as the ground will contain sufficient moisture. If the work of earthing is put off till late, the young tubers or their runners are liable to be cut off or unduly exposed when the soil is moved.—HANTS.

Selecting Tomato Plants.

A Point Which Every Amateur Should Note.

IN every batch of tomatoes raised from seed two types of plant appear. These types are represented in the accompanying illustration. The one on the left is a normal plant, the one on the right a rogue. The rogue plant can be readily distinguished from the normal plant by its shorter internodes and general telescoped appearance. These rogues should not be planted, as the first flower truss usually aborts and the second truss bears little or no fruit, thus reducing the possible crop considerably. These rogues can be picked out when three to four leaves have formed. In appearance they are quite healthy and stocky plants, and ones which might easily be planted if one were unaware of the existence of such rogues, but they should be discarded.—H. B.

The Magpie Moth.

ONE of the most destructive pests with which the grower of red or white currants and gooseberries has to deal is the caterpillar of the magpie moth. It is the habit of the larvæ of this moth to remain in a dormant state during the winter either among the branches of the bushes or in the soil below. With the arrival of the spring the caterpillars become active once more and are on the bushes as soon as the new foliage begins to expand. Their appetite is enormous, and it is not at all an uncommon thing for the foliage to be devoured to such an extent that a bush is practically without any leaves. The fruits are not attacked in any way, but no bush can produce a good crop without a healthy supply of leaves, and the result of an attack by the magpie caterpillar, and much more so if this happens each spring, is disastrous.

Get some arsenate of lead or Paris green and dissolve 1 oz. in 3 or 4 gallons of water, preferably lime water. Syringe the bushes with this twice while the foliage is in a young state. In May the caterpillars will be of good size, and any pests that remain should be hand-picked. A good plan is to spread sheets of newspaper under the bushes and then allow a quiet interval. Now approach and give each bush a sudden and rather violent shake. The caterpillars are so startled that they release their hold and fall on to the paper. If this treatment is repeated two or three times, large captures of the grubs may be made. As soon as the caterpillars are fully fed, they become dormant and at the end of May turn into pupæ. These are to be seen hanging from the branches, and they are black banded with orange. These should be collected and destroyed to prevent the emerging of the moths, which will take place in July.—K.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

GIVEN freedom from low temperatures and wet weather, the amateur should now be in a position to make rapid progress in the various departments of garden work. As is not uncommon in our northern climes, the prospects of a seasonable spring, based on the genial conditions experienced in March did not materialise in April, which, in many parts of the country, will be remembered for its broken weather and excess of moisture, which curtailed outside operations. In the more favoured districts, however, vegetation is well advanced as the results of risks undertaken by individual horticulturists. In a manse garden at Girvan, where I spent a brief Easter holiday, chrysanthemums were bedded out and the foliage of the early crop of Epicure potatoes was well above the surface of the ground. Pear and plum trees were rich with blossom and hardy veronicas, exposed to the sea breezes, were showing their lilac or blue flowers. Even in the fields the potato crops were in process of grubbing preparatory to weeding. Such experiences, however, are the exception rather than the rule.

Where there is a small bit of ground to spare, it may be put to good use by sowing a small quantity of sweet williams, wallflower, Canterbury bells, aquilegia or other popular flowers grown as biennials. To the novice it may seem premature, if not incredible to sow seeds of plants that are to furnish next season's display when this year's bloom is only commencing, but the long period of growth required by these subjects necessitates May sowing. The soil should first be forked over and thoroughly raked so as to remove stones, weeds and lumpy portions of earth and put the surface in a fine tilth. After drawing out shallow drills, distribute the seed thinly and cover lightly. Strange to say there is a sharp diversity of opinion among gardeners regarding subsequent treatment, and as some growers favour a loose surface, while others prefer that it should be made firm, the reader will require to use his own discretion. When the seedlings are large enough to handle, they should be pricked out into another bed, if robust, bushy plants are required for planting in their permanent quarters in autumn.

Sweet peas that were planted out in April are now making growth, which will become more rapid as the young roots get down to the food provided in the lower spit of the trench. From now onward tying becomes a constant job, but no stimulant in the form of liquid or artificial manures is necessary until the plants are coming into flower. Should the seedlings be slow in recovering from the check, which usually follows their transference to the open ground, their progress may be accelerated by occasional applications of manure water reduced to the colour of weak tea. If the soil was generously manured when the trench was made in winter, the supply of food should be sufficient for the nourishment of the root system throughout the season, but if a mild stimulant is considered advisable, especially during spells of warm, dry weather, there is no better or cheaper treatment than sooty water, which also has a beneficial effect on the colour of the flowers. A good plan which finds favour with expert growers is to apply plain and sooty water alternately during the period of bloom. Keep a sharp look-out for any indication of wire worms, which are responsible for the loss of plants and as a precautionary measure an endeavour should be made to trap them by placing pieces of potato or turnip in the soil at intervals along each side of the row. Birds are sometimes troublesome as they have a natural liking for the newly formed buds. The tits are, perhaps, the greatest enemy among the winged tribe and while it is impossible to control their movements, strands of black thread fixed at irregular intervals helps to keep the marauders away.

The economical value of a frame as an adjunct to the garden is not sufficiently appreciated by occupants of the housing schemes, many of whom are engaged in the raising of flowers and vegetables for the first time. By relying on a nurseryman to provide the necessary plants they miss the pleasure experienced by the man who raises his own seedlings and increases his stocks by cuttings at the sole cost of his labour. From whatever standpoint the proposition is considered a frame is a profitable investment, although its purchase involves a larger expenditure than was necessary in pre-war days. Much of the initial outlay, however, may be obviated, for there is nothing to hinder a handy man from constructing a frame in his spare time. The construction of the woodwork is simple and the sashes, which are made to standardised sizes, can be bought at a moderate price. The latter are now largely used by trade growers and while they may not serve all the purposes of a frame, they afford protection to plants during spells of frost and wet weather. They are usually supported by four wooden standards, and it is a point in their favour that they can be raised or lowered to suit the height of the crops to be moved from one bed to another. Sashes are also useful for protecting fruit on wall trees and accelerating the production of early vegetables, in fact they can be utilised in so many different ways that no small garden should be without them.

Early flowering single chrysanthemums are becoming more popular every year and as the flowers in their cut state make a pretty table decoration, a trial may be made with the following small collection, which is suitable for outdoor culture: Lacewing, shell pink (Aug.); Sunstar, chestnut and gold (Aug.); Shrapnel, orange terra-cotta (Aug.); Glorious, deep crimson (Sept.); Dolly Thorpe, salmon apricot (Aug.); Supreme, deep yellow (Sept.).

Six varieties that are representative of the best for greenhouse cultivation: Phyllis Cooper, orange gold; Mollie Godfrey, deep pink; Catriona, old rose; Reginald Godfrey, chestnut red; Myra, lavender suffused over white ground; Absolute, orange amber with yellow zone.

ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Summer Treatment of Ericas.

I have a bed of fifteen varieties of heaths doing very successfully in a rather exposed garden on dry sandy soil in summer, with cold frosts in winter. In early spring seedling (tall) larkspurs are inter-planted among them, which, while allowing early bloomers to be seen to advantage, provide, later, necessary shade from hot summer sun and winds, when such shelter is necessary—the annuals then being beautiful with bloom. The heaths put on new wood apace and occasional hosings with rain water keep both varieties happy on the light soil. As autumn advances and more exposure is needed, the spent annuals are pulled out, exposing to view later flowering heaths. Sufficient protection from winter frosts is given by some light scrub and scrim. This treatment allows of a large number of varieties to grow in an otherwise impossible locality.—M. E. P.

A Hint on Manuring Roses.

Liquid manure prepared from half a peck of fowl droppings and a similar quantity of soot, placed in a sack or bag and immersed for a week in a barrel or cask of water. Applied at the rate of a gallon each tree once a week, it will be of great benefit. Should the weather be dry, give each tree a good soaking of clear water first, before applying the liquid manure.—G. B.

Young Cabbage Plants.

Many amateur gardeners and allotment holders purchase their young cabbage plants, especially at this season of the year. Unless precautions have been taken with the lifting of these plants and subsequent care taken to avoid root dryness, much damage is done to the root system. I find it a good plan to treat purchased cabbage plants as follows: Dig a hole in the garden, and in this make a thick puddle, insert the roots in this puddle, covering them with more soil and leave them protected from strong sunshine for a day or two. This encourages new roots to the extent that the plants suffer little or no check when planted in their permanent quarters.—J. H.

A Pseudo Cement Path.

At country houses, where acetylene gas is in use, the residue, when dry, may be turned to good account for path making. It should be used at the rate of one part residue to three parts finely sifted ashes, turned two or three times in a dry state and then puddled up exactly as if the mixture were cement and sand. This should be spread over the path (preferably on a layer of cinders), to a depth of at least 2ins. If the weather is frosty, the path should be protected by means of old sacks at night, until set. When almost set it is a good plan to roll it with a light roller. This path is practically equal to cement.—W. L.

How to Get Rid of Moles.

Moles are often a great pest in gardens and I was for several years much bothered by their runs in my flower borders, until I tried the following experiment, which has completely sent them away. On seeing a fresh run I immediately took a bamboo cane and made a hole into the centre of the run, then I dropped into the hole two or three moth balls (naphthaline) and re-covered with soil, which drove away the moles.—H. W. G.

Growing Tall Nasturtiums.

Where room permits a most effective display of tall nasturtiums is obtained by sowing the seeds along the four sides of a large square, or on the circumference of a circle. Pea sticks, sufficiently supple, are then placed within the sown lines, interlaced and bent inwards so as to form a dome. The vines climbing this support soon become a mass of foliage and flowers, which completely hide the sticks. This idea occurred to me when needing to deal quickly with an ugly piece of waste ground. The result was so satisfying that I have never lost an opportunity since of growing nasturtiums in this way.—C. M.

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GREENHOUSE NOTES

How to Succeed with Petunias in Pots.

THE double-flowered petunia forms a splendid pot plant and is most useful as a flowering subject in rather sunny greenhouses, glass porches, windows and balconies. It makes a good companion plant to the fuchsia and may be associated with the zonal pelargonium. While the single-flowered petunias are easily raised from seeds, the double ones must be propagated from cuttings. The present is a good time for the inexperienced cultivator to start with young, well rooted plants. Such may be bought from firms advertising in THE GARDEN. Cold frame treatment should be given from May to mid-June, open-air from the latter date to mid-August, then greenhouse treatment for exhibition purposes; or cold frame treatment throughout for July and early August shows. Of course, the plants may be retained under glass all through the summer when the object is the decoration of such structures. For all stages a light, rich and porous soil is the best in which to grow healthy plants. Their roots are fine—rather fibrous—and porosity of soil is essential. The rooting medium must also be a firm one; then, if the plants are kept in a congenial atmosphere, they will retain the fine leaves down to the rims of the pots. Feeding should commence directly the flower buds form—those buds that are to be allowed to develop into blooms. The young plants are now about 6ins. high; the tips should be pinched off, then side shoots will form; when these are 1in. long repot the plants. In due course take the tips of the side shoots, and finally repot the plants; allow all shoots, from this stage, to grow on and develop flowers. The plants will now be bushy and continue to bloom until frosty weather or late autumn time comes, as the petunia will not withstand frost outside nor grow well under glass after mid-October. Cuttings should be rooted in August and early in March.—G. G.

Care of Pot Plants.

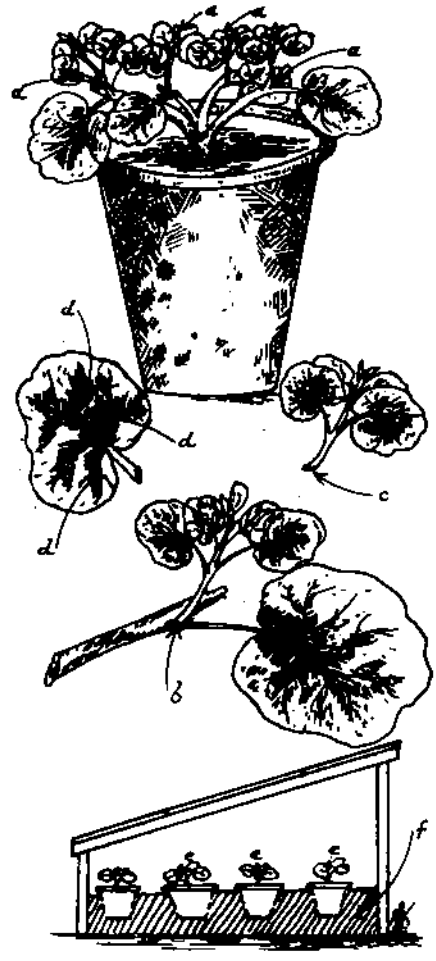
A COMMON cause of failure with these is indiscriminate watering, and especially is this the case with plants in windows. Some wait till signs of distress are apparent, while others go to the other extreme and give water at too frequent intervals. The aim should be to keep the soil sufficiently moist always, but no definite rule can be laid down as to when plants require water. The best guide, perhaps, is the weight of the pot when lifted. If the soil is becoming dry it will be light compared with its weight immediately after watering. A little practice in this direction will enable the inexperienced to become proficient in the art of watering in a short time. While all plants require to have the soil moistened throughout, special care is needed in regard to azaleas and similar plants, otherwise the compost, consisting mainly of peat, will shrink and the plants in consequence will be much distressed even if they do not collapse.

Ferns which have been grown in a humid atmosphere must be watered very carefully when placed in rooms, where the air is always dry; and a draughty position will almost certainly mean disaster with these. Even with less susceptible plants cold currents of air are always dangerous. Plants procured in small pots and grown on are most likely to be a success, as at that stage they quickly adapt themselves to their environment, and with care will remain in health for years. Established plants that have filled their pots with roots will benefit from stimulants during the growing season. There are several suitable fertilisers available, and if used in accordance with instructions supplied with them they will prove highly satisfactory. The points to bear in mind are: not to give too strong doses and to see that the soil is thoroughly moist before using them.

The value of soot water, especially for foliage plants, should not be overlooked. Plants of this class should be carefully sponged occasionally to remove dust from the leaves. It may be noted that the present is a suitable time for repotting window plants.—J. C.

Present Treatment of Begonia Gloire de Lorraine.

THIS winter-flowering begonia is a general favourite with amateurs who wish to have a good display of pink-coloured flowers in their warm greenhouses from October to Christmas. When the flowers begin to fade



soon after Christmas, the old plants should be most carefully dealt with as regards watering, as there is little active growth. Plants should be placed on shelves where the maximum amount of air can reach them; then damping of succulent stems is avoided considerably. As the sun gains in power its rays, coupled with the artificial heat in the structure, cause young shoots to grow from the axils of the leaves on the basal stems, and by the month of April many young shoots will be large enough to sever from the old stems and insert as cuttings in the same way as are zonal pelargonium cuttings. The soil suitable for the cuttings is one composed of good sweet loam three parts, one part peat or leaf-soil well rotted and one part coarse dry sand. The insides of the pots must be clean, and those ranging from 3½ins. to 6ins. in size can be used; of course, several cuttings should be inserted in each pot, the number according to size, but do not overcrowd. The shoots to select are similar to those shown at *a*, *a*, *a*, *a*. Take them off at *b* with a small heel attached as shown at *c*, they will then be ready for insertion. Leaves may be propagated, the stem inserted or the ribs notched on the underside as shown at *d*, *d*, *d*. In the case of the leaves they are pegged down on the sandy surface with the stalk end buried in the soil. Cuttings are inserted singly in small pots or a number round the sides as shown at *e*, *e*, *e*, and then the pots are plunged in coconut fibre, *f*, placed in a propagating frame, the latter being fixed over hot-water pipes if they are available Uniformity of moisture at the soil level and in the atmosphere and judicious shading are main points to observe.—GEORGE GARNER.

Spiræas After Forcing.

THERE is no gain whatever in keeping spiræas in pots after they have been forced into bloom and fulfilled their mission. They are never satisfactory for potting the following autumn, but should be given a place in the garden where, turned out of pots, they can be planted out and left for a couple of years. It is a mistake to leave them for long in pots or in a cold frame, where, not infrequently, they become dry and suffer for want of water. In May, at any rate, they should be given open-air quarters, providing them with a partly shaded position and soil in which some old manure or rough vegetable compost has been worked. Large crowns can be divided, as it is not the largest clumps which produce the most flowering spikes. In planting them out the top of the crowns should be just covered with soil and no more. Little attention will be needed for the first eighteen months beyond keeping the ground free from weeds. A half-shady border or spot is the best for herbaceous spiræas, as here they will have a chance of re-establishing themselves, but they ought not to be subject to "forcing" the succeeding year. Rest and recuperation is needful for them, as it is with other things brought into heat—rhubarb, for example.—W. L. L.

Shading the Greenhouse.

SOONER or later during May it becomes necessary to shade the greenhouse, not only to prevent too rapid drying up of pot plants, but also to prevent scorching sunshine from doing harm to plants, shoots and flowers It cannot be denied that permanent lath or similar blinds are best; these admit a diffused sunshine and, being capable of immediate removal, allow the grower to shade when and as much as desired. When an outside blind is not possible, inside blinds of light cloth or other material may occasionally be rigged up; they, too, will be erected at a short space from the glass. For the man who cannot attend his houses closely, permanent washes are best; and the man who has but a small house to look after cannot do better than procure a shilling tin of powder for making up the wash. Older washes were made from whitening and buttermilk, flour and milk, whitening and size (2 oz. per gallon, previously dissolved in a little hot water), white or green distemper and so on. Limewash may also be used, but it has a caustic action and may spoil the paintwork in time. Apply with a brush, stippling each stroke for neatness; apply on a warm dry day. Shade the front glass only of tomato houses; shade all the roof of fern houses; and shade other houses so as to deflect the direct rays of the sun when it is strong.—LANARKSHIRE.

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SOME FAVOURITE BIENNIALS (see page 306).

UNIV. OF MICH.

THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2893 Saturday, May 14th, 1927 Price TWOPENCE

SWEET WILLIAMS have long been favourites in our gardens. They rank among the most beautiful of our hardy garden flowers, and are worthy of being grown in every garden, both large and small, throughout the country In recent years they have been greatly improved, not only in regard to the size of their flowers, but also in range of colouring, with the introduction of many fine new art shades The modern strains give plants carrying large and bold trusses of sweetly scented blooms in a wonderful variety of pink, cerise, scarlet and crimson shades In some cases, separate colours can be obtained true from seed. The flowers look well if massed in beds by themselves, or in clumps in the mixed border. Beyond a fairly good soil, the plant requires little attention. Seed can be sown in the open from now onwards and the seedlings transplanted in autumn or spring for flowering next year.

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THE GARDEN

VOL. XCI.—No. 2893. MAY 14, 1927. PRICE TWOPENCE.

COLOUR VARIATION IN WALLFLOWERS

IT has been brought to our notice that this season wallflowers are showing an extraordinary variation in the colouring of the flowers. This is especially the case with the dark crimson and red varieties, where this stippling and streaking of the blooms have been so marked as to alter the whole appearance of the variety. This is a point of some importance, since, quite naturally, blame may be attached to the source of supply of the seed or plants purchased on assurance that it was a definite colour variety. It may be said at the outset that no blame attaches to the seedsmen in this connection. In trial grounds which have been visited the effect of this stippling is most marked where the plants are grown in the mass, even more so than in the case of many private gardens and many of our seedsmen are at present doing their utmost to discover the cause of the trouble and institute proper remedial measures. It certainly is most unfortunate where the garden display has been spoiled to any extent, when, for example, seeds of a certain dark-coloured variety have been purchased to blend with some other flower to produce a pleasant colour combination.

This streaking effect in the colour of the blooms is not by any means a new feature in the case of wallflowers. It has occurred in several instances in previous years, but this season it would seem to be more prevalent than usual in the majority of gardens. Its appearance this year is difficult to account for. There would appear to be many reasons involved and in all probability it will be found, when the matter is thoroughly investigated, that it is due to a combination of factors rather than to one isolated point. As far as the evidence goes to show at present it seems to be a fact that the alteration in the colour is in no way due to the seed. The stippling does not appear to be hereditary and will not be transmitted to the next generation. That is to say, that if seed is gathered from a flower showing streaking and sown, it will produce, given suitable conditions, plants with flowers of the normal colour of that variety. On the other hand, changes in the environmental conditions surrounding the plants undoubtedly seem to exert some influence on the alteration of the colour pigments which go to make up the flower colours. The position and situation of the plants, the soil and the weather, combined with the time of flowering, all appear to play some part in the production of the stippled effect. Plants growing in an exposed situation show it more than others growing in a sheltered position alongside a hedge or wall, where they are protected from frost and cold, drying winds. The presence or absence of lime in the soil also seems to affect variation to some extent. On the whole this is a point which requires further investigation, as it may be that the degree of lime present in the soil composition upsets the pigmentation by chemical alteration in the food material taken up by the plant. As is well known, the wallflower likes a little lime in the soil, but it may be that the plant can be treated too kindly in this direction. The weather this year has undoubtedly been responsible for a great deal. After a period of a week's rain there was a sudden check to almost perfect summer conditions, which dried out the soil suddenly, causing the surface to become hard and caked, with the result that there was no aeration. These conditions have continued up to the time of writing and have been accompanied by cold, drying winds and heavy frosts at night, which have not helped matters. All transplanted subjects have suffered badly through the fact that they have not been able to become thoroughly established before the onset of drought with these drying winds. The sudden change in the weather at a time when the flowers were forming and colour pigments being laid down may well account for this variation, although it is difficult to prove. As has already been indicated, it is probably not due to the action of any one of these factors, but rather to a combination which has led to this effect, which is so marked this season. It seems certain that it is not disease, nor is the trouble hereditary. It is purely physiological and shows the reaction of the plant to an association of unsuitable conditions, embracing weather, soil and situation. It is a matter for prompt and thorough investigation by any of our leading horticultural institutions engaged in similar problems and it is to be hoped that some further results may ensue from a critical and scientific examination which may prevent a recurrence of the trouble. In this way these institutions would be rendering a useful service to the seedsman and amateur gardener alike.

"The Garden" Photographic Competition.

ON page 317 of this week's issue will be found the photographs published in connection with our Photographic Competition. Readers' photographs will be published every week, and we urge all readers who are interested to send along photographs of their gardens during the summer months. Particulars should accompany all photographs so that the illustrations will prove more helpful to the majority of our readers. The rules governing the Competition will be found on page x.

This Week's Work

For Gardens in the South and Midlands.

Prune early-flowering shrubs when they have finished flowering.

Tie up all creepers and climbers.

Harden off all bedding plants and clear the beds of bulbs and other spring-flowering subjects.

Start to harden off dahlias and border chrysanthemums ready for planting out.

Mulch with well decayed strawy manure any newly planted shrubs.

Thin all seedlings in the flower or vegetable garden.

Prepare ponds and bogs for planting water lilies and bog plants.

Fill in gaps in the rockery with pot-grown specimens of late-flowering alpines.

This Week's Work

For Gardens in Scotland and the North.

Begin planting out half-hardy annuals.

Sow Shirley poppies, mignonette, eschscholtzias, etc., in the open where they are to flower.

Transplant chrysanthemums and bedding calceolarias.

If needed, prune lilac and flowering currants after bloom is over.

Syringe roses with a solution of soft soap and quassia extract.

Lavender cuttings strike easily now if taken with a "heel."

Every wasp killed in May means a nest less in autumn.

Cauliflower may still be planted in dull or showery weather.

Sow main crop carrots.

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SOME BIENNIALS FOR PRESENT SOWING

ALTHOUGH the number of hardy biennials is not very large, the plants form an important class. It is, of course, the habit of these plants to flower the season following that in which the seed is sown and then, in most cases, the specimens die. That the biennials are valuable subjects is realised when we remember that wallflowers, Canterbury bells, sweet williams, foxgloves, etc., belong to this group. Biennials are easy to raise owing to the fact that the sowing of the seed may be made at almost any time from the spring until the late summer, just as happens to be most convenient. With one or two exceptions it is best to sow the seeds in a prepared border out of doors. Avoid a position where the soil is very rich, and never manure the ground before sowing. Rank-growing plants are not desirable, for these will not stand the winter so well as the tough, sturdy specimens which it should be the aim of the grower to secure. Dig the seed bed over and then tread rather firmly, completing the process by raking up the surface finely. With a hoe draw shallow drills 1in. deep, 2ins. wide and 1ft. apart. In these scatter the seed thinly and draw the fine soil into the drills again. Label each drill with the name of the plant and so avoid the annoyance later on of not knowing quite what you have grown. In due course the seedlings, which may require a thinning, will become large enough for removal. They should then be lifted and transplanted at a wider distance apart, there to remain until the autumn or spring, according to the time when the sowing was made. September is a good month to transfer biennial plants to their flowering positions, although if a late sowing has been made the removal will have to be carried out in March. Each plant should be lifted with a good ball of earth to avoid undue disturbance of the roots.

Just a few biennials are best raised in cold frames. The most important of these requiring this attention include stocks, meconopsis, michauxia, Dianthus chinensis and Gilia coronopifolia. In some sheltered gardens stocks may be raised and grown on out of doors, but more often than not such serious losses occur during the winter that it is far better to have the young plants in a cold frame. The following biennial subjects are most worthy of the attention of the gardener:

CANTERBURY BELLS ARE EXCELLENT FOR MASSING IN CORNERS OF THE BORDER.
They are now obtainable in many shades of pink, blue and mauve and with single and double flowers. The large cup and saucer varieties are particularly effective.

Adlumia cirrhosa (*Climbing Fumitory*).—This hardy climbing plant is a native of North America, and it has much divided foliage and pretty flesh-coloured flowers. The species thrives in a warm light soil, and is at its best when growing against a wall or a fence at the side of which a few pea sticks have been arranged to aid in supporting the slender stems.

Androsace lactiflora (*Rock Jasmine*).—This charming little plant hails from Siberia, and as it is only about 6ins. high it is a good subject for the rock garden. The plant thrives in sandy loam and peat, and during the summer it produces its small white flowers in great abundance.

Aster Bigelovii (*Starwort*).—A very handsome biennial aster which grows to a height of 2ft. or more and produces masses of violet-blue flowers. A. Bigelovii is a native of the southern states of America.

Campanula Medium (*Canterbury Bell*).—Everybody knows these showy flowers, but it is worth pointing out that there are three distinct sections in cultivation, namely, those with single, double (var. flore pleno) and cup-and-saucer (var. calycanthema) flowers, the last named being specially attractive. The best flowering plants of Canterbury bells are secured by sowing the seeds in April or May. If potted up in the autumn and kept in a cold frame during the winter, Canterbury bells make very showy specimens for the cool greenhouse or conservatory, where they will bloom two months ahead of those out of doors.

Cheiranthus Cheiri (*Wallflower*).—Wallflowers are indispensable in the spring garden, and their culture is of the simplest. One important point to bear in mind is that the plants should be set out in firm ground, otherwise a great deal of sappy growth will be made and the specimens are likely to suffer during the winter. The pinching out of leading shoots is useful when wallflowers are young, for this ensures bushy plants that can be relied upon to flower freely.

Dianthus barbatus (*Sweet William*).—During recent years the sweet william has been enormously improved, not only in the size of its flowers, but also by the introduction of new shades of colour. To secure the best plants it is well to scheme for a long growing season. The seeds should be sown at the latest by the middle of April.

Dianthus chinensis (*Chinese or Indian Pink*).—The varieties of this plant are very showy indeed, and as they produce richly coloured flowers in varying shades practically through the summer, they are worth more attention than has been given to them. The seeds should be sown thinly in shallow boxes filled with light sandy soil in the summer. The young plants are wintered in a cold frame until planted out in April. The Chinese pinks must have a sunny position and light, rich soil. They are very attractive in flower beds and the blossoms are splendid for cutting. Chinese pinks may also be grown as annuals if seed is sown in a heated greenhouse or on a hot-bed during February. After transplanting the seedlings are kept under glass until May, when they are planted out. When treated as biennials, however, Chinese pinks usually give much better results.

A BORDER OF EVENING PRIMROSES.
A fine yellow flowered biennial.

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Digitalis purpurea (*Foxglove*).—The strong point in favour of the foxglove is that it will grow almost equally well in shade or in sunshine. There are now many beautiful varieties of the foxglove, most of which are worth growing. The variety known as monstrosa or gloxinoides has a huge flower at the top of its spike. The giant primrose or buff-coloured foxglove is certainly a handsome form, and this comes true from seed. When once established in a garden, self-sown foxgloves will come up in abundance, and there is rarely any lack of young plants.

Erysimum (*Fairy Wallflower*).—These plants, which grow well in any ordinary garden soil, resemble wallflowers. They should be sown in the open during the summer, and in the following year they prove valuable for spring bedding in association with other plants.

Gilia coronopifolia.—This is a very striking half-hardy biennial with tall, unbranched stems 3ft. to 4ft. high. The flowers, which are produced in the summer, are of a reddish purple colour. The seeds should be sown in a frame during July and August.

Lunaria biennis (*Honesty*).—Honesty is one of the old-fashioned favourites which still finds a place in many gardens. In addition to the ordinary purple variety there is one with white and another with very deep purple flowers. Honesty is raised from seed without any trouble at all, and when once established there are usually plenty of new plants about.

Matthiola incana (*Brompton and East Lothian Stock*).—In recent years the attentions of amateur gardeners have been concentrated more on the annual ten-week stocks than on the Brompton and East Lothian forms. This is a pity, for there is something very stately about the Brompton group which is not so noticeable in the other kinds. Seeds of these biennial stocks should be sown in a cold frame in spring or out of doors in the summer. There are many fine sorts showing a wide range of colour. Many of the East Lothians bear very brightly coloured blossoms. Matthiola tristis (night-scented stock) has pale purplish flowers and is grown in a similar manner to the Bromptons.

THE OLD-FASHIONED HONESTY, LUNARIA BIENNIS.

A decorative biennial for outdoor and indoor use.

Meconopsis (*Himalayan Poppy*).—The Himalayan poppies will sometimes develop as perennials, but as a rule they are best treated as biennials. The seeds should be sown in April or May in a cold frame with partial shade. Pot the young plants separately and keep them in the frame during the winter, placing them out in April. Meconopsis like a somewhat shaded position and must have plenty of moisture. There are several very fine species, one of the best being M. Wallichii, the blue Himalayan poppy, which grows to the height of 4ft. or 5ft. and produces large numbers of blue or purple-blue flowers.

Michauxia.—A plant related to the campanulas, two species of which (M. campanuloides and M. Tchihatcheffii) are commonly grown. Both these have white flowers. The seeds should be sown in the summer and the young plants must be kept in a cold frame until the following spring.

Œnothera biennis (*Evening Primrose*).—This well known plant with its fragrant pale yellow flowers will always be popular. The variety known as Lamarckiana has much larger yellow blossoms and is a great improvement on the type. Self-sown seedlings of the evening primrose are abundant in many gardens.

Onopordon (*Cotton Thistle*).—Several of these striking plants are biennial in hab't. The seedlings come up freely in the open border. The three best of the biennial cotton thistles are O. arabicum with purple flower-heads, O. bracteatum, the silver-leaved thistle and O. Salteri with white stems. These cotton thistles often grow to the height of 8ft. and are most imposing subjects.

Verbascum (*Mullein*).—Two kinds of mullein are biennial, and both of these will seed freely in any common soil. The species are V. olympicum and V. phlomoides, both of which have yellow flowers.

LATE-FLOWERING ROCK PLANTS

THE great aim of everyone who loves or tends a rock garden should be to keep it interesting and beautiful all the year round. With careful management it is possible to have a few flowers in evidence, even through the depth of winter, and new late summer and autumn flowering plants are frequently added to the catalogues, making it possible to have quite a bright display until October.

The great wealth of plants that bloom from March until June makes it fairly certain that there will be a wealth of flowers during that period, and in too many places the rock garden or rockery is scarcely visited after that time, and its interest is said to be over for the season. Supposing the rock garden is more or less planted on the bedding-out principle with masses of aubrietia, mossy saxifrage, early-flowering sedums, etc., its beauty is bound to wane and the interest in it to grow thin about midsummer; but with the great wealth of plants obtainable an almost even display can be kept up until autumn.

It may appear to be a heresy, but I, for one, think it is quite possible to have too much colour in a rock garden at one time, especially when that mass of colour is obtained early in the season at the expense of the summer months. Great drifts of aubrietia, mossy saxifrage, iberis, alyssum and similar things make a brave show while they last, and that is the best that can be said for them.

GENTIANA SINO ORNATA—THE FINEST OF LATE FLOWERING ROCK PLANTS.

A quieter and more natural effect is obtained when the above and other early subjects are planted almost alternately with late-flowering plants, thus giving patches of restful green between each mass of colour. And you have the feeling that you are not prodigally using all your treasure at once. There is no need for this method to produce niggled effects, for a good large pocket or ledge filled with a given subject is far more pleasing than isolated plants scattered indiscriminately all over the rock garden. The system also does much to prevent the inevitable clashing of colour when a great number of shades come very close to each other.

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Any good catalogue of rock plants gives the months in which the plants bloom, and it is easy work to find a good number that are at their best in August and September, and a few that are interesting through October. And it is wonderful how much longer some of the early plants will keep in bloom if their seed-pods are removed. The production of masses of seed heads is a great strain on the plants, and if time can only be found to remove these when the flowers fade the majority of things will flower a second time. This I have proved with many of the mossy saxifrages, and nearly all campanulas can be carried well into the autumn by the same simple means.

If asked to name plants suitable for a late display my thoughts would first turn to Androsace lanuginosa, for it is easy to grow and a joy from July to October. Old worn-out plants may not do well, but young plants, which may be easily struck from cuttings in a frame during summer, will trot about like miniature verbenas, and grow into large plants the first season. The best place for it is on a ledge or in a small pocket, where it can droop over a rock, which shows up the silvery foliage and bright flowers with best effect. No matter if the plants appear to suffer in the winter, for they will spring up strongly from the base in spring, and are all the better for a severe cutting back in March. The companion variety, A. lanuginosa oculata, should also be planted.

The gentians are good subjects but they are not everybody's plants, and they may fail to do well in some gardens. But they are very beautiful, and if the conditions that suit them are borne in mind there is little fear of failure. One of these, at least, Gentiana lagodechiana, I have found very easy to grow with a west or east exposure, and it is quite comparable with the spring joys, G. xerna and G. acaulis. And there are at least six other late-flowering kinds worth considering, above all the beautiful G. sino-ornata with its trumpet flowers of brilliant azure blue.

Another autumn favourite is Zauschneria californica and its varieties. Given a place on a warm sunny mound or ledge, where it will never get too wet, it simply luxuriates, and is capable of diving under a good big rock and coming up on the other side of it. The silvery foliage makes a suitable setting for the crimson flowers.

Last autumn I saw a patch of Verbena chamædrifolia upon an amateur's rock garden that was a glowing mass of crimson, and yet not so crude a colour as to be offensive. The one thing against it is that it is not quite hardy in some districts, but it is an easy matter to save some cuttings in a cold frame.

Most of the small campanulas carry on for a long time, and their first cousins, Platycodon Mariesi and its white variety, produce their large blooms all through the summer. Viola cornuta remains in bloom for about nine months of the year, and the true papilio varieties are good enough to grace the most elaborate rock garden. Even such a commonplace plant as Polygonum vaccinifolium provides an attractive carpet of pink late in the season.

A long list of names might be given, but they are all found and dated as to their flowering season in the right catalogue, and it is enough to say there are gems under the names of achillea, chrysogonum, erigeron, erodium, linaria, mimulus, papaver, potentilla, sedum, silene, statice and veronica. Nor should the bulbs Zephyranthes candida and the autumn-flowering cyclamen and colchicums be forgotten.

Nearly all rock plants are now supplied in pots, so that it is possible to make renewals at almost any season of the year. All these late-flowering plants do well if planted in the spring, and the majority make good clumps before their flowering season. With these, and with good breadths of fine foliage for the winter, the rock garden may be made beautiful and interesting through every month of the year. T. H. W.

AURICULAS for the BORDER and ROCK GARDEN

These have been at their best for the last two or three weeks, and now is the time to undertake cultural treatment, such as repotting for increasing the stock for next year.

THE auricula has been a great favourite for many years, and here we have a choice group of plants admirably suited for the cold frame; while many are available for the flower border and rock garden. It should be borne in mind that the auricula is quite hardy, and the real object of the cold frame is to preserve the meal or farina on the leaves of some varieties, while the flowers are protected from rain, when their full beauty is revealed. The auriculas are divided into several groups, such as alpine, selfs, white-edged, green-edged, grey-edged and fancies. The first-named section contains the finest of the auriculas, both for frames and the border.

A wood frame will answer the purpose well; then it can face south during the winter, and be placed on the north side of a wall or building for the summer.

Repotting.

In April the plants will be in full bloom, and as they pass the flowering stage the annual repotting is carried out. The end of May should see this work completed, and the plants set out on clean ashes in the frame, where they will soon become established if lightly shaded from strong sunlight. Over-potting must be guarded against, and, for specimens that have reached their maximum, pots 4ins. to 4½ins. in diameter will be ample; while many plants will take a smaller receptacle. Good drainage is essential, and the compost should consist of fibrous loam 3 parts, leaf-mould 1 part, with a liberal sprinkling of silver sand or crushed oyster-shells added to render the whole porous. Most of the soil should be removed, the tap-root shortened if needed, and any woolly aphis found on the roots destroyed with tobacco powder or methylated spirit, the latter being applied with a small camel-hair brush. Press the soil fairly firm, and when the repotting is completed the leaves should be on a level with the soil.

For a few weeks give just enough water to keep the foliage plump, but directly root action is vigorous the supply must be increased. When this stage is reached the lights can be removed both day and night, providing there are no signs of heavy rain. About the end of October less water will be needed, and during the winter months very little is required, because damp is the chief enemy of the auricula at this period. All dead and dying leaves must be removed when they will part readily from the stem; and if there are any signs of decay, dust the affected parts with powdered charcoal. In the spring, when the spikes appear, the roots must be kept moist, and when the flowers begin to open a light shading will enhance the colour of the blooms. Admit plenty of air on all favourable occasions.

A FINE SHOW AURICULA.

As the plants are going out of flower now they can be repotted. Plants growing in the border can be increased by taking offsets and inserting them in fresh soil, where they will root easily.

Offsets.

Named and special varieties are increased by means of offsets, these being removed from the parent plant in February, at the time of potting on in August. Those with a few roots attached are best potted off singly, while others without roots should be placed around the sides of pots until rooted. If potted on as required, these will soon make flowering examples. Auriculas may also be raised from seeds; but remember, germination is often slow, and seedlings may appear at intervals for twelve months or even longer.

Insect Pests.

Green fly and woolly aphis are the chief insect pests; the former is easily destroyed by fumigation, and also the latter if above the soil. Those beneath the soil are dealt with when the annual repotting takes place.

The chief factors in the successful cultivation of auriculas are cleanliness, keeping the plants cool, careful watering, prevention of damp (such as drip from the lights), allowing no water to accumulate in the heart of the plant, and giving plenty of fresh air whenever the weather is dry. W. B.

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PLANTS FOR SMALL TANKS AND POOLS

There are any number of moisture-loving plants which can easily be grown in a small garden if given a situation round the margin of a small pool, while water lilies and other aquatics can be planted in the pool or tank itself. A few of the best are described in the following article.

THE beauty and interest of any garden is considerably enhanced by adding a few representatives of desirable aquatics or bog subjects. Nothing adds more to the delight and restfulness of a garden, even a small one, than water in the form of a small tank or pool. In these notes I shall cater for the small garden, such as I visited the other day. It consisted of a small more or less circular rock garden with a cement tank in the centre. The difficulty which confronted the owner was what plants to place in this tank. Regarding the tank or small pond, the area covered is a detail to be settled on the spot. It may only be a few feet in length and less in width, but the depth is all important. If it is desired to grow some of the larger nymphæas, then a depth of 3ft. to 4ft. is required, and, of course, to be really effective the whole should be on a larger scale. However, as small tanks are the subject of this note, there is no necessity for them to be so deep; 1ft. to 2ft. in depth is ample, and whenever possible I would choose the highest figure. When lining the tank or pond with cement, the average bricklayer will make it as smooth and shiny as possible, but this crude method can be considerably improved by sprinkling ordinary gravel over the cement before it becomes set or rigid. While recognising that the square or oblong tank is the only possible one in some gardens, there are many where the design could well be somewhat irregular and, consequently, much more effective. Where the tank is formal in outline, it could be improved by an occasional rock garden stone, especially if it was carefully selected with a few chinks and crannies in it which would be planted with a number of small-growing alpines. The edges of small tanks are sometimes rather glaring, particularly when the water is a few inches below the normal level. This defect can, however, be remedied by the judicious planting of a few creeping plants which will break up the line if not entirely cover the unsightly edge. Here and there the king cup, Caltha palustris, and C. polypetala will be effective if given an occasional watering, or the various forms of Trollius europæus, Primulas rosea, sikkimensis, japonica and denticulata would look well. Mimulus is also very fine, especially the varieties so easily raised from seeds; while the forget-me-not, Myosotis palustris and cardamines are also useful. Where the pond or tank is surrounded by grass no plants will be needed, because the turf can be laid level with the edge of the water.

CROWNS OF WATER LILIES PLANTED IN BASKETS AND PLACED IN POSITION IN A SMALL POND.

For the smallest tank, or even a tub, the small-growing water lily, Nymphæa pygmæa alba, is strongly recommended. with its pure white flowers, while N. p. helveola is a shade of sulphur. In one illustration is seen crowns or plants of this nymphæa such as are received from a grower, and in the other picture the same plants are ready for placing in the water, but a couple of stones may be needed to keep them in position. Old baskets are often recommended for water lilies, but I have used a piece of discarded wire netting for this purpose. The receptacle is merely a detail, but it should be of sufficient durability to remain intact until the roots have taken possession of the soil. This consists of partly decayed turfy loam with a little rotted manure. No further attention will be needed for some time, but in confined quarters it is advisable to lift and replant every four years to prevent overcrowding. The best time for planting aquatics is mid-April for mild areas and May for colder districts. Other suitable nymphæas are NN. odorata minor, yellow; gloriosa, red; Laydeckeri rosea, rose; Frœbelii, deep crimson; Aurora, orange red; and W. Falconer, rich bright ruby. There are a few others suitable, but the owner of a small tank will only need two or three plants, because each one will require a surface space of 3 or 4 square feet to develop its leaves and flowers during the summer months. In conjunction with water lilies we ought to encourage a few other plants, such as the water hawthorn, Aponogeton distachyon. It produces fragrant white flowers which float on the water, and it is always effective. Ranunculus aquatilis will stud the pool with myriads of white flowers with yellow stamens, but this plant is occasionally rather rampant. Stratiotes aloides, the water soldier, is also white, and Butomus umbellatus, the flowering rush, is pink, while the bog bean, Menyanthes trifoliata, is interesting with its rosy white flowers. The chief fault of this plant is that it is overvigorous and needs reducing occasionally to keep it within bounds. For our purpose the water violet, Hottonia palustris, is available, the pretty rosy lilac flowers being produced in whorls, the spikes rising about 1ft. above the water. The floating water plantain, Elisma nutans, is a rare British plant of neat habit and three-petalled white flowers. The small floating aquatics are merely placed in the water, but those with a quantity of roots are treated similarly to the water lilies, but much smaller receptacles will suffice. A constant flow of water is not essential to the well-being of aquatics, but it will be found an advantage to have a water tap in close proximity to the tank. An outlet may be desirable, but not a necessity, evaporation will account for a certain amount of water, and if this loss is made good from time to time the water will remain in excellent condition and not be objectionable. Water gardening may be termed one of the latest phases of hardy plant culture, and its devotees (especially in a small way) are becoming more numerous each year.

T. W. BALSCOE.

CROWNS OF A WATER LILY ENCASED IN WIRE NETTING AND WELL DECAYED LEAFY LOAM READY FOR PLANTING AND AS THEY WERE FIRST RECEIVED FROM A GROWER. *They may be held in position in the tank or pond by placing one or two flat stones on top.*

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THE BUSY MAN'S PAGE

Polyanthus Primroses.

Sow Seeds Now.

JUST now these old-world spring flowers are making a fine show, not only in the garden but in the woodland, where the partial shade encourages the varied colours and tints to develop to the best advantage. Seedlings, undoubtedly, give excellent results, especially if a good strain is obtained, and if not already done the seeds should be sown at once. Directly the seedlings are large enough they should be transplanted on a partially shaded border in lines 1ft. apart and about 6ins. between the plants. Here they will thrive until the autumn, when they can be transferred to their flowering quarters.

Plants that are flowering this year will be found useful for the wood or copse, and the best of the varieties can be marked while still in flower with a view of increasing the stock of these extra fine forms. When the flowering period is over, the plants are lifted, divided into single crowns, and planted in rows similar to the seedlings. These will make good specimens for next year. If the weather proves dry, the roots may require a little water until they are established.

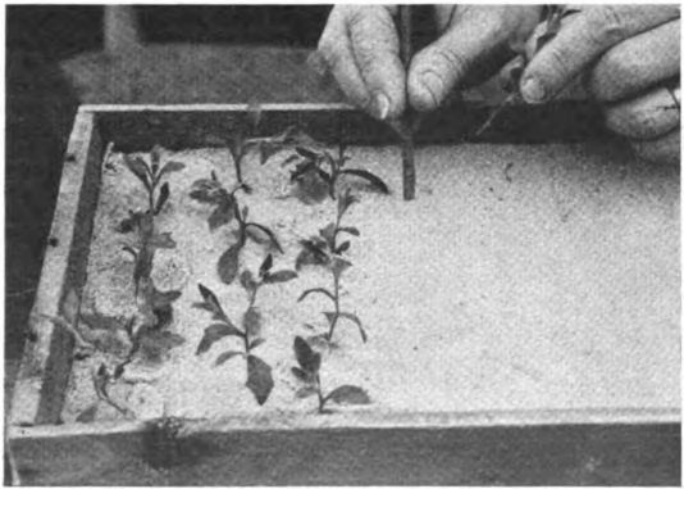
There are some excellent strains of polyanthus in existence, such as Giant White, Giant Yellow, the magnificent Munstead strain which contains fine shades of yellow and pure white, crimson and mixed varieties. may be increased by cuttings. These are best taken when the plants pass out of bloom; secure them some 2ins. or 3ins. long and dibble into a sandy, shaded border or into boxes in a cold frame; those in the open will strike more readily if covered with a handlight, after being watered, while any in the frame may be shaded for a time. At no time allow the soil to become dry, yet do not sour it by repeated and unnecessary soakings. Growers who sowed seed earlier in the year in order to secure extra large plants the first year, may give their plants ample ventilation from now on; plant out during moist weather in June, July or August. After flowering is over, cut back large tufts; in this way they remain manageable, compact and beautiful.

DAFFODILS AND EARLY FLOWERING TULIP BULBS CAN NOW BE LIFTED AND LAID IN A BORDER OF SOIL AND THE ROOTS ROUGHLY COVERED OVER.

They can be left there until July or August when the growth will be thoroughly ripened and the bulbs ready for storage.

Increasing Aubrietias.

AUBRIETIAS are easily raised from seed, which may now be sown in the open border, or at any time until the middle of June. Select a semi-shaded border for the purpose, then rake the surface into the finest possible tilth; draw out the necessary number of shallow drills, 6ins. apart. Place a handful of dry sand in a bowl and into it carefully pour the fine seed; mix thoroughly, and scatter sand and seed along the shallow drills; cover with the thinnest covering of soil. Germination does not take long in such a border, but the seedlings progress very slowly; when they do become sizable, pick out those which are causing overcrowding and transplant. During hot weather, keep the soil moist and dew the plants overhead in the evenings. Transplant in autumn or early spring, into permanent quarters. When named or choice varieties are grown, they



INCREASING AUBRIETIAS BY MEANS OF CUTTINGS.

These should be about 2ins. or 3ins. long and placed either in a sunny border outside or in a box in a cold frame. Choice named varieties can be increased in this way.

Renovate Room Plants Now.

THIS is the best time of year in which to renovate room plants, so that they may continue in health and vigour for another year, at least. They may not need repotting, but, in such a case, we recommend that some of the old soil be picked out and new loam put back in its place, with some leaf-mould or manure added in the case of green plants. When repotting, pick out much of the old soil with a blunt stick before repotting, and then put the plant back in the same pot or one a size larger; should the soil be wet and the plant sickly, wash its roots clean in water and then repot. In practically all cases, too, pot up firmly, ramming the soil in round the old roots carefully with a blunt stick. Palms, aspidistras and the like will be rejuvenated if the leaves are individually laid on a board and sponged with lukewarm soapy water; spray afterwards with cold clean water, but on no account sponge with milk, oil, etc. Aspidistras with variegated leaves are potted up with loam only, not rich loam, and the pot should first be nearly half filled with crocks. Do not imagine that cigar ash, oil, cold tea and the like are good for house plants; they are not to be used at any time. Water plants by dipping them in water for ten minutes; allow to drain for another ten minutes at least before replacing in saucers; do not add driblets of water daily, but water as above when required.

Bulbs After Flowering.

BULBS planted in permanent stations need no attention, they will look after themselves, but it is those bulbs grown in pots, beds, window boxes and similar positions, that will, with proper treatment, recuperate and flower freely again in two years' time. Narcissi, which first of all did duty in pots, can be planted out in the woodland or under deciduous trees. Even tulips succeed in the grass where the turf is not too dense. When the daffodils, hyacinths and early-flowering tulips are past their best, all the old flowers should be removed, with a view to preventing the formation of seed pods, which will considerably weaken the bulbs. In many instances it will be necessary to remove the bulbs before they have completed their season's growth. Now this should be carefully performed; lift them with plenty of roots and with as little damage to the foliage as possible, after which they are laid in soil in any part of the garden till the bulbs have dried off. If the weather is dry, give an occasional soaking of water and bear in mind that the bulbs can be arranged closely together. When the growth is fully ripened, lift the bulbs and store in a dry shed till August or September, when they can be planted in such permanent places as described above, or in other parts of the garden, where they will eventually furnish a lot of useful flowers. The May-flowering tulips ought not to be lifted till the end of May or early June.

The Value of Mulching.

IT is almost impossible to over estimate the importance of a mulch or surface dressing of manure, leaves or some other material to the surface of the ground about the roots of trees, shrubs, herbaceous plants, vegetables, fruit trees, etc. The beneficial effects are soon to be noticed, particularly during a long period of dry weather. The mulch not only acts as food for the surface roots, but it checks the parching effects of the sun's rays and prevents excessive evaporation of moisture from the soil. A good mulching soon pays for itself in the time saved over watering. Where an unmulched plant might require almost daily watering, those which are protected in this manner will often stand well for several weeks without any further attention. Quite the best time to apply the mulch is in the later part of the spring, for by then the soil has become a little warmed after the cold of winter.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Chrysanthemums for the Border.

THERE is no doubt about the popularity of the early-flowering chrysanthemums. A grower of cut flowers for market assured me that no matter how fine China asters may be, as soon as the chrysanthemums appear they are always favoured. This is doubtless due to their lasting qualities and to the wide range of colours. Any ordinary garden soil is suitable if the ground is well dug previous to planting. Manure should be added if it is very poor. Chrysanthemums like a fairly sunny position, and will not flourish under the shade of trees. Set the plants 18ins. or 2ft. apart, preferably in groups of three. It is advisable to put in a stake about 2ins. from the main stem, to prevent the tender shoots from breakage by the wind.

Old Plants.

Where roots of hardy chrysanthemums have been left in the border all the winter, these can now be lifted, divided and replanted. This division makes a surprising difference in the quality of the blooms, and I certainly advise that it should be done each season. In the north where it is customary to winter plants in a cold frame, the light should be left off for a few days before the plants are set out in the border.

Good Varieties.

In making selections among so many sorts of hardy chrysanthemums, with such widely varying colours and characteristics, we gladly take as a guide the results of trials made by the R.H.S. in 1923. In these, 270 varieties were planted, and from those which received the awards of the committee of experts I have made a selection of some most useful to the small gardener. All these flower early, *i.e.*, before the frosts come to spoil the outdoor blooms: Framfield Early Primrose, September white, Horace Martin (yellow), Golden Almirante, Bronze Goacher, Freda (pink), Mme. M. Masse (mauve), Mrs. W. Sydenham (crimson), Jamie (purple). A few good singles are Golden Firebrand (very early), Taplow White, Fairy (pink and white), Midnight Sun (fiery terra-cotta). Single varieties lack the sturdy habit of the doubles for withstanding autumn winds and rains.

Enemies.

The tender growth of chrysanthemums is readily attacked by black fly and the leaf miner. The maggot feeds on the tissues between the two surfaces of the leaf, causing whitish patches which are unsightly and affect the plant's health. As a preventive of this, and also of black fly, spray the leaves during June with extract of quassia or paraffin emulsion. Where the leaf miner is observed, pinch the leaf between the finger and thumb to kill the maggot.

MAY IN THE TOWN GARDEN.

WHAT TO DO THIS MONTH.

1. *Plant out stocks, asters, pentstemons, calceolarias and all summer bedding plants.*
2. *Keep clematis, climbing knotweed and other creepers tied up as they grow. Otherwise they become entangled.*
3. *Prune early-flowering shrubs after they have flowered.*
4. *Plant out dahlias. This is the time to purchase new varieties.*
5. *Sow seeds of biennials, such as honesty, wallflowers, Canterbury bells, forget-me-nots, etc.*
6. *Syringe roses and other plants immediately green fly appears.*
7. *Keep the surface soil loosened between growing plants to prevent loss of soil moisture and to keep down weeds.*
8. *Thin out seedlings growing in the borders. Six inches between each plant is the minimum for most annuals.*
9. *Give water to climbing plants and wall trees that are grown against house walls. A good soaking occasionally is better than frequent surface waterings.*
10. *Syringe or sponge the foliage of smooth-leaved plants if the weather is dry. Do this in the evening.*
11. *Sow beetroot, also salad crops, such as radishes, mustard and cress, lettuce, etc.*

Summer Flowers.

FOR long months they have remained behind the closed doors of greenhouse and frames. Very patiently have they waited, and now the order for their general release has come. May brings with her a free pardon for the imprisoned summer plants, and soon they will come on barrows and carts to the markets, and thence to the homes of the amateur gardeners. The raising of summer bedding plants is an enormous industry and I have sometimes been staggered by the sight of the quantities of plants inside the greenhouses of our large nurseries. Petunias, fuchsias and lobelias and all such plants fill the houses to overflowing at this, the busiest season of the nurseryman's year.

Those who have not grown petunias will find them the earliest of flowers with which to make a display. They like a rich soil, and well decayed leaves or similar matter should be dug into the soil where they are to be planted. They have specially good points for the small garden, as they flower continuously for a long period if care is taken to remove dead blooms, and their colours are particularly bright and attractive. A fairly sunny position should be chosen and during dry spells water should be given. Petunias are specially good plants for window-boxes and they grow freely in town gardens, where they particularly appreciate an evening showerbath after hot sunny days.

In a limited space it is of first importance that the plants selected should flower soon, and should flower for a long period. I would suggest for this purpose the following: snapdragons, stocks, pansies and violas, pentstemons for sunny gardens, and calceolarias and tobacco plants for shady gardens. To these, of course, could be added such plants as carnations and geraniums.

A SMALL TOWN GARDEN MADE BEAUTIFUL WITH SUMMER FLOWERS.
Now is the time to prepare for a bright summer display.

Garden Competitions.

READERS who have entered their gardens for local garden competitions will be interested in the points which the Gardens Guild judges look for when the garden inspections are made. A maximum of 40 points is awarded on the following basis:

Culture	20
Design, arrangement and difficulties overcome	10
Cleanliness of soil from weeds and plants from pests	5
Special features ..	5
Total ..	40

It behoves all amateurs to try as far as possible to achieve success in each section and thus attain the maximum number of marks.

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NOTES ON THE FLOWER GARDEN

Dwarf Campanulas for the Rockery.

THE great interest shown to-day in rock gardening has brought into prominence plants of a diminutive character, and it is questionable whether at any other period there have been more growers of them. Among subjects which can be employed in a variety of ways in a garden, dwarf campanulas are now receiving a large share of attention, and every year almost we find additions to their ranks. Few things about a rock garden or rockery give greater pleasure or, when once established, take less looking after. At this season of the year many plants change hands, and to those who may not have had much experience in procuring them from a distance, it does not, as a rule, appear to matter very much as to *how* plants may have been grown for the purpose of despatch so long as they reach their destination.

CAMPANULA GARGANICA OF SOMEWHAT TRAILING HABIT, A FINE MINIATURE BELLFLOWER FOR THE ROCKERY.

Advantage of Pot-grown Plants.

It is just here where the beginner fails to appreciate the advantage of campanulas (and many other rock plants) grown in small pots, and turned out and carefully packed for removal, over those lifted from a bed which also have to travel by train or through the post. There is no doubt that losses among pot-grown plants are few in comparison with those whose roots are disturbed and have to be sent on a journey. I mention this for the guidance of those who may be adding to their collections. Many firms recognise the necessity of growing plants for this important department of gardening in pots, and the little cost which is added is scarcely worth consideration when one weighs the advantage.

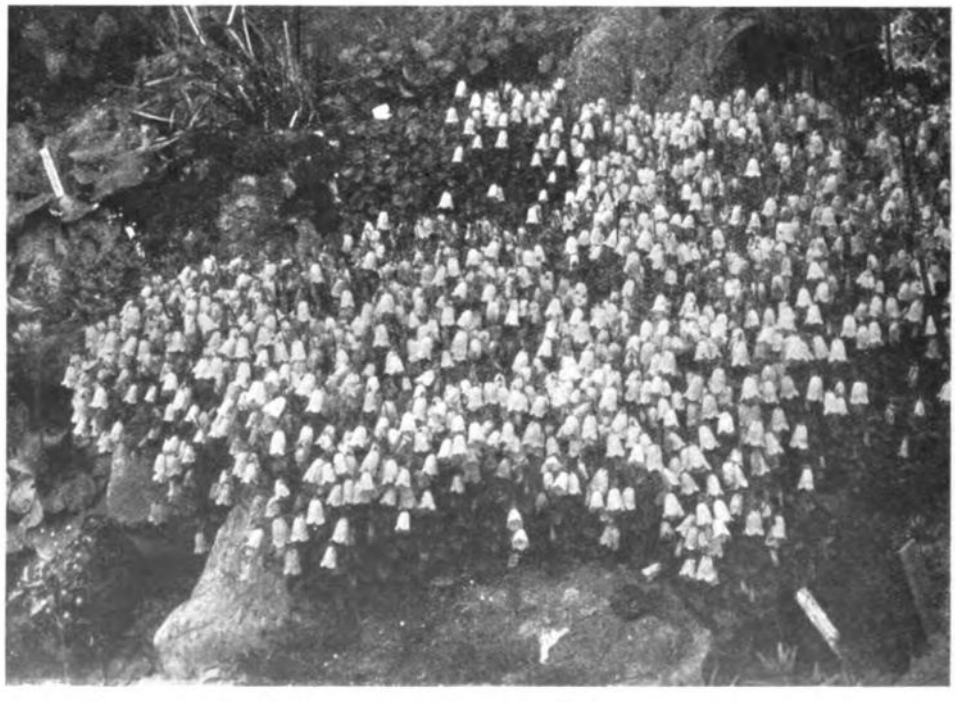
Propagation.

A few plants purchased to form the nucleus of a collection will enable one to get together a stock in a year or two. Many campanulas perpetuate themselves from seed, so that once a plant has become established and flowered, seeds drop and plants spring up. An examination of a flagged path in my own garden the other day revealed minute seedlings coming up, the result of self-sown seed last year. Personally, I think there is more success following the sowing of seed of campanulas and some other subjects in crevices of stones than in planting young grown plants, as they often adapt themselves more readily to their environment. Propagation may also be effected by splitting up the roots in spring, and also from cuttings taken after flowering, and inserting these in pans or boxes of light soil in which sand has been incorporated. They should be kept in a cold frame for a time, preferably in a north aspect, or at any rate should be shaded until roots have formed. Plants are better divided every two years or so.

Varieties.

As to varieties in dwarf campanulas, there is great choice, but some of the older forms are still hard to beat when one remembers their free-flowering qualities for edging purposes, for planting in niches in the rock garden or between stones in paths.

Appended is a short list of sorts that, planted in any moderately good garden soil in which grit or sand has been incorporated, will do well in most places: pulla, purple, 4ins. to 6ins.; cenisia, pale blue, 4ins. to 6ins.; G. F. Wilson, deep blue, 9ins.; Portenschlagiana (syn. muralis), blue, 4ins.; carpatica, in blue and white forms, 6ins. to 9ins.; garganica (a trailing variety), blue; turbinata, greyish foliage, flowers borne singly on stems of about 6ins. in height, deep blue.—F. W.



THE DAINTY NODDING BELLS OF CAMPANULA PULLA.

Loosestrifes.

THE lysimachia and lythrum, which embraces the white and yellow and purple and rose forms of loosestrife, are widely distributed, particularly Lysimachia vulgaris, which is to be found in all parts of the country. It is a tenant of streams and ditches, producing panicles of yellow flowers in profusion, and is not without value when kept in hand in shady borders or shrubberies. One of the most familiar as a creeper, found on old stone walls and in many country gardens, is the creeping jenny (L. Nummularia). It is used often for planting in window-boxes for draping the fronts with yellow flowers. L. clethroides makes a good border plant. It is a Japanese species growing 2ft. or 3ft. in height, producing spikes of white flowers and adding to its beauty in autumn by its highly tinted foliage. These will grow almost anywhere in a garden, but should have a place away from other plants, as the roots permeate the soil, necessitating frequent division to keep them within bounds, and, further, ought to have the advantage of a moist, shady position.

The purple loosestrifes, like the preceding, love a moist, deep soil, though they are not absolutely dependent upon it for growth, as witness plants growing on slag heaps, among cinders on railway embankments. Others that make handsome plants for growing in a garden are distributed under the genus lythrum, and of these virgatum (rosy purple), Rose Queen (bright rose) and atro-purpurea (purple) make handsome plants for the shady side of a garden, growing about 3ft. in height and retaining their flowering spikes for several weeks. They are easily propagated by division of roots, which is best done in autumn.—C.

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Double Herbaceous Peonies.

ALTHOUGH catalogues list a fairly large number of double herbaceous peonies, these fine flowers do not seem to have captured the gardening fraternity yet, and really few varieties are widely known. They are easily grown; in a medium loam and with a light dressing of manure dug in round the roots every spring, they grow strongly without further care or attention. As supplied from the nursery, the plants are generally two or three years old; they may not flower the first year, even at that age. They are glorious plants when in bloom, although some years for some reason or other they fail to flower. Among the best I would class Agnes Kelway, Boule de Neige, Lemon Queen, Canary Yellow, La Tulipe, The Bride, Roses elegans, Sarah Bernhardt, Enchantress, Lady Bramwell and Odette. It is much too late to plant this year, but intending growers ought to visit a nursery in June and pick those colours which they think suitable.—H. H. A.

A Handsome Garden Pea.

Lathyrus grandiflorus.

IT is not often that one sees this fine pea well used, unless it is in cottage gardens, where it has always been a favourite. But few plants are better for rambling up to 4ft. or 5ft. among other growths on a bushy bank, or in garden ground over cleverly placed short pea sticks. The flowers, borne in pairs on stalks about 2ins. long, are large and showy—nearly 2ins. across the flattened wing. They spring from axils which are also furnished with a pair of leaves on 1in. stalks, ending in a longer tendril, so that each pair of flowers is well supported. The colour is a bright crimson, shaded—too near magenta to be quite pleasing, though this rank quality is more or less condoned because of the undeniably handsome effect of the whole plant. Looking into the flower, one sees how the keel is curiously twisted, first to the right and then finishing to the left. It should be planted cautiously, as it rambles freely at the root.—J.

LATHYRUS GRANDIFLORUS MAKES A CHARMING RAMBLER IN AMONG SHRUBS.

How to Increase Sweet Jasmine.

AN easy way of increasing the stock of this sweet-scented climber is to look round the base of an old plant for rooted shoots or suckers. These, if removed at once from the parent plants, shortened to a foot and replanted, will quickly become established. There are usually several such shoots to be found in the position indicated, and there is very often room for a few vigorous specimens of this highly esteemed favourite for covering walls and porches.—C.

A Decorative Shrub.

CLETHRA ALNIFOLIA is one of the hardier species of the genus, some of which are too tender for our gardens except in the extreme south or west. The creamy flower spikes are all the more welcome because they come in August when so few shrubs are in bloom. It is a native of the United States. The illustration shows a small portion of a bush about 7ft. high that is growing in a sheltered shrubbery in a west Surrey garden, partly protected by a neighbouring bamboo.—G. J.

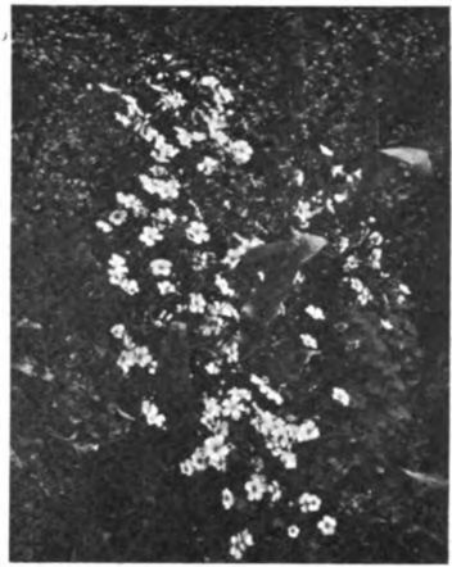
THE CREAMY FLOWER SPIKES OF CLETHRA ALNIFOLIA LOOK MOST DECORATIVE IN A SMALL SHRUBBERY.

Plants for Flagged Paths.

WHEN plants are received for setting between spaces in flagged paths it is not enough to scoop out the soil and press them in, as not infrequently it is sad and heavy. The better plan is to raise the stones temporarily, replace the old soil with light, gritty compost, plant the clump, and then put back the flags. By doing this it is more likely that campanulas, and in fact any other plants, will establish themselves more quickly.—F. W.

An Admirable Rockery Plant.

ONE of those satisfactory plants whose flowers look large in proportion to the size of the plant is Arenaria montana. The pure white bloom is not only large but is abundant, often almost covering the prostrate cushions of leaf and stem, which are seen at their best when hanging over rocky stonework. It is easily raised from seed, but if seed is to be kept from home-grown plants, it should be looked for early, as it ripens quickly and may easily be lost by delay.—G. J.



ARENARIA MONTANA WITH ITS CUSHIONS OF PURE WHITE BLOSSOMS IS A FINE PLANT FOR THE ROCKERY.

Silvery Edging Plants.

EDGING plants, the foliage of which is of a grey or silvery colour, have much to commend them, as, during the summer, even when they are not in flower, they make an attractive finish to borders or beds. Cerastium tomentosum is quite hardy, and will often thrive in dry positions and soil that is sandy. It grows about 6ins. or so in height, the leaves are whitish, and the innumerable flowers are pure white. It can be raised from cuttings taken after plants have done flowering, and inserted in a bed of sandy or gritty soil, shading the bed for a few days if necessary. Cerastiums can also be raised from seed, which may be sown in a cold frame or warm border in May or June. Among antennarias that serve a useful purpose as edging plants, being hardy and dwarf, and needing only ordinary soil and simple culture, but prefer sunny places in a garden, A. tomentosa is one of the best known. A. minima makes a suitable plant for carpeting or edging. Both have whitish foliage, and grow only a few inches in height. The flowers are of a daisy-like character. Division of roots in spring is a favourite method of perpetuating antennarias, though they can also be raised from seed. Cineraria maritima is a half-hardy perennial with finely cut silvery foliage, sometimes used near the edge of a border, which has been superseded by C. m. Diamond, with snow white leaves, and has become popular as a bedder. They can be raised from seed sown in heat in spring, but it is only on older plants of the second or third season in the case of maritima that the whiteness of the foliage is best seen. After Pink Mrs. Sinkins has passed out of flower the neat grey foliage makes a good edging for several months.

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ZONAL PELARGONIUMS FOR WINTER FLOWERING

Few plants give less trouble or are easier to manage in the small greenhouse. The plants can be gradually hardened off this month and placed out of doors during the summer.

IT is somewhat surprising that more amateur gardeners who have at their disposal a conservatory or greenhouse from which frost can be excluded, do not grow the popular "geraniums" for brightening this structure during the winter months.

When a good winter display of bloom is required, the plants must be grown specially for that purpose; it is useless to lift plants from the best in the autumn, pot them up, place them in a greenhouse and expect them to continue blooming throughout the winter. That is expecting too much, and can only result in disappointment.

The best plan is to use plants which have been raised from cuttings taken from stock plants in February or March. These cuttings must not be dried off at all before insertion, as are the autumn struck cuttings, but should be trimmed with a sharp knife and inserted singly in thumb pots containing a sandy compost and placed in a propagating case, leaving a little ventilation always on the top of the case. On bright mornings the cuttings may be given a very light mist over with a fine syringe; the object being to prevent them from flagging and they may be lightly shaded from bright sunshine. As soon as they have rooted, which will usually take place in about a fortnight, remove to a position near the glass in a house having a temperature of 50 to 55 degrees.

Should the amateur not have facilities for propagating his plants in this manner, they can be purchased very cheaply now from any reputable nurseryman.

The plants may be potted from the thumb pots in large 60's, using a compost consisting of two thirds fibrous loam, one third leaf mould, and a liberal admixture of silver sand and old mortar rubble to render the whole open and porous in texture; pot firmly and return to the shelf in the greenhouse. Do not apply water until absolutely necessary, it being better to allow the roots to commence growing into the new compost, which should be just pleasantly moist, before additional moisture is supplied.

Gradually harden off and in May they may be transferred to a cold frame and treated in the same manner as are the bedding geraniums. If necessary, the point of the leading shoot may be nipped out to ensure a bushy growth. When well rooted round, but before they become pot-bound, transfer to 5in. pots using a similar compost, but with the addition of a little dry cow manure and bone-meal. As before, take care to pot firmly, using a wooden rammer for this purpose. A final shift into 6in. pots may be given as soon as necessary.

When all danger of frost is past, stand the pots on a bed of ashes in a sunny position and the only attention necessary during the summer will be to water carefully—never allowing the plants to suffer for want of water—and to remove any flower buds which appear. When well rooted, applications of dilute liquid manure and soot water at regular intervals will be beneficial, but too much must not be given, otherwise soft, unripened growth will be produced.

Towards the end of September remove the plants to a light position in the greenhouse, first of all scratching away a little of the surface soil and replacing it with a little new soil containing about one third its bulk of Clay's Fertiliser. The pots should also be washed before housing. On no account must the plants be overcrowded, otherwise they will lose much of their foliage. Ample clearing space must be allowed between each plant.

Plenty of ventilation must be given when the plants are first housed and even during the winter it is only necessary to maintain a minimum night temperature of 45 degrees. Watering must at all times be performed with care, taking care not to allow the soil to become sodden, but at the same time the plants must not suffer from excessive dryness. In damp weather a chink of air should always be kept on the top of the house and the requisite temperature maintained by a little fire heat, this also assists in maintaining a dry atmosphere.

From September onwards the flowers must not be picked off, but as soon as each flower bud appears the tip of the shoot should be nipped out immediately above it; this concentrates the energies of the plant into the developing flower and a fine large truss of bloom results.

Given this treatment, zonal pelargoniums will give a continuous display of bloom throughout the winter and at this season their brilliance enhances their value.

T. H. E.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

"WINTER lingers in the lap of May" and justifies the exercise of caution on the part of amateurs engaged in garden work north of the Border. Recent weather experiences are not usually associated with late spring and early summer, but recall the conditions that are more general in December and January. Successive days of alternating falls of snow, hail and rain were followed by sharp frosts varying in their intensity from 9° to 12°, while the prevailing north-east winds contributed to the cold snap and inflicted damage to vegetation that is widespread and incalculable. Seedling vegetables, particularly turnips, that had appeared above ground, were ruined; sweet peas that were planted out or in process of hardening off had their foliage discoloured; the fresh green growth on the rose trees is now brown; and fruit bud and blossom have suffered in a more or less degree according to the situation. All this is discouraging to gardeners, but the effect is much more serious to the seedsman and nurseryman, whose business, for the time being, is at a standstill. Those folks who were deceived by the illusory promise of summer have cause to regret their premature action, for in many cases the work of sowing and planting will have to be done again.

Complaints are numerous this season regarding rhubarb going to seed. As many small gardeners are unfamiliar with the appearance of the massive vessel containing the flower, it may be explained that a contributing cause of this undesirable development is the manner in which the roots are left bare of stalks in autumn. Pulling should be moderate and careful, as every leaf removed weakens the plant, and having regard to the crop in the following year it is a good plan to restrict defoliation and allow a few stalks to remain on each root when the season is nearing a close. Another point worth remembering is that the larger the leaves of one season the stronger will be the crown for the next, hence the importance of feeding all through the growing season. Liberal applications of liquid manure have a beneficial effect and bone manure has a wonderful influence on the growth of rhubarb. The stalks are at their best when the leaf has reached full size, and the proper method of pulling is to give the stalk a twist outward and a jerk down at the same time. On the removal of the flower-spikes picking should cease for the season.

"The antirrhinum or snapdragon is undoubtedly on the up-grade at present. It is never likely to cause a *furore* like the sweet pea, but its great usefulness is certain to become more and more appreciated." This quotation is taken from a little volume written by Mr. William Cuthbertson seventeen years ago. It contains two assertions and a prediction. While the former are as true to-day as they were in 1914, the latter has been fulfilled in a remarkable degree. Snapdragons are held in high esteem among all classes of gardeners in Scotland for their easy culture, ornamental effect and long period of bloom, but they are seen at their best in beds of distinct varieties or when massed in a series of self-coloured lines in a border. A charming arrangement consists of using the tall varieties as dot plants in a bed clothed exclusively with the intermediate and dwarf types or, as is the practice in bowling greens and public parks, the tall specimens can be used advantageously as a background to the other two classes, and if harmony of colour is observed in the lay-out either scheme will provide a display that is pleasing to the eye. Several of the new shades are very pretty and offer great possibilities to the artistic gardener. Seedlings that have been hardened off may be planted out towards the end of the month and nice bushy plants can be formed by pinching the main shoot. Snapdragons prefer a sunny situation and require comparatively little moisture after they have been established. Avoid overcrowding by allowing a space of 12ins. between each plant.

Failure on the part of beginners to grow garden beet successfully usually results from early sowing in ground enriched with organic manure. Seed sown before the middle of May has a tendency to produce plants that run prematurely to seed, while the addition of manure shortly before sowing causes the roots to fork and become coarse. The best beet are grown on land that was manured for brassicas or celery in the previous year, and if seaweed is not available a dressing of salt may be added with advantage when the soil is deeply dug some time before sowing. Draw out drills 15ins. apart and 1½ins. deep and drop in two or three seeds at intervals of 6ins. Afterwards thin out to a single plant when the seedlings are large enough to handle. Dobbie's Purple, Nutting's Crimson and Austin's Select Purple are reliable culinary varieties.

The best varieties of the Coltness Gem type of dwarf bedding dahlias for planting out at the end of May or early in June are Coltness Gem, the well known scarlet; Paisley Gem, orange scarlet; Peter Pan, cardinal red; Dinkie, light yellow; Moonbeam, sulphur flushed and edged pink, very pretty; Pink Coltness, rosy pink; and White Gem. Average height 15ins. to 18ins.

ST. MUNGO.

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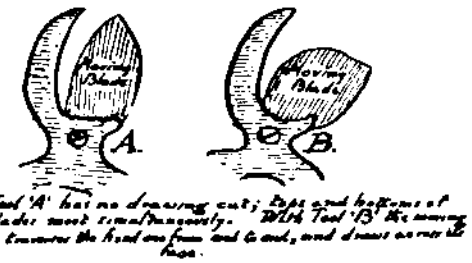
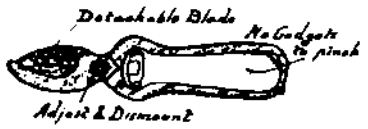
THE AMATEUR AND HIS TOOLS

II.—CUTTING AND EDGING TOOLS.

A COMPLETE "battery" of pruning tools involves an expensive outfit, and the amateur commonly manages very well without many tools which the professional would consider essential. The professional gardener gives first place in his pruning kit to the pruning knife; most amateurs prefer the secateurs. And certainly the secateurs are quicker to work with and, if of a suitable pattern, give quite satisfactory results; also with armed shrubs, such as rose trees, their use involves less damage to the hands by thorns or prickles. The points to look for in



The Tool 'A' has no drawing cut; Edge and bottoms of the blades meet simultaneously. With Tool 'B' the moving blade traverses the fixed one from end to end, and draws across the base.



secateurs are a good "drawing" cut (see figure), high-grade steel in the preferably detachable blade, ease of adjustment and, almost as important, handles which are not liable to pinch the fingers should the blades slip when in use. If the two "legs" of the tool will come apart for sharpening, so much the better. For rose pruning there is much to be said for the pruning scissors, which are cheap to buy, do not pinch the fingers. There is little or no "draw" to their cutting, yet many amateurs rely upon them for all purposes, and by keeping them really sharp, reduce bruising to a minimum.

For branches which are too thick for the scissors or secateurs, reliance has to be placed upon the "grips," pruning saw or bill-hook. The "grips" or lopping shears are really pruning scissors over again, but of larger calibre and equipped with wooden handles from 20ins. to 28ins. long. That they should be of good quality steel goes without saying. They are more easily kept sharp if joined together with a nut, bolt and spring washer rather than riveted. They should be carefully examined for flaws from the junction with the wooden hilts up to the point of leverage, for they sometimes fail in these areas when cutting very hard wood.

The pruning saw should be narrow in the blade and is better single than double-edged. The double-edged tool sometimes cuts where it is not wanted to. The shape shown in the figure is most easily used in the tight places in which this tool is usually needed. With its aid a branch may be cut out clean to the base.

Generally after the "grips" and always after the saw it is necessary to smooth off the stump with a pruning knife or other cutting tool. I say "other cutting tool," because a small sharp bill-hook with only one cutting edge (see figure) is excellent for the purpose and is almost indispensable in other ways. Indeed the amateur with few large shrubs or trees could manage very well with a good pair of secateurs (or scissors) and a light (8in or 9in.) bill-hook of the type mentioned, which, with a little practice, will cut so cleanly that no subsequent trimming is necessary. An alternative to the bill-hook is a light pruning slasher (see figure), used with a *short* handle.

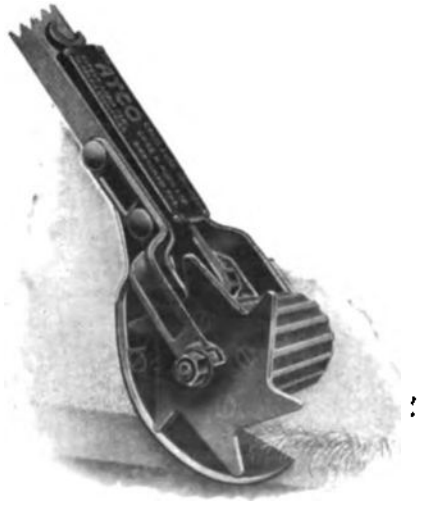
The pruning knife, if you care to use one—and its use *does* make one feel professional—should have a blade very similar in shape to the bill-hook illustrated—that is, with plenty of "draw." The amateur who wishes to try his hand at budding roses, etc., should get a budding knife—by Saynor, and of the shape shown, this being the least clumsy for a beginner.

We have next to consider lawn and hedge tools. In a day when the use of the lawn mower is almost universal, even in the smallest garden, shears are little used for cutting the surface of lawns. Nevertheless, there are gardens where—generally from bad lay-out—steep banks and awkward wall or fence bound corners need hand-snipping. In such case it is best to procure two pairs of shears—one for the hedges and the other for the lawn. It is practically impossible to induce shears used for hedging to cut grass satisfactorily. Pay a fair price for a reliable make, and it is easy to get a good pair of shears. For cutting hedges this tool is sold with a notch towards the base which practically incorporates a lopping shear or "grip." This notch is very useful if not abused. To use it for cutting really thick wood is almost certainly to strain the shears.

Lawn edging machines are quite satisfactory but the gardener still very largely relies on "border" or "edging" shears, of which the most satisfactory pattern is figured. Those with a wheel attachment cost more and weigh more—but the wheel affords many advantages.

While on the subject of lawns and their upkeep, it may be well to say a few words about those very useful tools, the turf plough and the "half-moon," or edging iron. Both are essential if any re-laying is in contemplation—unless, of course, fresh bought turf is introduced to replace—and the last-mentioned tool is needed wherever there is a grass plot. The shape of this most favoured is illustrated, and a "D" handle is preferable to a "T," though the latter is more usual with this particular tool. An edging iron is also useful for keeping the lawn edges and any grass verges neat and tidy.

A selection of cutting tools which the amateur will find of service. Pruning saws, fagging hooks for cutting hedges, turfing irons and weeding forks are here shown.



THE "ATCO" LAWN EDGE TRIMMER.

Worked along the lawn edge, it cuts the overhanging grass clean and tidy.

Though they are by no means edge-tools, this is a convenient place to consider the various devices for extracting weeds from lawns. Two very useful tools are shown, the one lettered "A" being suitable for eradicating plantains, dandelions and similar tap-rooted weeds, and the short-handled one ("B") being just the thing for daisies and other spreading weeds. The well known firm of Barr and Son markets a little all-metal tool—as figured at "C"—which, though it entails getting down to them, will take out cleanly and *permanently* tap-rooted weeds from lawn, border or path, and that with a minimum disturbance to the surface.

From among the collection of cutting and edging tools described here, the amateur should be able to make a selection of good serviceable tools which will last for a number of years if care is taken of them.

MIDLANDER.

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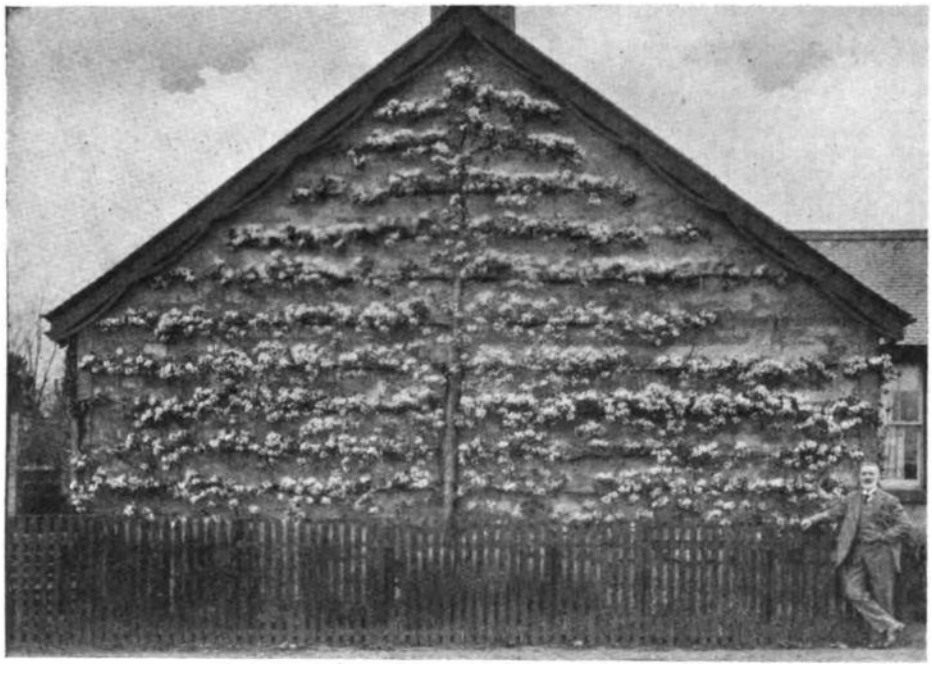
WHAT OUR READERS SAY

A PROLIFIC PEAR TREE.

SIR,—This Jargonelle pear tree, the illustration of which is from a photograph taken at Easter in the garden of Mr. James Thomson, St. Leonards, Ayr, has a remarkable cropping record. Planted in its present position thirty years ago, it has never missed a crop since reaching the fruiting stage, and last year, when all previous yields were surpassed, the number of pears gathered exceeded 3,000. Very light pruning is practised, and stable manure, in the form of a top-dressing, is provided every alternate year. The root system has extended beyond the area of soil enclosed by the wooden paling, made its way underneath a roadway, and, as showing its vigorous growth, the writer was informed that the roots penetrated the cemented joints of a drain-pipe in the adjoining field and ultimately choked the drain, which had to be opened up and cleared in 1926.—JOHN YUILLE.



A JARGONELLE PEAR WITH A REMARKABLE CROPPING RECORD IN AN AYRSHIRE GARDEN.

DELPHINIUMS FROM SEED.

SIR,—Your correspondent (in the issue dated April 16th), would have got a better result by keeping the seed till now and sowing in the open. Plants sown now in the open will overtake those sown in a box last August and will flower this late summer. I have tried both methods repeatedly and the open ground method wins every time. I have also tried sowing as soon as the seed is ripe, but delphinium seed prefers being kept till the spring. Though slugs are extremely numerous they do not prevent the growth of the seedlings.

If your correspondent, however, will try Chase's Continuous Cloches over the drills the seedlings will be quite safe, as the slugs object to crawling over the dry ground. The use of the cloche will also hasten the growth by about a month. It is important never to let the seedlings become crowded.—HUMPHREY SWANN, *Wimbledon, S.W.*19.

ESCHSCHOLTZIAS.

SIR,—I was very interested to read Mr. Balfour's reply to my recent short article on eschscholtzias in your issue dated April 23rd, and I shall hope to try his recommendation as to sowing the seeds in small pots on some future occasion.

As Mr. Balfour will no doubt realise, conditions generally are not nearly so good for annuals with us in the north of Ireland as with our friends living in the south of England, and consequently I am afraid outdoor autumn sowing would hardly prove a success, but seeds are inexpensive and I may be tempted to give his suggestion a trial.

Unfortunately, slugs, etc., are a great source of disappointment here as in many other places, and the seedlings are cleared off in a wholesale manner, while the heavy hail and rain storms experienced so often during April and May prove disastrous in the case of germinating seeds.

In conclusion, I should like to thank Mr. Balfour for his note and hope he will contribute an article on his experiences with other annuals, both hardy and half-hardy.—CECIL M. BAILEY, *Belfast.*

THE USE OF SCARLET FLOWERS IN THE GARDEN.

SIR,—I am rather surprised that scarlet should be considered a difficult colour to deal with in the garden.

Anemone fulgens looks charming with Botryoides cœruleus or Cerastium tomentosum. The scarlet shades of the Ghent azaleas look beautiful when associated with Tiarella cordifolia. The creamy white flowers and pretty leaves veined with red just seem made for the purpose. The scarlet tuberous begonias look particularly well with the grey foliage of Cineraria maritima. The scarlet carnation is perfect with its own grey foliage, but tones beautifully with the intense carmine crimson of the old clove. Scarlet dahlias and scarlet tulips both look at their best when seen with the darkest maroon varieties. Dark tulips, such as Sultan and La Tulipe Noire, are seen to great advantage with scarlet ones, and the same remark applies to sweet peas, while nothing looks better as a background than Cynara Scolymus or French artichoke, with its graceful fern-like grey foliage.

Scarlet-flowered plants, again, associate beautifully with the greenish grey foliage of sea holly. Perhaps Eryngium amethystinum with its blue flower-heads and stems is one of the best for the purpose; or E. Oliverianum. Mention must also be made of Tigridia Pavonia, a gorgeous Mexican flower which associates well with the dark purple bronze foliage of Lobelia fulgens. Scarlets are not difficult to arrange with either light or dark colours, such as those named; but a far greater difficulty is presented to us when attempting to harmonise such a salmon colour as Pelargonium King of Denmark.—H. H. W.

ERRORS IN NAMING.

Geum bulgaricum and Geum × Borisii of gardens.

SIR,—Errors in plant nomenclature in gardens are only too common. Most of us gardeners seem quite willing to accept unquestioningly the name under which we receive a new plant, and once we have fixed the name of the newcomer in our minds we, one and all, seem to be just as reluctant to change it.

For several years now I have harboured in my mind grave uncertainty about the right name of Geum bulgaricum of gardens. I think it was in 1918 that I was introduced to the true plant owning that name, and was not impressed with its garden value, although to the botanical side of my mind it displayed several features of interest and I had glimmers of possibilities of the plant as a potential parent of hybrids.

I think it was while looking at the garden plant some years ago with my friend Clarence Elliott that both of us were struck with some indefinite resemblance to that aristocrat of the highest granitic shingle slides, G. reptans. There was the same voluptuous size, the same sort of decumbent and then upstanding flower stems and the closely ground-hugging habit of the tufts of leaves. Later on I noticed, too, something of the long, soft-awned Strewelpeter effect of the seed heads, very different from that of G. urbanum and the true G. bulgaricum, and I felt I was getting much nearer a possible solution of my enquiry.

Quite lately I got a little more light when looking up another geum in the late Mr. Farrer's monumental work, "The English Rock Garden." "G. bulgaricum" caught my eye, and I re-read what Farrer had to say about this plant, and read, after his whole-hearted condemnation of the true plant, as follows: "But there is a false plant under this name lately come into cultivation, which promises to be magnificent, having fine foliage, not unlike G. reptans, but neater, and fine glowing flowers of flame."

That evening I picked up the Journal of the Royal Horticultural Society, Vol. XXXIX, 1913, and came across the article on Botanising in Bulgaria by the late Captain C. F. Ball.

Writing of the good collection of alpine plants grown in the gardens of the ex-King Ferdinand, and mentioning various outstanding plants, Captain Ball writes: "Geum × Borisii named after Prince Boris, is a natural hybrid between G. bulgaricum and G. reptans. Another hybrid Avens was found on Vitosh, and is supposed to be G. montanum × G. coccineum."

Now, indeed, I feel I have struck a possible solution and would suggest that the false G. bulgaricum of gardens is really the true hybrid Geum × Borisii, and that the other fine hybrid geum we know and value as Geum × Borisii in gardens at the present day is, in reality, the unnamed hybrid Avens mentioned by Captain Ball as the plant from

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Mount Vitosh, supposed to be the hybrid between GG. montanum and coccineum.

I do not know who introduced either or both of these good and desirable plants, but I would suggest that some accident occurred in transit or on arrival of these plants in England and the labels became misplaced.

I know that in informed circles the valuable Geum × Borisii is considered to be wrongly named, and, personally, I feel now little doubt that that name rightly belongs to the hybrid between G. bulgaricum, the true plant, and G. reptans. If that is so, Geum × Borisii of gardens awaits a new and valid name, and Mr. Kellerer of the Royal Gardens of Sofia might be fitly consulted in regard to that; at all events, it would be well to clear up this confusion and to provide two very good plants for the front of the border or the large rock garden with really valid names.

In concluding, it may be of interest to point out that I have found both these apparent hybrid plants not only fertile but to reproduce themselves perfectly true from seed. Geum × Borisii of gardens seeds freely and regularly, and I have yet to find an offspring among the seedlings that differs from the accepted type. G. bulgaricum of gardens is much less willing to set seeds, and in some seasons I have failed to get seeds even with hand fertilising; but mostly I manage to get a fair crop of seed which germinates fairly evenly and brings plants indistinguishable from the parent plant surely an unusual custom among plants of hybrid origin.—WALTER INGWERSEN.

[If any of our readers have views on this subject we would be most interested to hear from them, as it is a point on which growers of the plants in different parts of the country can give useful testimony as to their nature and behaviour.—ED.]

"THE GARDEN" PHOTOGRAPHIC COMPETITION

The particulars which accompany each photograph should be helpful and suggestive, so that each will be of actual value to the majority of our readers in stimulating further interest in plants and different aspects of gardening. These particulars will be taken into consideration by the Editor in his decisions.

This is an admirable way of growing hydrangeas where facilities are not available for growing them in a greenhouse or in an open border. They provide a most decorative display during the summer months in a corner which would otherwise be drab and dull. Little or no trouble is needed in cultivation. The tubs are wintered in an open shed and gradually exposed to sun and air during May, when all danger of frost is past. The plants themselves are many years old

and are dressed every spring with fresh soil, and a little liquid manure is given at flowering time. The tubs are made from oil casks sawn in half, with drainage holes provided. Small blocks of wood are used for resting the tubs on and metal handles are fixed for ease in moving. The tubs are stained with Solignum, and the rim bands are painted an oak colour to preserve the metal and to look as neutral as possible so as not to detract from the beauty of the blooms.

HYDRANGEAS IN TUBS IN A GARAGE YARD.

This week's guinea photograph, sent in by MISS H. HOBBS, *Liverpool.*

This is a picture of my garden taken last summer when the floral display was at its best. It gives an idea of what may be accomplished in the limited space of a small suburban back garden. Summer flowers, including hollyhocks, phloxes, antirrhinums, iberis, gladioli, pentstemons, all contribute to the scheme, which is not pretentious in any way. Beyond the small flower garden vegetables are grown very successfully.—G. ROGERS, *Twickenham, Middlesex.* Award of 5*s*.

Two years ago I purchased a half-acre plot and built the bungalow shown in the illustration. The front plot I made into a small garden with a central and side flower borders. Along the tradesman's path I planted arabis in small clumps and, as can be seen, the growth has been vigorous, so much so that drastic thinning has been necessary. It makes a neat and easy growing decorative plant for a tradesmen's entrance.—C. CHAPMAN, *Sandridge.* Award of 5*s*.

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THE FRUIT AND KITCHEN GARDEN

Treatment of Peaches, Nectarines and Apricots under Glass.

TREES growing under glass are bearing a wonderfully fine crop of fruits. This remark applies to all stone fruits in glass structures. Although the trees are so heavily laden, it will be unwise to overburden them. By far the wisest plan is to be content with a good average crop this year and then there will be all the more likelihood of a good crop again next year. Do not be tempted to apply strong doses of artificial manures to heavily cropped trees. It is too soon to feed freely. A moderate dose of any approved manure will be beneficisl, then, in June, after the stones in the fruits are hardened and the second swelling begins, feed liberally, but judiciously. Every grower wishes to have fine, highly coloured fruits. To obtain such observe the following rules: Thin out peaches finally to one fruit per square foot of wall, or wire space. Nectarines to 9ins. and apricots to 7ins. and 8ins. Really, these numbers constitute a heavy crop. The fruits, if fewer, are of more value because they possess deeper flesh. Some intermediate thinning-out should be done in May, a few surplus and badly placed fruits being removed every week. Then, to obtain that high, attractive colour, expose the fruits to the full sunshine by removing those leaves that are really obstructive. Furthermore, it will be essential to attend to the tying-down of the shoots that are to be retained for fruit-bearing next year; and, in the case of apricots, pinching back certain shoots growing from the spurs. close attention must be given to ventilation, atmospheric moisture and border-watering. The roots should be kept in a consistent state of moisture and the temperature moderate rather than very high. The atmosphere should be buoyant, although it will be absolutely essential to success that damping of floors and syringing of foliage be in the work for each day.—HANTS.

Points in Successful Cabbage Cultivation.

GROUND intended for the cultivation of cabbages, cauliflowers, savoys, etc., should always be deeply dug, preferably two spades in depth, well in advance of the planting season. After digging, apply to the surface some phosphatic fertiliser—basic slag if the soil is heavy, 5lb. to 30 sq. yds.; bone-meal or bone-flour where the soil is light, at the same rate.

Farmyard manure and the phosphatic fertilisers provide the supplementary essential foods which need to be applied by the grower. Lime, if available and applied previous to planting, is not wasted on a cabbage or cauliflower break.

Five factors play an important part in successful cabbage growing:

(1) Watering the bed containing the young plants well in advance of lifting. Lifting the plants carefully with a small fork, so as to preserve the root system.

(2) Plant in deeply cultivated soil rich in nitrogenous food material.

(3) The ground should be firm when planting: therefore, tramp or roll the break, and especially if the soil is light.

(4) Plant deeply: insert the plant so that its lower leaves will be resting on the soil surface when planting is completed.

(5) Firm planting: ram the soil tightly along the full length of the root system, avoiding, of course, undue damage.

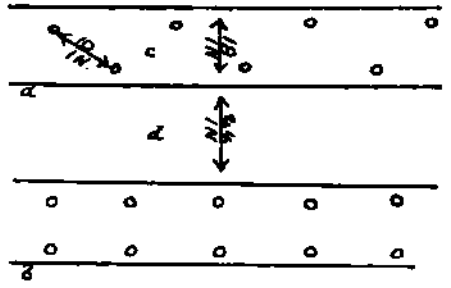
Where a drill is drawn with a hoe about 3ins. or 4ins. wide, and 2ins. deep, and the plants planted in the drill, the sides will afford protection in the early stages. As the cultivation of the soil is progressing during the growing season, this drill becomes filled up and thus earths up the now bare stems. Earthing up to form ridges should be avoided.

When the plants are established, keep the Dutch hoe at work among the plants, at least once a week. This stirring of the soil surface has and does give beneficial results to soil and plants; to say the least, it keeps down weeds and checks undue evaporation of the soil moisture.

Feeding during the growing season with nitrogenous fertilisers—soot, sulphate of ammonia or nitrate of soda, applied in quantities of 1lb. to 30 sq. yds. once or twice during the growing season and hoed in—assists in the production of cabbages we all admire. —J. W. H.

Planting Out Celery.

CELERY is always useful in the dwelling-house. It can be used as a vegetable or as a salad. The plant likes a moist, though not sour, soil in which to grow and it is one of



the most difficult of all vegetables to grow well. In a thin, poor soil the plants will not thrive and I advise all cultivators who have such soils in their gardens to substitute celeriac for long-stick celery. The celeriac, although more suitable for such shallow ground, requires a rich rooting medium, nevertheless. But by forming shallow ridges and the judicious use of organic manures, a double depth of soil can be obtained and suitably enriched. Early white celery may be planted out now; although the pink and red varieties need not be planted before June, the shallow trenches for all may be formed at the same time. Double rows of plants in a trench are more economical than single ones. Only in the case of plants for show purposes need a short, single plant row occupy a trench. The latter, in every case, should be shallow; the top soil is taken out, placed on one side and the subsoil on the opposite. I then return the good soil, mixed with some of the subsoil, to the trench, leaving the remainder of the subsoil for earthing and blanching purposes and thus growing the plants in the best medium. When the manure and soil have been placed in the trench, there should be an open trench about 9ins. deep. This is quite deep enough. The trench should be, for a double row of plants, 18ins. wide and the plants may be planted 10ins. apart. The trench is shown at *a*; at *b*, the wrong way to plant is shown. At *c*, the right way, and at *d*, the distance between the trenches. Do not use weakly plants similar to the one shown at *e*, but such as the one shown at *f*, one with a strong centre *g*, and possessing plenty of fibrous roots. The prepared rooting medium is shown at *h*, manured, and *i*, unmanured. At *j*, *k*, *k*, *l*, respectively, plants and formation of trenches are shown and at *m*, *m*, the section of ground ordinarily dug or trenched. —G. G.

Planting Out the Winter Vegetables.

IT is well to proceed with the planting out of the winter vegetables in May, if the weather is not too dry. June would be, perhaps, a more suitable time for planting if the soil should get well saturated in showery weather. But a spell of drought is a serious obstacle to this sort of work; so it is well to seize the earliest opportunity. It is best to select moderately small plants. Any plants that show a rank growth and much foliage are less suitable for transplanting, especially in dry weather. The plan of cutting off some of the rank leaves has something to commend it, because the larger the leaf surface the greater the quantity of moisture will the plant pass into the air. That is why sturdy and slow-growing seedlings with comparatively small leaves transplant better than seedlings with large flabby leaves.

Savoys, Brussels sprouts, drumhead cabbages, Russian kale, curly greens, or borecole, leeks, celery, etc., may be planted out as soon as possible now.

For plants of the cabbage family, make the soil quite firm before planting, as these plants all require a firm root-hold. The ground should be well manured, for the brassicas are mostly gross feeders. A rich, retentive soil suits them best, plenty of moisture as well as fertility being an essential to a successful growth. Large savoys may be planted 2ft. apart, and dwarf cabbages, kale, etc., about 18ins. to 20ins.

A good artificial to fork into the surface soil to about the same depth as the plants may be made by mixing for each square yard of ground ½oz. sulphate of ammonia, ½oz. muriate of potash, and 1½oz. to 1½oz. superphosphate. If no farmyard manure has been dug into the plots, give quite double these quantities. During the season of growth, give a top-dressing of nitrate of soda, about ½oz. every three or four weeks from June till September.—J. W.

Carrot Fly.

SO insidious a pest has the carrot fly and its maggot become in many parts of the country, that carrots have almost passed the precarious stage into that of the impossible. Yet some growers can raise fine crops and their methods of combating the pest are worthy of consideration. The plan in most cases seems to be, first of all never to leave the soil loose and open; alongside the rows it is thus kept firm by tramping, after hoeing, and thinning is either done in wet weather or the watering can is used to consolidate the

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soil immediately after. That is not always enough; in addition, the plants must be prevented from casting their "fragrance" into the air. This is successfully done by many by blanketing the fragrance with something of a more penetrating nature. The plants may be sprayed with paraffin oil emulsion (soapy water with a tablespoonful of paraffin per gallon), or sawdust impregnated with paraffin oil (½ pint per gallon of sawdust), or with creosol disinfectant liquid. I have also seen a creosoted wooden rail laid between rows of carrots; or syrup tins partly full of petrol and pierced with a little hole or two, laid here and there in the carrot bed and I have also seen narrow pieces of freshly tarred felt used to keep up the odour. Seedlings should also be stimulated by having a dressing of guano hoed in between the rows. One or more of the above methods is well worth a conscientious trial where pests are usually virulent.—CLYDESDALE.

Broccoli for Michaelmas.

LATE cauliflowers and early broccoli should be grown so that there will not be any break in the supply early in the autumn. If a very dry spell of weather comes in August it is almost impossible to procure really good late cauliflowers. Broccoli will withstand the dry conditions a little better and the curds are not as readily damaged by early frosts. The seeds should be sown in an outside border, not in boxes or frames. The plants should grow steadily and without check from their early seedling stage. Michaelmas White is a very good, reliable variety to grow. On no account should the seeds be sown in soil in which cauliflowers, cabbages or any winter greens have been grown during the previous year. Dig the soil deeply, add some rotted manure if the ground is poor, and sow the seeds very thinly. The object should be to secure strong plants even in their seedling stage. Roughly pulled plants suffer a severe check even if they are transplanted once prior to their final planting. If left undisturbed in their beds until they are lifted for the final planting, they are checked, and checks to growth while they are small means, later on, poor quality heads or curds. Transplant once, in the early part of May, doing the work with the aid of a hand-fork or hand-trowel. Transplant again late in June, in good ground made firm and the best results may be expected.—CHRISTCHURCH.

Parsley.

PARSLEY is a deep rooting plant, hence it is essential that the soil be dug to a depth of two spits in readiness for the plants; a fair to liberal supply of manure should, at the same time, be incorporated in both spits, so that the roots may find nourishment wherever they go. For very earliest supplies seed must be sown under cover, the seedlings pricked out in boxes and finally planted out in March or April. At this time of year, however, sowings may be made directly in the open, in rows 9ins. apart, and the seedlings thinned out in due course. Should wood ashes be available, rake in some the day before planting; otherwise one must rely on a light sprinkling of artificials to stimulate growth during the initial months; it may be noted, too, that steeping of the seed for forty-eight hours materially hastens germination. Growers are strongly urged to choose the best variety which their seedsman offers; the old garnishing kinds, so hardy and prolific it may be granted, are not to be compared to the fine kinds which are now offered. I refrain from naming any one variety because, for kitchen purposes, there is little to choose between such good sorts. I also emphatically urge thin planting, for the produce of individual plants grown with plenty of room is very much superior to that from the "rows" which many cottagers still delight in.—LANARKSHIRE.

GREENHOUSE NOTES

A Good Pot Plant for the Cool House.

Jasminum primulinum.

THIS delightful jasmine was introduced from Yunnan by Messrs. J. Veitch and Sons, and it first flowered at their Coombe Wood Nursery in October, 1901. It is quite hardy, and is often employed as a wall plant, but so far as my experience goes it is a failure outside. At the time of its introduction great things were expected regarding this jasmine, and although it grows freely enough, the flowers are few in number. When, however, it is treated as a pot plant for the cool greenhouse it is indeed a success, and its full beauty is realised. A specimen which I have growing in an 8in. pot, flowered freely during March and early April in a greenhouse from which frosts had been excluded. In general appearance it somewhat resembles J. nudiflorum, both flowers and leaves are larger and, moreover, it is practically evergreen. The bright golden yellow flowers are 1½ins. to 2ins. across, for the most part single, but occasionally semi-double. For the greater part of the year the plants are in the open, the pots being plunged in ashes to keep the roots cool. Here they remain until late autumn, when the plants are placed in a cold greenhouse, where they will be in flower from Christmas onwards. About April or May they are pruned, the long side growths are reduced to half their length and any exhausted shoots removed. If necessary, the plants can be repotted, otherwise it will be desirable to feed the roots during the summer months. When all danger of frosts is past, they should be removed from the greenhouse to a sunny position outside.

If any reader has succeeded in flowering this subject really well in the open, his treatment would be welcomed by many, because J. primulinum is such a fine shrub when more or less covered with its golden blossoms. With me even in stony, hungry soil it makes considerable growth, which fails to ripen, and consequently flowers are sparse. It is readily increased by layers from a specimen in the open, and when rooted excellent examples can be secured for pots.—T. W. B.

Greenhouse Pests.

WITH the increasing power of the sun, greenhouse pests become more troublesome, and it is only by repeated efforts that these can be kept down. The best way of dealing with aphides, leaf-mining maggots etc, is fumigation. Any of the excellent fumigants now so widely advertised may be employed, and always the directions should be carefully followed. When fumigating, allow the house to become dry; then, at nightfall or, at any rate, after the sun has gone down, close all the openings tightly. Place the fumigant near the centre of the house, either on the floor or on the top of a box. Light the material, or the lamp below the fumigating apparatus, and immediately come out, locking the door. Open the house in the morning, and air well before doing any watering. Never allow any plants to be near to the burning fumigant, or damage may be done. Fumigation must not be carried out during the day, as a hot sun will scorch the plants in the tightly closed house. Red spider is often a very serious pest in a greenhouse. This pest flourishes in a very dry atmosphere. Increase the atmospheric moisture by syringing, and keep the house on the cool side. Plants actually attacked may be dusted with flowers of sulphur, and sprinkling with salt water is effective. Ordinary fumigating methods have not proved of much value in dealing with red spider. Mealy bug is a whitish insect about one-twelfth of an inch long, which sucks the sap from plants and causes a great deal of harm. One of the best remedies is a paraffin emulsion formed with 1lb. of soft soap boiled in a quart of water to which, after cooling, half a pint of paraffin is added. One part of this preparation is mixed with 8 parts of water and then syringed on the attacked plants. A drop of methylated spirit on the end of a wire will kill mealy bug, and the spirit forms a penetrating liquid for dropping into the cracks and crevices where the insects live. Abol is an excellent insecticide to use for mealy bug and Gishurst compound is especially to be recommended in the case of vines. All amateurs should make a point of having these materials at hand to check the ravages of many greenhouse pests. Fumigation is also helpful, especially if this can be repeated two or three times at intervals of about ten days. Scale insects will be killed by the application of Bordeaux mixture, Gishurst compound or fir tree oil; but paraffin emulsion is probably almost as effective if this is applied with a stiff brush. Repetition of the measures taken is necessary for scale and, indeed, all insect pests. Eggs which may have been deposited about the house will hatch out and bring further broods along.

Potting and Stopping Plants.

CULTURAL details for the growing of pot plants always include the operation of potting, and very frequently that of "stopping." Both are simple operations in themselves, but unless properly executed more harm than good may result to the plants. Many people think it an easy task to repot a plant, but to do so correctly demands more skill than is generally supposed. Points to bear in mind are: to use clean pots always (if these are new from the kiln they should be soaked in water for half an hour and allowed to dry before use); see that ample and adequate drainage is provided. Use a sweet compost of a mixture suited to the plants it is intended to pot; this compost should be just pleasantly moist. On no account pot plants which are at all dry at the root. When potting on as little check as possible should be given to the plant, therefore take care not to damage the roots. Place the plant centrally in the pot and take care that it is not potted too deeply. With certain soft-wooded subjects roots are emitted from almost any part of the stem, and in these cases deep potting is not harmful, but with hard-wooded plants it may prove fatal. A good rule is to pot to the depth of the old earth mark on the stem. A little of the old surface soil may be carefully pricked away with a pointed stick prior to repotting, thus allowing room for a little new soil. Pot firmly or loosely according to the plants' requirements. Most generally hard-wooded plants require firm potting and soft-wooded plants light potting. After potting keep them in a slightly higher temperature for a few days and shade from bright sunshine. Water with care until they have rooted through the new compost.

"Stopping" is a term employed to denote the removal of the extreme point of a stem or shoot. This is done to encourage branching, and thus a bushy plant is obtained, and also for the purpose of "timing" a plant to bloom by a certain date. It is not advisable to stop a plant and at the same time repot it. If this is done a double check is given to the growth of the plant. A far better plan is to pinch out the ends of the shoots either about ten days prior to potting or about ten days after potting. By this means the check to growth is reduced to a minimum.

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THE RHODODENDRON SHOW

MOST visitors to the Rhododendron Society's Show at Vincent Square were amazed at seeing such a wealth of bloom after the devastating week of frost that swept the country. Although it was obvious that a proportion of the exhibits was grown under glass, yet sufficient blooms produced in the open were shown to make it certain that some districts in the south and west at least escaped. From the tales of woe that were heard on all sides, it might be imagined that rhododendrons were the only plants to suffer; that is not the case, in the north east even such hardy shrubs as deutzias, buddleias and philadelphus were cut back to the old wood.

This second Rhododendron Show proves again that there are species and varieties to suit every garden and climate, from the giant-flowered Rh. Nuttallii for the softest corners of the west, to the hardy dwarfs that are admirable for ordinary rock garden planting. The best exhibit staged by the trade was undoubtedly that of Messrs. Gill, who showed a wonderful collection of hybrids and species that succeed best in the mild climate of Cornwall. There were magnificent plants of such fine hybrids as Elspeth, about 8ft. in height, and smothered with trusses of large white flowers, and Ernest Gill. The second prize for the trade was given to Messrs. Wallace, for a good collection of the newer hardy hybrids and a few species, such as the fine Rh. callimorphum, an excellent rose coloured species that does well in colder gardens.

The Amateur's Challenge Cup was presented to Lady Aberconway and The Hon. H. D. McLaren, for an excellent exhibit of cut rhododendrons. In this stand, large sprays of Rh. Augustusii and Rh. yunnanense, the former a good blue-lilac form, the latter pale pink, were most admired, as also was a fine bush of Rh. callimorphum, which has flowered exceptionally well this year.

Most interesting of all for the ordinary amateur was the educational exhibit staged by the Rhododendron Society. This consisted of a collection of dwarf species planted in natural conditions. The planting was so well done that this exhibit should show rock garden enthusiasts the value of these charming dwarf species for average gardens. The range of colour from yellow to rose-lilac and deep blue-lilac, is most attractive; these species are hardy and free flowering and they flower in three years from seed. This new departure, of an educational exhibit, should prove an excellent inducement for the increasing cultivation of rhododendron species in that it shows how the plants should be grown and how they will look in any garden within a very few years.

Perhaps few visitors noticed a hybrid that in course of time will probably provide a new strain of valuable garden rhododendrons. This was a cross between the blue Rh. Augustinii of the triflorum series, that grows to a height of 8ft. or 10ft., and the dwarf blue-lilac Rh. fastigiatum. The colour was an exquisite rich blue-lilac. It is extremely floriferous and quick growing and absolutely hardy. Indiscriminate hybridising of species is not to be encouraged, but the cross mentioned gives us a hybrid that will grow under almost any conditions and stronger and more profuse in flowering than either of the parents.

The Rhododendron Society deserves every praise for their effort to increase the popularity of this most excellent genus. One suggestion can be made and that is that a lecture might be given on each day of the Rhododendron Show. This would prove exceedingly popular with all gardeners who wish to learn something of the newer methods of cultivation.

New Rhododendrons and Other Shrubs.

Apparently in compliment to the Rhododendron Society, Section B of the Floral Committee of the R.H.S. had a special meeting at Vincent Square on May 3rd, the occasion of the second Show of the smaller society, and gave four awards of merit. Two were to beautiful rhododendrons and the others were to a couple of heath-like plants.

Rhododendron Betty, which was also adjudged to be the best hybrid in the Show, was shown by Lady Aberconway and the Hon. H D. McLaren, from their garden at Bodnant, North Wales. It is a large truss of beautiful pink shades. It is a hybrid between Rh. Fortunei and Rh. Thomsonii.

Rh. russatum is one of the dwarf, small-flowered sorts that are valued for the rock garden and for the front of the shrub border. It bears plenty of compact trusses of flowers of a darker blue than the others of its type. It was shown by Mr. A. M. Williams of Werrington Park, Launceston.

The two heath-like shrubs were Cassiope Mertensiana and Gaultheria furiens and, although the latter becomes a goodly sized shrub in favourable conditions, both are most suitable for the rock garden. Cassiope Mertensiana is a dwarf little evergreen, growing only a few inches high. It is also known as Andromeda cupressina; it is a native of California and requires a moist, peaty soil. It makes erect little branches of bright green cypress-like leaves, which cling closely to the shoots, and bears lily-of-the-valley-like flowers. Gaultheria furiens syn. Arbutus furiens, is a stiff growing shrub, bearing dark green, alternate, ovate-lanceolate leaves about 2ins. in length and the flowers, which are also much like those of the lily-of-the-valley, are on short, axillary racemes. Both shrubs were shown by Mr. G. Reuthe.

Some attractive Sprays of Staphylea holocarpa were shown by Mrs. C. M. Whittall, Grayswood Hill, Haslemere. This somewhat rare species from central China has much the same habit as the better known S. colchica and bears longer, semi-pendulous racemes of pale blush flowers, which, as with the other bladder nuts, are followed by inflated fruits.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints—which should not exceed 150 words in length—is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Greenhouse Shading.

As the sun increases in power, the problem of greenhouse shading will again present itself. Something inexpensive, yet which can be removed in dull weather, is difficult to attain. Outside blinds on pulleys are expensive, and get in the way of ventilators. The fact that tomatoes growing on inside of roof gave just the right shade suggested the following plan: Run a wire the length of house inside near the eaves, and another just below the roof ventilators. A cheap muslin costing about 4d. a yard, 30ins. wide, hemmed with tape, on the edge of which are sewn a few rings at intervals can be run along its length. The rings are threaded on the two wires, and two strings attached to draw it backwards and forwards. Such a contrivance on each side of the house should be sufficient, but if not another over path can be put up. —H. P.

An Easy Way of Rooting Cuttings.

To receive a few cuttings of a choice plant, and find, on reaching home, no suitable place in which to root them, is a common occurrence. Bell-glasses, though good, are expensive, and easily broken. A good substitute is to use a 6in. pot, invert a large piece of crock over the hole, and fill it half full or more with sand, allowing the space required by the size of the cuttings; insert the latter, water in, and cover with a piece of clear glass. Place the pot outside under a low wall, in a frame or greenhouse, according to the temperature required. Afford all light possible, without direct sunlight and water enough to keep the cuttings fresh. When rooted, ventilate gradually, until the glass can be dispensed with. Difficult subjects, heaths, etc., can be rooted in this manner.—J. C.

Draining Garden Paths.

On garden paths surfaced with a close-binding gravel, and where the sub-soil is sticky, it is often difficult to run the water off—especially where the middle of the path is rather high. To remedy this, dig a narrow trench, 6ins. to 9ins. deep, according to the width of the path, and 3ins. deeper than the foundation of the path. Fill this up with rough clinkers, and finish off with 2ins. of fine cinders. This may appear incongruous with gravel, but I can assure readers it is not so, and it is a very effective operation, for the water runs quickly off the gravel and soaks away through the clinkers very rapidly.—F. L.

Protection of Valuable Plants, etc., Against Mice, Rabbits and Slugs.

It is dangerous to lay poison for mice and rabbits; one can never tell where vermin will carry it. Plants, etc., may be made distasteful to all these pests by spraying them with paraffin emulsion. This is made by boiling 4oz. of soft soap in a gallon of water, when dissolved, take the pot off the fire and gradually stir a gallon of paraffin into it. Churn the mixture forcibly with the syringe until the whole becomes like a creamy paint. To one part of this add twelve to fifteen parts of cold water. Stir well before using. What is not used bottle off and the emulsion will keep indefinitely until required. See that no free paraffin comes to the top after twenty-four hours. If so, add more soap. Paraffin emulsion should not be used on roses.—W. R. P.

How to Destroy Wire Worms.

This pernicious pest, which lives in the soil for from three to five years, is the larva of a small beetle and is very difficult to destroy. The free use of soot and lime will kill the smaller specimens, while special crops may be protected from their ravages by placing carrots in the soil. These should be examined every other day, not only for wire worms, but also for the click beetle, which is the mature stage of this pest. When taking in pasture for garden ground, skim the turf during late spring, when any wire worms present will be just below the surface; if the turf is stacked in layers and burnt with lime, the pest will be destroyed. When turf is taken off during the winter, the wire worms are deep in the soil and crops usually suffer badly during the first three or four years of cultivation. Soil fumigants are also effective in exterminating wire worms.—C. M.

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JUN 1 1927

THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2894 Saturday, May 21st, 1927 Price TWOPENCE

THERE is no more favourite Spring flower than the wallflower, beloved of all gardeners. It is not fastidious as regards conditions. It grows equally well in the town garden as in the open, and does not object to full sun or slight shade. Wallflowers are easy to grow in almost any soil and should not be sown too late. The end of this month is a suitable time for sowing so that vigorous-growing bushy plants are obtained for transplanting to their flowering positions in September and October. There are now many fine varieties obtainable in all shades of colour, and the dark crimson, orange and red sorts are worthy of a place in every Spring bedding scheme grown along with forget-me-nots and polyanthus primroses. Very charming colour associations can be attained by grouping wallflowers either with daffodils or tulips, in the former case to act as a succession of bloom and in the latter as a colour groundwork to the tulips. Their uses in the Spring garden could be extended indefinitely.

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THE GARDEN

VOL. XCI.—No. 2894. MAY 21, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Flowers in the Parks.

THOSE of our readers who reside in and around London, should make a point of visiting the public parks and gardens at this time. The display of spring flowers has never been richer than it is this year, despite the recent spell of hard frost, which was experienced at the end of April and the beginning of this month. The beds and borders of tulips, especially in Hyde Park and St. James's Park are a perfect riot of colour. In one border alone some forty-two thousand bulbs have been planted, part of a gift of fifty-six thousand tulips presented by the Dutch Bulb Growers' Association to our Government. There is no gainsaying that the display will do much to popularise the tulip and extend its cultivation in private gardens and in this way greatly assist our own bulb-growing industry, which is as yet only in its infancy. The border at Victoria Gate, Hyde Park, about one hundred and fifty yards long, shows what may be attained by mass planting of tulips. Naturally, such grandiose schemes cannot be carried out in the small garden, but it indicates a use of the flower which is seldom practised. The bulbs have been planted some 6ins. deep and about 4ins. apart, with the result that weeds have been kept down and the foliage kept clean and free from slug attack. Cottage tulips, Darwins and breeders are grouped in sections and almost every garden tulip of any merit is represented. Every shade of colour is present, from the brightest scarlets through all gradations of pinks, blues and mauves and yellows to the purest white. It is impossible here to mention names, but we advise a visit with a notebook to jot down the names of those varieties which make an appeal, for inclusion in the private garden. It is an excellent way of making a first hand selection of varieties for planting next October and November. Besides the mass planting, one sees them used in other ways, in more formal bedding schemes, combined with other spring flowering subjects. At Kew Gardens, some of the beds in front of the Palm House are particularly attractive and have much to teach the amateur in how to arrange and group flowers to advantage. There one sees beds of the tall May-flowering tulips with wallflowers, notably Cherianthus Allionii, as a groundwork, forget-me-nots, aubrietias as an edging or, more uncommon, the dwarf phlox, or, again, the tall Veronica gentianoides, whose spikes almost reach up to the bells of the tulips. These and many other charming associations are to be seen, and the amateur should make a note of them for future reference. First hand knowledge is always better than relying on advice culled from other sources.

Besides the tulips, a special visit should be paid to St. James's Park to see a novelty in spring borders. Laid out under the direction of Mr. T. Hay, the superintendent, it shows what can be done by using only a few representatives of our favourite spring flowers, including wallflowers, forget-me-nots, polyanthus primroses, pansies and violas, silene, and double daisies. The border is a perfect blaze of colour and worthy of a visit from every flower lover. At Greenwich and Regent's Parks and at Hampton Court the flower gardens are unusually attractive and bring joy of the promise of the future. Gardeners should be in the mood to absorb from every fleeting hour all the pleasure and beauty possible. Never does time gallop so fast as now, when spring slips on into summer and summer as quickly into the days of autumn. Plan a visit to the parks to form a part of your gardening duties.

OUR PHOTOGRAPHIC COMPETITION.

ON page 332 of this week's issue will be found the photographs published in connection with our Photographic Competition. Readers' photographs will be published every week, and we urge all readers who are interested to send along photographs of their gardens during the summer months. Particulars should accompany all photographs so that the illustrations will prove more helpful to the majority of our readers. The rules governing the Competition will be found on page xiv.

Chelsea Show.

THIS year Chelsea Show will be held on Wednesday, Thursday and Friday, May 25th, 26th and 27th. On the first day, Wednesday, May 25th, there will be a private view for Fellows and their friends from 9 a.m. to 12 noon. Only Fellows' and Associates' tickets will admit to the private view, but transferable as well as non-transferable tickets may be used. There will be no admission by payment on Wednesday, May 25th, until 12 noon, when the Show will be opened to the public.

Those who propose to submit new or rare plants to the Committees for certificate should note that the Committees will not meet on the first day of the Show, but at 6 p.m. on the previous evening. All plants, etc., for certificate, must be entered with the Secretaries of the respective Committees by 5.30 p.m. on Tuesday, May 24th. The Committees will receive entries throughout the afternoon.

This Week's Work

For Gardens in the South and Midlands.

Plant water lilies and aquatics and any bog plants.

Sow seeds of wallflowers and other biennials in nursery beds.

Prepare celery trenches.

Mulch and feed roses, and use liquid manure water once weekly.

Keep down green fly and all insect pests on roses and fruit trees by spraying with insecticide.

Prepare beds for summer bedding and start planting bedding plants.

Plant out dahlias and border chrysanthemums and stake at planting time.

Thin all seedlings, and if the weather continues to be dry water them well.

This Week's Work

For Gardens in Scotland and the North.

Plant out stocks, asters, antirrhinums and marigolds.

Stake sweet peas sown in open ground.

Water cauliflowers if the weather is dry.

Sow beetroot in well dug soil that has not recently been manured.

Plant cucumbers in prepared soil in frames.

Prepare ground for dahlias in a sunny position.

Remove seed vessels from rhododendrons as soon as the flowers fade.

Geraniums can be bedded when the weather is fine.

Look out for maggots on rose leaves.

Sow more peas for succession.

Thin out early sowings of turnip, carrot and parsnip.

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A TINY POOL FOR THE SMALL GARDEN

I.—ITS PLACINGS AND SURROUNDINGS.

MANY an owner of a really small garden would like to own a tiny lily pool, but is deterred from making it by some or all of the following reasons. It is not easy for the amateur to know just how to place or shape the pool so that it shall not appear incongruous in its surroundings; there is the difficulty, for one unacquainted with building construction, of the actual formation work; and, in some cases, there is the uncertainty as to whether a really small piece of water—one can hardly call it a "sheet"—can be kept clean and free from objectionable odour. It is hoped that the following brief notes on pond construction as applicable to the really small garden will enable any keen gardener with the necessary leisure and water supply, to construct and equip satisfactorily his own pool garden.

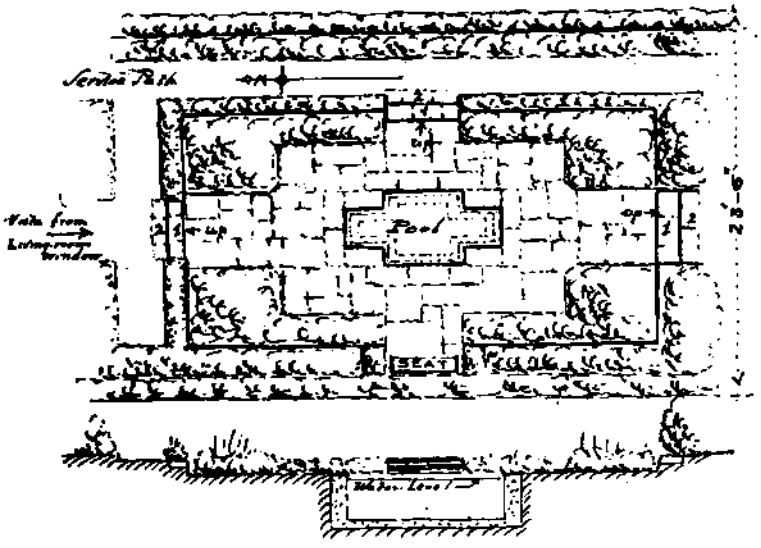

FIG. 1. -Section-

The very small garden is usually a town or suburban one, which means that, providing the necessary rate be paid, a water supply will present little difficulty. Some tap waters are, however, much more suitable for the growth of aquatics than others; the softer the water the better for the purpose in view. All tap waters are cold as they come from the main and in summer, when the plants are in growth, should be admitted to the pool in small doses, lest they lower the temperature of the water too far. From this point of view, too, it is good if the water can traverse a little rill before entering the pool proper; its contact with warm earth or rocks will do much to take the chill from it and also to ensure that it is properly aerated.

This question of the proper quality and warmth of the water is doubly important, because, apart from the fact that a lily pool should grow lilies, upon a proper balance of animal and vegetable life depends the sweetness and clearness of the water; and animal life resents hard, cold water and sudden chills quite as much as does plant growth, so that, in extreme cases, it will be found impossible to keep alive even that hardiest of the water fauna.

In deciding the position of our little pool, we have to take into account the "lie" of the surrounding land and the general style of gardening preferred. If the garden be a sloping one it will generally be best to arrange the pool part way down the slope, thus at once keeping it away from the garden boundary and facilitating the emptying of the pond when this becomes necessary. Under no circumstances should the little pond be in an exposed position or in shade.

Where formality is favoured in the general lay-out, the pool should, of course, be formal in character, and it may find a place on the terrace, if there be one; as a central feature of a little sunk garden, where cold winds will hardly get to chill it; under a terrace — or rather retaining wall; or in association with a pergola or other similar architectural feature. To obtain the maximum effect from our few pailfuls of water, the surface must not be too overgrown with vegetation and we must somehow arrange to get one of the best garden views mirrored upon it.

Where informality is the keynote of the garden, the pond should form the focal point of a little rock garden; and it may be well on one or more sides to arrange for a certain amount of bog planting.

Some ideas for the restful use of water are embodied in the attached figures. Fig. 1 gives a plan of a tiny formal pool—extreme dimensions 10ft. by 5ft.—in a little sunk garden. Good reflections will be obtainable along the length of this, if care be taken with the groupings which should reflect. But it must always be borne in mind that only from a distance do objects at little above water level mirror themselves beneath. In the small garden a considerable object—the house itself, a summer house, tall pergola,

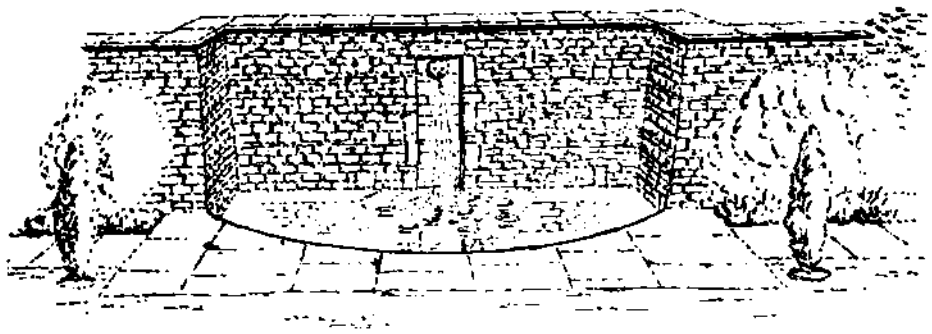

FIG. 2.

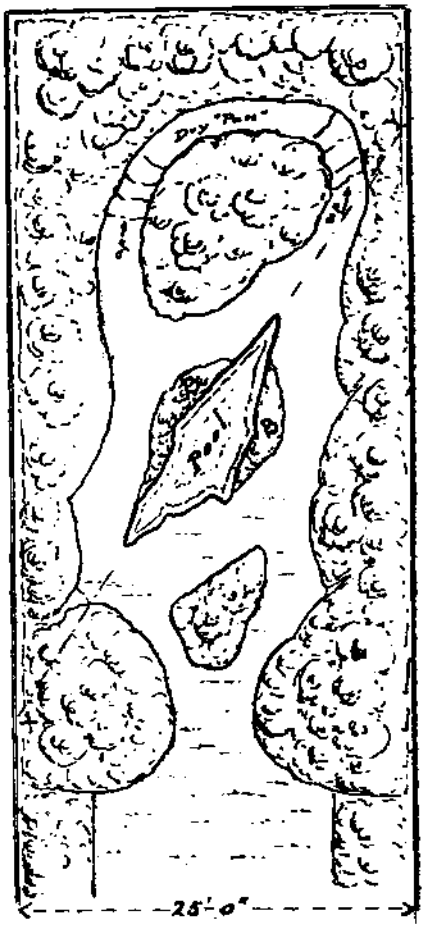

FIG. 3.

birch, poplar tree or something similar is necessary. It will be noted that the extreme width of the garden shown from centre to centre of the bounding (party) hedges is no more than 23ft. 6ins.; and that the sunk garden itself could be accommodated in a garden 3½ft. or 4ft. narrower.

Fig. 4 shows a rough perspective of a simple pergola at the north end of a rectangular garden, partially enclosing an oblong lily tank. As shown this would need a garden 35ft. or 36ft. wide, but the whole might be carried out on a scale which would reduce the total width to 25ft.

The circular tank or dripping well half recessed under a terrace with its domed retaining stonework built over a wooden template, is too complicated for most amateur constructors. The one depicted in Fig. 2, however, presents no constructional difficulties to the amateur mason and would be equally effective. Also, provided it faced south or south-west, it would be a very suitable home for choice water lilies, which the "cave" pattern, generally speaking, is not. This could be carried out to various dimensions, but, as shown, the tank is 10ft. long, the wall recessed 3ft., with a further

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recessing 18ins. wide by 4ins. deep for the "drip." The wall is 3½ft. above ground level, which again is about 5ins. above that of the water. The extreme width of the tank—that is from front to back—is 6ft. and the curve segmental. Ground level behind the wall might be anything from 9ins. to 18ins. below the coping. The edge of the paving shown should *overhang* the tank to the extent of a couple of inches along its whole length. A little terrace such as this might be arranged either at the house end or the opposite extremity of a little rectangular garden. In gardens of larger size or more diversified in outline, there is usually no difficulty in providing for a tank or terrace—not necessarily, of course, of this proportioning—with a suitable aspect.

The informal pool is best arranged in the little oblong garden strip somewhat as shown in Fig. 3, where the rock and pool garden occupies the end farthest from the house. The rocky mounds must in some way be insulated from and made independent of the enclosing pale or brick fences. This is best done by building dry walls of blast-furnace slag, clinker or other enduring cheap material. In the construction of the grassy paths or ways—for they are of irregular shape—around the pool it is essential that they should be "dished," being lowest near the pool and sloping more noticeably as they near the more or less rocky banks which bound them, and which should show as much diversity of outline and elevation as possible, with little "ravines" and almost flat "estuaries," "bluffs" emphasised by suitable shrubby plants and jagged "cliffs" running for some little distance. It is best to arrange the latter in such a way that they do not run parallel to the turfed ways. These raised surrounds will afford an easy way of disposing of the earth excavated in making the pool. The plots adjoining the pool and marked "B" are intended for bog plants.

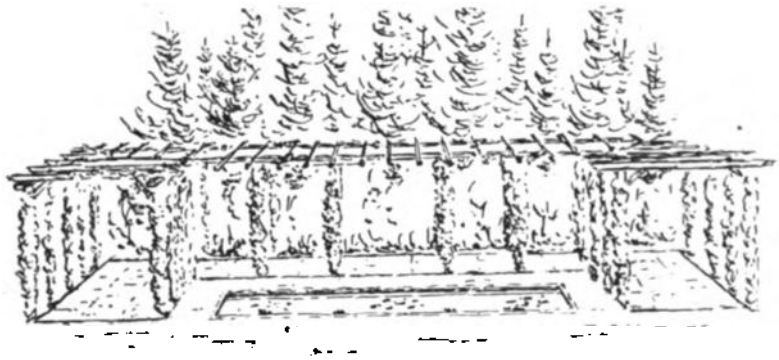

FIG. 4.

In a further article the actual work of construction will be discussed, as well as the plants and "animals" most recommendable for these Lilliputian ponds.

R. V. G. W.

BLUE POPPIES FOR THE ROCKERY—I

Many species of the blue poppies (meconopsis) are now becoming widespread in cultivation, and those amateurs who have not grown them should give them a trial. They are attractive plants and will be found easy to grow if the cultural hints given in this article are carefully followed. A description of some of the best species for the amateur to grow will be given in next week's issue.

THE poppyworts, or Himalayan poppies—often called *blue* poppies, although blue is by no means the only colour found among them—are comparatively new aspirants to garden honours; nevertheless, they are rapidly gaining in favour as subjects for the rock garden, where they add just that species of grace and form denied to the more strictly alpine cliff plants, which crouch and cower among the rocks. Year by year, thanks to the discovery of some successful mode of treatment another of the fifty odd known species is brought into fairly general cultivation, and there can be few gardens indeed where one or other of the dozen established species, given a little attention, will not thrive.

Whereas a decade ago the poppyworts were regarded as rarities, if not curiosities, most hardy plant nurseries now catalogue six or eight species. They can be bought in shillings packets of seeds, and young plants may be had for two shillings or half a crown. Given a few plants to start with, a stock can quickly be raised from seed.

They are annual, biennial or perennial plants; but the majority are biennial. If they seed themselves—and several do that—this is no disadvantage; in any event, they are easily raised from seed if certain simple directions are followed.

Raising from Seed.

Meconopsis seeds do not keep a long time, and should be sown as soon as possible, preferably in the late winter or very early spring; if the sowing is left till the summer, they will probably not germinate till the following year. A light porous soil is essential, one composed of about equal parts of loam, shredded peat and sand, giving the best results; and the seeds may be sown fairly thickly in pots or boxes. There is no need to use heat, an ordinary greenhouse, or even a frame, being all that is required; and seed sown in January or February should germinate in a month or six weeks, though sometimes they lie in the soil for a year before germinating.

Generally speaking, the seeds germinate freely; the mortality comes later, among the seedlings, which damp off. As soon as the first adult leaf appears, following the cotyledons—*i.e.*, about six weeks after germination—the young plants may be pricked off into pans, where they will remain till the following year; then in the spring they may be planted out in the rock garden.

Planting Out.

As already suggested, the poppyworts are admirably suited to the rock garden; they do equally well in a bed against a wall. Being rather precious, it is perhaps flippant to say they ought to be massed for effect; most of us have not a sufficient number of them for that, and mass production is still a dream. But that undoubtedly is the ideal.

The species, however, ought not to be mixed up anyhow like a crossword puzzle. Those already in cultivation are extremely diverse not only in size, but in habit and flower colour; they include representatives of all the chief natural groups into which the species fall. They should be grown in clumps, or the bigger ones may be scattered singly about the rock garden.

ONE OF THE BEST OF THE POPPIES, MECONOPSIS INTEGRIFOLIA.

In most species, whether biennial or perennial, the leaves die back in the winter; but in a few species the crown persists to send up a tall central stem the following year.

Soil and Situation.

The important thing to remember is that every species, whether biennial or perennial ultimately develops a long tap-root, and that, in order to do so unhampered, it needs a rather light soil of considerable depth, thoroughly drained below. Stagnant water at the roots is anathema—the poppyworts are not bog plants. A clear depth of at least 3ft., preferably 4ft., should be allowed, the best results being obtained with a mixture of loam and fine gravel, or sand, about half and half. Some species thrive in calcareous soils, though not one is *confined* to limestone, and since these do quite as well without it, it is better to avoid lime if possible; some species reject it altogether. A peaty soil in which rhododendrons will grow also suits meconopsis.

In its first year the plant builds up a stout crown, and in the second year it squanders a large amount of material on the bulky inflorescence; yet to see some of these plants growing in the hungry alpine gravel, one would think that they lived entirely on air and water. The truth is they take up a considerable quantity of food in liquid form, owing to the constant flow, from rain and melting snow, just below the surface, down the steep faces on which they thrive. There is a perpetual circulation through the plant, and the hollow stem will usually be found full of liquid; thus it is advisable to grow them at the foot of the rock garden, or on a bank.

Though scarcely sun-worshippers, most poppyworts enjoy the open, growing in meadows, or on the alpine moorland, or on screes. A few, such as M. Wallichii, prefer half shade; while M. Baileyi is actually a woodland plant.

Slugs seem to have a passion for some species, and are very destructive to the young plants.

F. KINGDON WARD.

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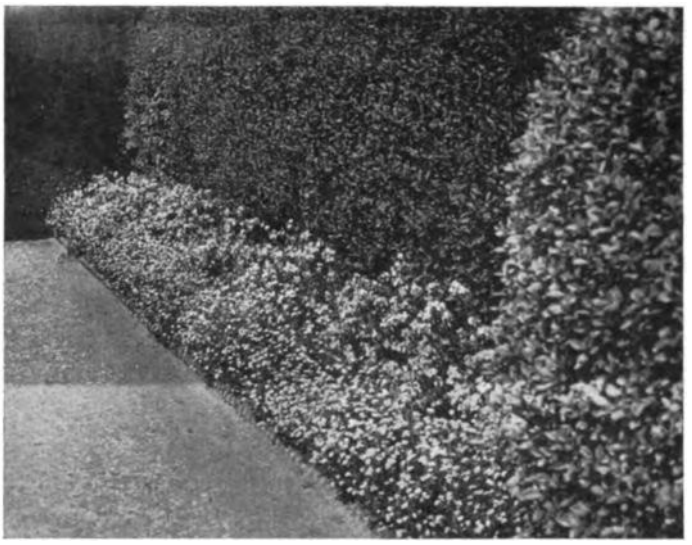
WALLFLOWERS FOR PRESENT SOWING

IT may seem early to be thinking of next year's wallflowers, before even the present year's plants are past their prime, but there can be no doubt that the finest show is obtained from seed sown at the present time. Wallflowers are truly gorgeous bedding plants, yet for all that are seldom grown to their fullest perfection except by the seasoned gardener. Their very ease of cultivation militates against them, for the novice is apt to think that sowings can be made at any time during summer, and that the seedlings can be transplanted at any time, nd into any odd corner.

For really good results, seed should be sown very thinly in drills on a sunny border during the next week or so. The seedlings will grow all the more hardily if the seed bed be given a light dressing of powdered lime previous to sowing, but in no circumstances should the ground be heavily manured. As soon as the seedlings have reached a height of 2ins. to 3ins., they should be transplanted to nursery beds in a sunny part of the garden, ground vacated by early potatoes being very suitable for the purpose. In these beds, at least 6ins. must be allowed between each plant, and 9ins. between the rows, while care should be taken to plant the seedlings quite firmly, thus encouraging sturdy, short-jointd growth. Little further attention is necessary beyond frequent and regular hoeings, which will go far towards maintaining the soil in sweet, yet moist condition, besides keeping the weeds in check. The final planting-out should take place in autumn, and here again moderately rich soil and very firm planting will give the best results.

As regards varieties to grow, it may be said that the old blood-red and rich yellow sorts are very effective, especially when grown together. There are, however, a number of more modern sorts, with a wide range of bright colours, and these will make a gorgeous show planted in separate beds of named varieties. A selection from the following will please the most critical, and it cannot be too strongly urged that at least a few should be tried. Purple Queen, a colour which is very telling, but should be used sparingly, perhaps the finest effects being produced when growing with a lemon yellow sort, such as Faerie Queen or Primrose Monarch. Fire King is undoubtedly the most brilliant of all wallflowers, with large flowers of the most vivid shade of orange. It should be given a sheltered position, for the young buds are apt to be crippled by frost or cold, drying winds. Vulcan is a widely grown variety, with rich crimson flowers of wondrous velvety substance, and for those who prefer an even deeper shade, there is the splendid Sutton's Darkest of All. As a contrast to the preceding may be mentioned Ivory White, with blossoms of that shade. This is rather a delicate species and more suited to frame culture in its early stages, though quite hardy enough to withstand average winter conditions outdoors when it has reached a size suitable for bedding out. Eastern Queen is unique, in that the flowers open apricot, passing off to rosy pink as they age. There are also dwarf wallflowers exhibiting a wide range of colour, and these will be found useful for ribbon borders, also for edging beds of taller growing sorts. The scope for carrying out novel colour schemes in the spring garden with these wallflowers is practically unlimited. Tulips may be grown with them in the same bed, and by choosing suitable May-flowering sorts an exceedingly bright show may be had. Another good plan is to grow early-flowering daffodils among the wallflowers, for in this way the beds are rendered attractive from early March until the middle or end of May. Another race of wallflowers is the early Parisian strain. From a sowing made in June, blossom production will commence tn autumn, and keep on intermittently throughout the winter, varying of course according to weather conditions. With the advent of spring, they burst forth in full glory, thus anticipating by some weeks the flowering period of the commoner forms of Cheiranthus Cheiri.



A BORDER OF WALLFLOWERS WITH AN EDGING OF FORGET-ME-NOTS LOOKS WELL IN FRONT OF A LIGHT EVERGREEN HEDGE.

Besides the single wallflowers noted above, there are also double sorts which are easily raised from seed. The spikes of blossom resemble those of some very fine early-flowering stock, except in colour, rich shades of yellow, bronze and red being the prevailing hues in this class. Rather different is C. Harpur Crewe, with a profusion of tiny yellow button flowers during spring. This species is of true perennial nature, and seems more at home in the hardy border than in flower beds. Stock may be increased by cuttings inserted in beds of sandy soil in the cold frame during early autumn. The young plants should be wintered in the cold frame, being planted out in early April if weather conditions are favourable.

There are several exceedingly showy relatives of the wallflowers, but these are not widely grown, though it is true that the Siberian wallflower is coming into marked favour. All the species noted below may be raised from seed, treatment being the same as for C. Cheiri and its varieties. Cheiranthus alpinus (syn. erysimum) is a gem for the rock garden and for naturalising on old walls or similar positions. In these places, self sown seedlings will spring up freely, forming charming natural groups if left unmolested. The fragrant lemon yellow flowers are produced freely and over quite a long period. C. Allionii, the gorgeous Siberian wallflower, needs little introduction. Suffice it to say that the plant is remarkably free-flowering and the blossoms of a really satisfying shade of orange. Seed should be sown rather later than the common wallflower, otherwise there is danger of the plants flowering prematurely in autumn. Erysimum Perofskianum deserves mention, for it is an annual form of the preceding. Seed sown in early spring will make a brave show during the first year, while for spring blossom, seed may be sown in August. E. linifolium is another good member of this family, with numerous heads of clear mauve flowers during May and June. This species was admirably illustrated in the April 9th issue, to which readers may be referred. Cheiranthus mutabilis, with flowers varying from cream to purple, should certainly be tried. It makes an attractive bedding plant, flowering during May and June and growing about 12ins. high. C. Marshallii is another valuable sort for bedding purposes, also for edging sunny borders; the fragrant blossoms are of a deep shade of orange, and tone well with that rather difficult magenta form of aubrietia, which clashes with almost every shade but orange.

B. D. S.

Rake the surface soil before sowing.

The seed drills should be about 1in. deep, and 9 to 12ins. apart.

Covering the seeds with fine soil.

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A MODERN VARIETY OF MIMULUS.

PRACTICAL PARAGRAPHS ON POPULAR PLANTS

WE give below a series of practical paragraphs on popular plants which are intended mainly for the help of beginners and amateurs. Some of them are known by their old-fashioned names, and have long been loved both for their beauty in the borders and for their worth as flowers for cutting. All are easy plants to grow and will give long and useful service in the garden.

THE FRAGRANT MIGNONETTE.

Mimulus (Musk Monkey Flower). APART from the common musk withi ts yellow blossoms (the fragrance from which seems to have departed) there are other members of the family which serve a useful purpose in the garden and are as hardy as other perennials. Some of them have spotted brown and crimson flowers, others scarlet and yellow. They grow best if planted in moist, shady places, or even near to water. They thrive in rich soil full of humus, as, for instance, leaf-mould and old vegetable refuse. Propagation is from cuttings taken in spring and struck in sandy soil, from seed sown in warmth in March, April or May in pans of light soil, and by root division in spring.

Iberis (Candytuft). THIS is an important and popular family, the perennial sorts filling positions in the rock garden, on banks and almost any place in the garden where their procumbent habit can be considered, and the annual forms being of much service in bedding-out arrangements, for edging purposes and the like. The perennial sorts are very hardy, need only ordinary soil, and reward the grower in spring with masses of snow white flowers. Planting time is March. Propagation is by cuttings taken near a joint and inserted in sandy soil either in the open ground or in a pan after they have done blooming by dividing the plants, and from seed also, which can be sown in a cold frame in spring. Annual varieties may be sown in the garden in April or May where they are wanted to bloom. Some are only about 6ins. in height and the tallest about 12ins. A sunny position is the best for them.

Lupins. OF the three forms of lupin, herbaceous, tree and annual, the first has come into such prominence within the last ten or fifteen years that no representative hardy flower border is considered complete without some of them, They are old-time garden flowering plants, the revival of interest in which is all to the good. Generally speaking, they give the best results when planted in light and well drained soil, helped with decayed manure and given a sunny position. A cold, heavy soil is unsuitable for them. They vary in height from 4ft. to 5ft. and are usually at their best in June and during July. They can be increased either by root division in March, or from seed sown in the open ground in light soil, in April or May.

THE PERENNIAL CANDYTUFT (IBERIS) IS A FINE SUBJECT FOR PLANTING IN BOLD CLUMPS IN THE ROCK GARDEN, WHILE THE ANNUAL FORMS ARE ADMIRABLE FOR EDGING BEDS AND BORDERS.

Mignonette. NO annual noted for its sweet fragrance is more popular than mignonette. It is found everywhere, yet although its requirements are simple, it is often indifferently grown owing to its being overcrowded in the bed. As is known, seed may be sown in succession from April onwards to have a good supply of spikes for cutting all through the summer. Soil for it should be rich, light, and always the position selected be sunny. A compost made up of good garden soil with a little leaf-mould and decayed manure worked in and the bed made quite firm—almost hard—suits mignonette. Seeds ought to be sown very thinly and thinning be resorted to very radically when it is remembered that a well grown plant will occupy a foot, and yield an immense number of spikes stronger in every way than plants congested. One has but to take a lesson from a stray seed dropped in a border and growing in isolation. When the young plants are making headway a dusting of soot and wood ashes about the bed will help them and keep at bay the fly which in certain seasons attacks young plants. One may have quite dwarf sorts to giants of nearly 2ft.

Virginia Stock. A VERY simple, easily grown and popular annual much used for edgings to beds and borders, and a general favourite in town and suburban gardens. It will thrive often in the poorest soil, and needs only to be sown very thinly where it is wanted to bloom. If sown in April or May, it will commence to flower in June. It is useful also for sowing in pockets in the rock garden, as it only grows about 6ins. Colours: crimson, red, white and yellow. Some of the yellow flowered varieties are tinged with green. A capital annual for a town garden.

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THE BUSY MAN'S PAGE

Hints on Bedding Out.

WHEN planting out the summer "bedders," it is well to note whether the various plants do best in a comparatively poor or rich soil. For instance, heliotrope and ageratum will grow well in a good medium class soil, but begonias and dahlias require a very rich soil if they are to be grown to perfection. Only well rotted manure should be used and it should be well mixed with the soil. In any case, it is inadvisable to let manure come in close contact with the roots of plants. A slight layer of soil should lie between the manure and the roots. Flowers which naturally need less moisture than certain of those plants which produce a profusion of foliage, also need less manure. French marigolds are best when grown on a somewhat poor soil, but the African varieties require a moderately rich soil.

Geraniums bloom best when the soil is rather poor, and not too wet, in fact, a dry, warm, sandy border suits these favourite bedders admirably. Fuchsias on the other hand make a lovely display if the soil is quite rich. Thus it will be seen that quite a collection of different qualities of soil will be required when bedding out. It is well to have a quantity of fine silver sand, some well decayed turf and leaf-mould, and a certain amount of suitable manure at hand. Good loam or garden soil will form the chief material in which to place the bedders. Watering will be necessary if the weather is dry. After a day of hot sun, a sprinkling of water overhead in the evening will be very beneficial, especially for such plants as asters, stocks, violas, dahlias, pansies, chrysanthemums, etc. When planting out give one good soaking of water in the evening. This is better than frequent sprinklings, if the soil has become very dry.

An Easy Way of Performing a Difficult Task.

EVERYONE who possesses a grass plot or path will agree that the greatest trouble connected with such is keeping the edges in a well trimmed condition, especially alongside paths and garden beds and borders.

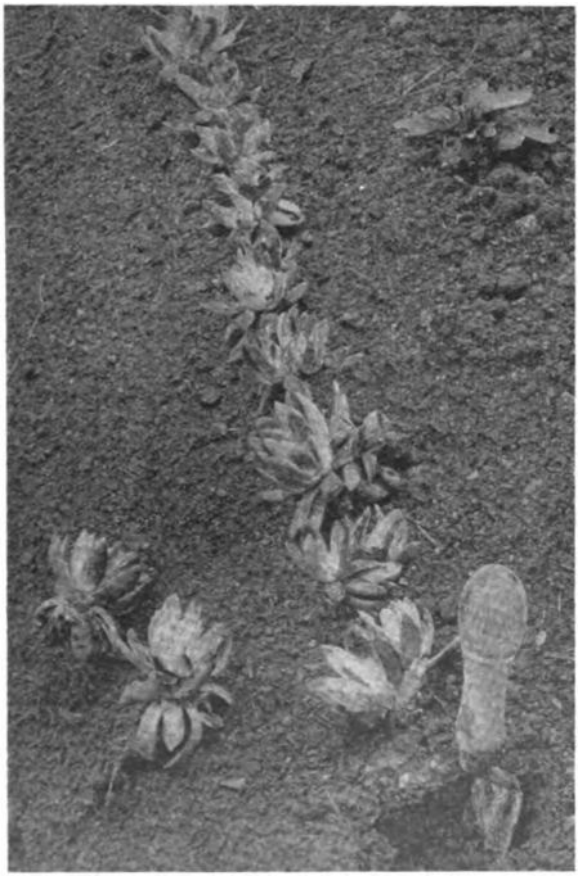
There are several verge-trimmers that do the work of edge cutting very efficiently where there exists a very long verge to be kept in order; in the ordinary home garden, however, such tools are unnecessary. The shears is the normal tool to use in this connection—the verge shears in particular, and a useful development in the latter is seen in the provision of a wheel at the corner of the blade nearest the ground, so that when cutting the verge the wheel rests upon and runs along the path or border, keeping the blades of the shears steadily in position and eliminating the laborious part of the operation by taking all the weight of the shears. This tool will be found especially useful in trimming the edges of circular beds, as well as scalloped borders, awkward corners, around the roots of shrubs and trees, and around the bases of garden seats and statues.

A LABOUR-SAVING TOOL FOR TRIMMING THE EDGES OF THE LAWN.

An Attractive Edging Plant.

ALTHOUGH succulents are not employed in bedding schemes these days to the extent they were when carpet bedding was the vogue, one still finds gardens here and there where use is made of plants of this kind, and of those so employed probably the most commonly met with are the echeverias. Somewhat similar to the houseleeks in appearance, these have a compact rosette form of growth varying slightly in colour according to the species. One of the most useful for carpeting or for edging beds or borders is Echeveria secunda and its variety glauca, the grey or bluish green foliage and orange crimson flowers of these showing to advantage when utilised in this way.

In the accompaning illustration showing the method of planting a row of these, it will be noticed that the hole taken out is large enough to accommodate the roots easily, so that when planting is completed the lower leaves are close to the ground, which not only helps to keep the roots cool but lessens the chances of the neatness of the edging being marred by an odd plant sticking up here and there above the level of the others, and a much more finished and better appearance is obtained if the plants are put in fairly close to each other and practically no soil can be seen. The echeverias are by no means fastidious as to soil and situation, but the addition of some old lime rubble to the soil is recommended.



PLANTING ECHEVERIAS AS AN EDGING.
The plants should be placed about three to four inches apart. When established, this edging is most decorative.

Potting on Young Plants.

YOUNG plants which are being grown on in small pots with the intention of removal into others later on should not be allowed to get really potbound. This condition will certainly check their growth, and a common result is a premature blooming. The best time to give young plants a move is when the roots are showing well on the outside of the ball of soil. This is readily ascertained by gently tapping the plants out of the pots. It is a mistake to think that one is saving time and trouble by moving, say, a plant in a 4in. pot into one that is 8ins. in diameter. The large amount of spare soil which has to be placed around the plant will surely become sour from frequent waterings, as, of course, the moisture cannot be restricted to those parts where the roots happen to be growing. The proper method is to move the plant into a pot which, at most, is no more than two sizes larger than the one in which it happens to be growing.

Mulching and Feeding Roses.

MULCHING rose-beds with decayed manure during the early summer is highly beneficial to the plants and brings its reward in the increased quantity of bloom produced, the greater vigour of the plants, and their greater resistance to attacks of insect and fungoid pests and diseases. In the case of newly planted beds it is practically essential; while in very hot summers it frequently prevents the roses from collapsing and reduces the necessity for artificial watering to a minimum.

Good rich manure from the piggery or cow-sheds is to be preferred, except on the very heaviest soils, where well rotted stable manure may be substituted. The nourishment is then gradually washed down to the roots, which are kept cool and moist even in the hottest weather. A little fine soil sprinkled over the mulch will prevent any unsightly appearance. The best stimulant to apply to roses is undoubtedly liquid farmyard manure; this should only be applied when the ground is reasonably moist, and should be diluted until it is no darker in colour than weak tea. Should the ground be very dry, a good soaking with clear water should be given some hours before the manure water is applied.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Hardy Ferns.

MOST people have a preference for plants which flower, but there is really just as much interest and beauty among the flowerless ferns. Ferns have many uses. As pot plants for home decoration they are first favourites. For odd shady corners of the garden they are most useful, and the cut fronds are frequently in demand for using with flowers in vases. Perhaps this is why so many people try to dig up the ferns which they find when away on holiday and take them home. I should like to discourage readers of THE GARDEN from doing this. Digging up ferns in this manner is seldom very satisfactory.

Kinds to Grow.

There are a very large number of species which vary considerably as to hardiness, it is well to exercise care in selection. There are thirty-eight species of ferns which are found wild in Great Britain, and which should therefore prove hardy under cultivation. These include hart's tongue, parsley fern, hard fern, maidenhair, wallrue, spleenwort, lady fern, prickly shield fern, male fern and polypody. These are all very beautiful, and no doubt most people possess one or more of these ferns. Nurserymen now have new varieties of many of these, but, unlike the flowering plants, ferns are not much altered by the hybridist.

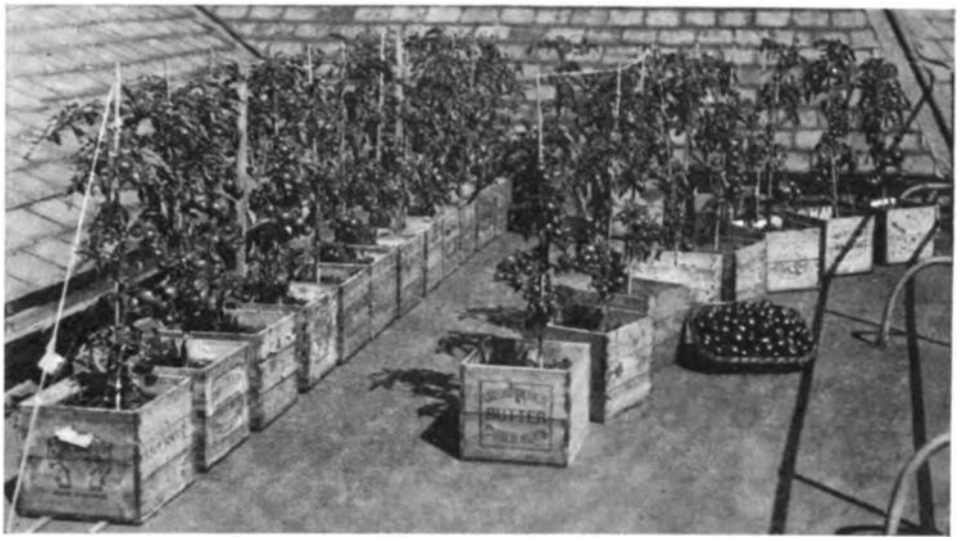
Indoor Varieties.

Of the many half-hardy ferns which are suitable for cultivating indoors, one of the most useful is Pteris cretica, cousin to the common bracken, of which there are many varieties. Adiantum Capillus-veneris (maidenhair) and Asplenium bulbiferum are two others suitable for growing in pots, but the maidenhair fern will not grow if gas is burnt in the room.

Leaf Mould for Ferns.

Most ferns like plenty of decayed leaves mixed with the soil, in addition to sand. A useful compost is made by mixing leafmould, loam and sand in equal proportions. Some varieties, *e.g.*, Blechnum spicant and Adiantum pedatum, like lime rubble in the soil. Clean drainage is essential to all, for although ferns like moisture, stagnation is fatal. Pot ferns should always have broken crocks at the bottom of the pot. Broken charcoal and lime rubble mixed in the soil used for potting maidenhair ferns will keep them healthy.

Ferns should never be allowed to become dry at the roots. This is the most frequent cause of failure in their cultivation. Nor should the leaves be forgotten. Submerge both the pot and leaves in a pail of water, and then allow to stand in the sink to drain before replacing in the room.



A FINE CROP OF TOMATOES GROWN IN BOXES ON A TOWN ROOF GARDEN.

A Fruit for the Small Garden—The Tomato.

ABOUT the first week in June the plants can safely be put outside in their permanent quarters. For those who are not fortunate in possessing a greenhouse or frame hot-bed to raise their own plants a selection of plants should be made from a reputed nurseryman. There are several varieties of tomatoes that are specially suitable for outdoor cultivation, a few of the best being Earliest of All, Open Air, A.1, Maincrop, Eclipse and Sunrise. A south wall or paling fence, is an ideal position for training the plants. Such a position retains the heat of the sun well into the night, so that the plants do not get the extremes of temperature as usually obtain in an open position, as for instance, on an allotment.

The sunniest spot in the garden should be chosen. The plants should be placed 18ins. to 2ft. apart in a row, and the same distance allowed between if more than one row is planted. The rows should run north and south. The tomato will grow in ordinary soil, provided it is deeply cultivated, well drained and friable. Heavy clay soils can be made friable by the addition of coarse sand, leaf soil, charred refuse and old lime rubble. Fresh manure should be avoided at planting time, otherwise strong leaf and branch growth will be encouraged at the expense of fruiting. The plants should be well firmed in when planting. A stout stake, 4ft. long, should be placed to each plant.

During the growth of the plants, all side shoots should be pinched out, retaining the single stem or leader, and tying it to the stake from time to time as required. When the plants have reached the top of the stake, the growing point of the leader should be pinched out so as to divert the energy of the plant into the swelling up of the fruit. After the fruit is set, a mulch of stable manure should be applied on the surface soil around the plants. Failing stable manure, decayed vegetable matter, such as grass clippings, or leaf soil, can be substituted, and the plants fed with a little chemical manure made up as follows: 3 parts superphosphate of lime, 1 part sulphate of potash, mixed together and applied at the rate of 1oz. to the square yard. The application should be made fortnightly and alternated with soot water. Moisten the soil first, apply the respective manures and water well in. A little ground lime should be applied in the early stages of growth. As the fruits swell up, they should be exposed to the light by shortening an occasional fully matured leaf half-way, but this defoliation must not be done ruthlessly, otherwise the cultivator may court disaster.

A CHOICE COLLECTION OF HARDY FERNS IN A TOWN GARDEN.

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WORK IN THE FLOWER GARDEN

A Fine Shrub for a Wall.

FREMONTIA CALIFORNICA is a shrub well worth growing, on account of the prolific crops of large golden yellow flowers it bears, of about 2½ins. in width. I think it would be more often seen if it were not for its reputation of supposed tenderness; but I am sure it is much hardier than is generally credited. A specimen here (7ft. in height by 5½ins. in breadth) growing on a wall, with a south aspect, and well protected from the north, has come safely through the rigours of two winters. All the protection afforded was by a few thin spruce branches placed over it in severe frost. In the position the plant occupies here, it comes into flower towards the end of May and continues giving crops of flowers until October. If it were not for the cold and want of sunshine, it would go on flowering, as many buds remain unopened. Since it was first planted, it has made vigorous and almost rampant growth in midsummer, which frequently required tying in or cutting back. Good loam with a liberal addition of half-decayed leaves and some peat, which helps very much to retain the moisture, apparently meet its requirements and keep it in vigorous and robust health which enables it to come through severe winter weather without any bad effects.

Abelia chinensis and A. longituba have occupied an almost similar position as the fremontia, with almost the identically same treatment as to soil and spruce branch protection during hard frosts. Both plants have come through the winters unscathed, with the exception of a few half-developed on the points, as these plants appear to insist on growing all winter.

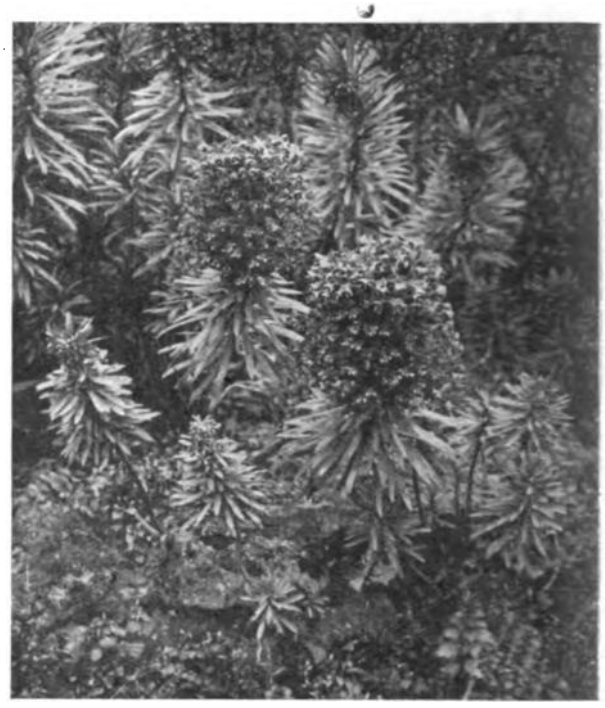
To come through the trial of the prolonged Kincardineshire winters has been a fair test of the hardihood of the fremontia and the abelias (more so than London, as is often quoted); and it would be fair to assume that they may be planted anywhere if given wall protection and soil to suit them and watering attended to in dry weather. — W. G., *Kincardineshire.*

A Quick-Growing Clematis.

Clematis Vitalba.

THERE are often about gardens places more or less unsightly, or that would be so if left to themselves. But there is no need for this when they can be so easily covered by some quick-growing plant. The stoke-hole in a garden yard could only be covered with corrugated iron; but now, instead of being an ugly object, always offending the eye, it has a gracious covering of the wild clematis, good in leaf, flower and fruit for more than half the year. Even in winter, when it is bare of leaves, the quantity of stem, spreading and interlacing, completely hides the iron roof. It can also be most effectively used for covering a rough fence. Each flower of the many in the cluster becomes a tightly packed head of seed, and each seed is furnished with a feathery awn about an inch long and curved, so forming a sort of loose mop. If branches of seed are brought indoors and dried for a few days, the tiny feathers, which out of doors lie folded along the awn, spread out in a beautiful way and the branches can be used for room ornament, though it is well not to keep them too long, as they easily catch dust and only too readily retain it. On the chalk hills, where the plant grows in profusion, festooning the hedges and rambling over thorny brakes and broken ground and the edges of old chalk pits, it abundantly justifies the good old name of Traveller's Joy.—G. J.

AN UNSIGHTLY CORNER BEAUTIFIED BY THE QUICK-GROWING TRAVELLER'S JOY (CLEMATIS VITALBA).



THE CURIOUSLY FORMED FLOWERS OF E. CHARACIAS.

An Attractive Spurge.

THIS interesting plant, Euphorbia Characias, comes among the few early-blooming plants of rather large size, forming bushes about 2½ft. high and through. It has much the general appearance, though all on a smaller scale, of the handsome E. Wulfenii, though the bloom is differently coloured and not so effective. In E. Wulfenii the great round-topped flower-heads may be as much as 15ins. high and 8ins. or 9ins. through; while those of Characias are only half the size. They are not exactly umbels, for the lower branchlets of the head run a few inches down the stalk and the large quantity of flowers comes up to the general outline on twice-branched stems. The individual bloom is curiously formed. First, there are two intensely green flattish bracts, spreading laterally, and about ¾in. from tip to tip. Between them the flower rises on a little inverted cone and spreads into a brown Maltese cross ¼in. in diameter. From the centre of this rise from one to three stamens with anthers bearing pollen, and from the same point droops the pistil. Fertilisation is further ensured by two other pollen-bearing florets which also hang by its side on shorter stalks. The leaves are of the long, narrow shape usual with euphorbias; they are of a curious dull leaden green colour, in sharp contrast with the brilliant metallic green of the flower bracts. The whole plant has the milky juice and the heavy, unpleasant smell common to the genus.—J. G.

Roses on a Dry Wall.

A DOUBLE dry wall was built to separate two garden regions. An old hedge bank stood near, but was in the way; as the wall was built up on both sides, the earth from the bank was barrowed into it, forming, when well rammed down, a solid mass 6ft. through at the bottom and 4ft. wide at the top. The joints of the wall were filled with suitable plants according to the two aspects, and the top was planted with a number of shrubby things. Among these are two of the older of the modern rambling roses, the yellow Aglaia and the pink Euphrosyne. They seem to delight in their place, flinging their flower-laden branches far and wide and only sending them down too low at the sides, where they have to be cut away to clear the footpaths.—M.

A Handsome Foliage Plant.

THERE is no doubt that, when well grown, cannas are more effective than the usual run of bedding plants. Owing to their extremely handsome foliage cannas may be freely associated with flowering subjects of all kinds, and their erect growth tends to counteract the flatness which is rather too obvious in many beds and borders. Another point of value in the canna is its power of withstanding the cold winds and storms of autumn. The dwarf-flowering hybrids are effective in beds either in conjunction with other plants or grown alone. They may also be dotted about herbaceous borders with great advantage. It must be remembered that cannas are gross feeders, and it is well to enrich the soil with well

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decayed manure. To secure the best effect the position chosen should be sunny and somewhat sheltered. Cannas require plenty of moisture and are all the better for mulching. As required, provide the plants with stakes or they may be damaged during windy weather.—L. B.

Delphinium Belladonna.

AMONG the many fine delphiniums that have been raised of late, there is none, for purity of blue colour, that surpasses this old variety. It is a well defined plant in several ways, for it is the earliest to flower by a good fortnight; it is of very moderate height, and the bloom, instead of being closely set on the stem, has a certain loose quality that not only helps the colouring but has a distinct grace that is wanting in the spikes of more rigid pattern. Formerly it never set seed, but of late years it has formed seed freely. The resulting plants have much the habit of the original kind, but a certain mixture seems to have been effected, giving rise to a very useful class of plant that it is convenient to call "intermediate delphiniums." These are taller than the true Belladonna, and include some of much darker colouring, but nearly all retain the more open and less stiff form of bloom.—G.

The Purple Rock Violet.

Seed can be sown now in the open where the plants are to be grown.

THE plant known by some people as the purple violet cress is botanically known as Ionopsidium acaule. It is a delightful little annual plant, a native of Portugal, easily raised from seeds, and quite hardy in the warmer parts of this country. As a subject for sowing among spring-flowering bulbs in the rockery it is very useful, for seed sown in late spring flowers splendidly during the summer, and in many localities it seeds freely and resows itself, this second batch of plants flowering (providing the weather is mild) in December. As it is a surface-rooting plant, it does not rob the bulbs of their food, and it forms a pretty patch of colour where otherwise a bare space would be.

Ionopsidium acaule only grows about 2ins. in height, and when growing fairly closely together forms a carpet of tiny pale lavender-coloured blossoms. If the seed is sown in pans in the late autumn and carefully looked after and given the shelter of a cold frame, it flowers early in the year and is beautiful for the embellishment of the cold greenhouse or conservatory when little else is attractive.—T. H.

Canterbury Bells.

Sow this month and transplant in autumn.

THESE old-fashioned and well known hardy biennials should be sown about the middle of May if the best results are to be obtained. They may be sown in drills in the open ground, but a better plan is to sow in pans or boxes in a light compost and to stand them in a cold frame until germination takes place. A piece of glass placed over the boxes will conserve moisture and they should be shaded from sunshine until they appear above ground.

As soon as the seedlings show the covering glass and shading material must be removed and the boxes must be kept close to the glass and plenty of ventilation kept on the frame to prevent them from becoming drawn.

Prick off as soon as they are large enough to handle into nursery lines in the open ground at a distance of 6ins. apart, allowing 1ft. between the rows. Hoe frequently during the summer to promote free growth and keep down weeds. In early October they should be fine sturdy plants ready for transplanting to their flowering quarters. The best effect is obtained when the various colours are kept separate, and in the border three or five plants may be planted to form a group. A stake must be placed to each plant in early April, to which the leading stem must be tied at intervals. Liberal applications of dilute manure and soot water are beneficial previous to the flowering period.

If plants are lifted in autumn, potted into 6in. or 7in. pots and wintered in a cold frame, they make excellent subjects for the embellishment of the cold greenhouse in early summer. Care must be taken to remove any decaying leaves during the winter, and when water is applied it must not be poured into the centres of the plants. From March onwards frequent application of dilute stimulants should be given.

DELPHINIUM BELLADONNA, AN EARLY-FLOWERING VARIETY OF CLEAR SKY-BLUE COLOURING.

The cup and saucer varieties of Canterbury bells are, in my opinion, the most decorative of the several types on the market.—T. H. EVERITT.

Preparing and Planting Edgings.

IN the town, villa and suburban garden, formal bedding out is still in great favour, mainly because there is not much space for informal designs. In such cases, where the body of the bed is filled with, we will say, tuberous begonias of various colours, a distinct edging plant is essential. Of course, all such plants for this purpose, whether fine of foliage or flowering, must be dwarf and compact-growing. Violas are in the first rank for the purpose; the plants are compact, bear flowers freely and do not suggest formality in themselves. They may be planted now and all flower buds should be removed for several weeks. Armeria, too, may be planted now, also saxifragas, sedums, golden thyme, Euonymus radicans, dwarf campanulas and Cerastium tomentosum. Very little preparation is needed, but in the case of tender plants such as lobelia, pyrethrum, iresine, coleus, ageratum, Tagetes pumila and similar kinds, they must be gradually hardened to outside weather conditions by practically full exposure during the daytime in cold frames and by tilting the lights at night. By June 10th in the south and June 20th in the north the tenderest plants should be in a fit condition to plant out.—G. G.

The Panther Lily.

An Excellent Bulbous Plant for the Amateur.

THE panther, or leopard lily, of California is known as Lilium pardalinum, and there are several well defined varieties of this superb garden lily. It is one of the best in a beautiful genus, and, moreover, it is reliable, and will accommodate itself to most gardens. The type, L. pardalinum will attain a height of 5ft. or 6ft. and in July will produce heads of bright orange flowers copiously marked with purple-brown. A very fine form is californicum, with deep orange flowers marked with maroon the tips of the petals being an intense scarlet. This lily belongs to the Martagon set, the leaves are arranged in whorls, and the flowers more or less reflexed. When well grown I have counted as many as thirty flowers on a stem, and twenty is by no means uncommon. Even if a stem only produced half this quantity of bloom, it would still rank as a highly ornamental subject which has proved amenable to ordinary cultivation. Given dormant bulbs, planting can take place at any time, but preferably such work should be done in September or the spring, arranging the bulbs fully 6ins. deep.

Although this lily will succeed in ordinary garden soil, the greatest stature is obtained when a mixture of loam, peat and leaf-mould is provided in equal parts, to which is added a liberal sprinkling of coarse sand. Excellent results are secured in rhododendron and similar borders, in such positions the roots are kept cool, while the flower heads will appear above the shrubs and present a striking picture during the summer.

It delights in moisture at the root, but it must never be treated as a bog lily, and it will also thrive when naturalised in woods, such as an open glade or where the sun can reach it. In dense shade it is never a success, the growth is weak and the flowers pale in colour.—T. W. B.

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CHRYSANTHEMUMS: PLANTING OUT FOR LIFTING

THE practice among amateurs of planting out mid-season flowering chrysanthemums for the summer, instead of potting them in their final pots in June, is becoming common in many quarters, and in this particular they are but following the custom of trade growers. There is much to be said in its favour, as where blooms are mainly wanted for home decoration and for cutting it answers well enough, provided that a little extra care is given them in getting the plants quartered, and again at the time of lifting in the autumn.

So many amateurs nowadays make use of their greenhouses during summer for tomatoes, growing them either in pots or boxes, or, as is sometimes the case, in beds within the house, that it is not a very difficult matter, in uprooting the old tomato plants, to use the receptacles or the bed which they have occupied, for chrysanthemum plants. It is a much more economical proposition than having to procure large pots specially for them, and, as I have said, where blossoms for the home is the object, it is quite satisfactory.

At the time of writing this note I have a number of plants in frames, and in the house, that, about the middle of May, will be quite ready for their summer quarters. This will be a large bed, in a place that is open to sun and air. I propose to augment the soil with remnants of potting soil, assisted with a little fertiliser. The plants will be stopped once before they are transferred to the open, quantity rather than quality of flowers being my aim. As on previous occasions, they will be planted out about 2ft. apart, a stout stake (not a cane) being inserted at the time of turning them out of pots, and during the course of the season one, or maybe two, other stakes will be inserted to prevent their being broken by rough winds, the shoots being tied to them as they grow.

Advantages of Planting Out.

A good many amateur gardeners have to be away at business most of the day, and only those who have grown chrysanthemums in pots can appreciate what labour is involved in watering plants night and morning in a time of drought. Planting out reduces this labour very considerably, although, of course, it does not entirely free the grower from going round them with the watering can at times. As a general rule, the one who adopts the planting-out plan is content to have flowers from terminal shoots, rather than attempt to take crown buds and aim at larger blossoms; but there is no reason why, if so desired, one should not select crown buds and have fewer and bigger blooms. My own plan is to have what I look upon as "serviceable" blossoms, *i.e.*, of moderate size, in larger quantities that give no qualms of conscience in cutting for home decoration, and I think many amateurs share these views to-day. The superb blooms secured mostly from crown buds demonstrate the skill of the grower; but most of us, I venture to say, are alive to the fact that moderate-sized flowers are mostly appreciated for table and home adornment.

Stimulants.

It does not follow, because one chooses to plant out instead of potting, that he should not help the plants; on the contrary, it will be found an advantage to give them help with stimulants from about July and onwards. Liquid manure, soot water, and a dressing of bone-meal occasionally, I have found give excellent results, if administered after rain or when plants have been watered. In making provision for planting out, one should be careful to leave an alley or path, and this will be found useful for getting between them. My own plan is to plant three or four rows, and then provide a space wide enough to walk up.

Lifting the Plants.

Early in September it will be necessary to consider arrangements for transference of chrysanthemums under glass. Should the weather be dry, plants should have a good watering, and the following day they should be "eased," *i.e.*, a spade thrust in the ground away from the plants. This may have the effect of their flagging for a day or two, but they quickly recover, and can then be got up and placed under glass in pots or boxes, whichever may be available, or holes dug out on the floor of the house, afterwards being inserted and soil applied as need be. Here, again, flagging may take place for a few days, but the amateur who has not tried the plan may take consolation from the fact that no plant more quickly recovers after removal than chrysanthemums. It will be needful to afford them abundance of air, night and day, for a time, and possibly have resort to shading should the weather be unusually warm. Taken all round, the plan of growing a number of plants in the open ground to provide flowers for cutting has many advantages for those amateurs who cannot, for various reasons, always give chrysanthemums the unremitting attention they need when cultivated in pots. W. LINDERS LEA.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

AT last the weather has taken a turn for the better and activity prevails in gardens and allotments throughout the land. But while winter conditions have given place to genial sunshine in daytime, there is a nip in the air when the shadows fall, and as the night temperatures drop to freezing point or under, there is still need for caution in transferring young plants from the shelter of a frame to bed and borders. So long as the wind remains in the east or north there is danger of early morning frost, necessitating the adoption of protective measures. The need for avoiding risks at this season is emphasised by the experience of a Mosspark reader of THE GARDEN, who lost all his calceolarias one night in early May as the result of the frame lights having been removed for the purpose of hardening off the plants.

Some gardeners have a very hazy idea of the manner in which bulbs should be treated when they have finished flowering and as the outdoor bloom of daffodils and tulips is nearing a close a few seasonal hints may be helpful. If the future usefulness of bulbs is to be considered, the foliage should not be removed until it shows signs of withering. Daffodils established in grass give a lawn or green an untidy appearance during the process of decay, but this may be accelerated by twisting the leaves of each clump into a loose knot. When it is necessary to lift the bulbs, remove the yellow foliage and spread them out in a single layer on a tray or shallow box until they have become quite dry, when they may be cleaned by taking off the dead roots and separating the large offsets from the parent bulbs. Store in a cool, airy place out of the reach of damp. Tulips are similarly treated. In the case of cottage and Darwin varieties, which are planted deeply in light soil, I leave them undisturbed for a few years and utilise the ground by growing annuals or other shallow-rooting plants overhead, but the early species are better to be lifted annually, especially when cultivated in heavy ground. Tulip and other bulbs forced in heat are of little further use and may be consigned to the rubbish heap, but treatment similar to that recommended for outdoor plants should be applied to bulbs from indoors in pots or bowls of fibre, which may be utilised for bed or border culture in the following season. Hyacinths are usually taken up every year and, according to the advice given by the late Rev. Joseph Jacob, they should be laid on a bed under a 2in. covering of soil, for a couple of weeks before being stored indoors.

Given suitable soil and weather conditions summer bedding operations in Scotland are general about the last week of May, when chrysanthemums, antirrhinums, nasturtiums, salpiglossis, tagetes, lupins, larkspurs and half hardy annuals may be safely moved to their flowering quarters, but owing to the high rate of mortality sometimes experienced with asters when they are prematurely transferred to the open, a few additional days devoted to hardening off is all to their benefit. The first week in June is quite time enough for planting out dahlias. Plants raised from cuttings and potted on are usually well advanced by that period and as a rule the change can be effected with little or no check to development. Collarette, cactus and other tall-growing types should be staked at the time of planting.

With the rapid increase in the popularity of the dwarf bedding dahlia Coltness Gem, it has frequently been predicted that the day of the scarlet geranium as a bedding subject was past. The merits of the little dahlia, its rich colour, free-flowering and good habit are beyond dispute and each succeeding year nurserymen in Scotland report an augmented demand, but the prophecy regarding the fate of Jacoby and Paul Crampel remains unfulfilled, for the old favourite geranium retains a firm hold on the affections of flower lovers. It still finds a place in public parks and private gardens and the much despised colour combination of blue, yellow and red provided by blue violas or lobelia, calceolaria and geranium still appeals to simple tastes. Tenement dwellers value the geranium as a house plant and it is equally at home in a window box and the artistic fire-clay vase which adorns the frontages of mansion house and villa residence. Both plants are easily propagated by cuttings and their culture is of the simplest kind, but the geranium is probably less affected by the absence of moisture in warm summer weather than any other flowering plant in the garden, and although it is dearer to buy, sales are on a larger scale than ever and several of our leading raisers anticipate a repetition of last year's experience, when stocks were exhausted before the close of the season.

Here are a few suggestions for growers of stocks. Try a bed of lavender and old rose colours in alternate rows, with a space of 12ins. between each plant. The effect is charming. White varieties and those of deep purple or rich carmine colouring also make an effective combination, particularly if they are used on a fairly large scale.

ST. MUNGO.

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GROW ANNUALS FOR CUTTING

They are Worth Much and Cost Little.

ANNUALS possess in a superlative degree those qualities which are acknowledged to be indispensable to the decoration of the garden in summer, but their usefulness as cut flowers is not appreciated by amateurs to the extent that their merits deserve. Few subjects can equal them for producing a wealth of bloom at so small a cost and their culture is so simple that the novice may achieve success by the observance of a few elementary rules.

As grown in many gardens, however, annuals come far short of the ideal, simply because they are denied the space that is necessary to their natural development. The process known as thinning out is not properly understood and the plants are overcrowded in consequence. The first attempt at thinning is seldom adequate and such a thing as repeating this commonplace operation is the exception rather than the rule. The result is a thick mass of thin, weakly plants, inferior blooms and a comparatively short flowering season.

Herein lies a fruitful field for unnecessary work; but a practical example of the proper method of growing annuals from seed in the open ground would be more valuable from an educational point of view than all the teachings of theorists. Perhaps the day will come when civic authorities may see it to be their duty to establish model garden schemes in connection with public parks for the benefit of the public in general and particularly that section which inhabits our municipal housing schemes.

Annuals are divided into two groups, comprising (1) the half hardy type, which are raised under glass from seed and transplanted in the open, and (2) the hardy forms, which are generally sown in bed or border where they are to flower; and, naturally, their degree of usefulness as cut flowers varies considerably, as those dwarfer kinds that attain a height of less than 12ins. do not lend themselves to an artistic vase display to the same extent as flowers possessing longer stems. For instance, nasturtiums are more at home in the garden than indoors, and, on the other hand, there are a few tall examples, of which the Shirley poppies are typical, which have but a transient existence in a cut state.

The first class includes several favourite bedding subjects, such as asters, cosmea, chrysanthemum, sweet scabious (a biennial usually grown as an annual), and salpiglossis, but it is in the second group that the best varieties for cutting are to be found.

In the front rank the godetias deserve a place as their graceful sprays make a handsome vase. Several new double varieties have been introduced recently and the colour range comprises various shades of pink, mauve, lavender, crimson, etc. To appreciate the capabilities of godetia, allow from 9ins. to 12ins. between each plant.

The modern eschscholtzia or Californian poppy also claims distinction as a cut flower and the coreopsis are highly prized for cutting. Thin out the first named to 9ins.

Cornflower (centaurea) and Nigella (Love-in-a-Mist) variety Miss Jekyll are blue annuals that are qualified for both garden and indoor decoration, while the sweet sultans, which are of the same race as the cornflower, have come rapidly into favour on account of their pretty colourings and the fact that they retain their freshness in water for a long period.

An outstanding vase in the class for annuals at the Glasgow Gardens Competition last autumn was composed of Sutton's Lavatera Loveliness, and the single and double jacobæas, produced in branching sprays, were also prominent. The double forms are first rate for cutting as they are pretty and long lasting.

Gypsophila elegans grandiflora, with its feathery sprays of pure white flowers, is indispensable for indoor decoration. Where ever space permits, a small bed should be devoted to the hardy sea lavenders or annual statice, which in their dried state are available for winter use at a time when flowers are none too plentiful.

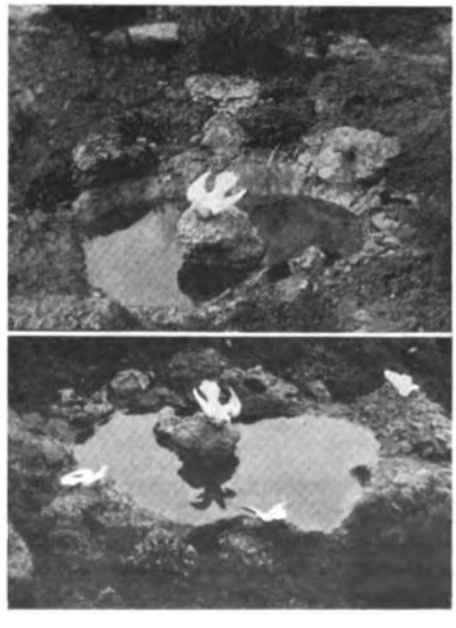
WHAT OUR READERS SAY

NOTES FROM A LITTLE SOMERSET GARDEN.

SIR,—One of the things to be noted in the little garden this spring has been the profuse blooming of the kerrias, single and double, and I have been once more struck with the greater beauty of the former. A specimen grown against a stone wall at the back of a narrow border facing east has been covered with myriads of the bright golden starry flowers that contrast pleasantly with the delicate green of the foliage. In front of the single kerria is a patch of Fritillaria Meleagris, the quaintly patterned "checker-lily" of the old gardeners, but this does not increase, I am sorry to say. A little farther along the same border, backed by clumps of doronicum and a white double cherry (Prunus japonica fl. pl.), Milla (otherwise Brodiæa, otherwise Triteleia) uniflora, has produced an unusual quantity of its dainty flowers. The type has white blossoms, faintly tinged with lavender-blue, but its variety M. u. violacea, which is grown together with it here, is pale lavender with a definite stripe of a darker shade down the centre of each petal. Both the millas are good for cutting and look particularly pretty arranged with double mauve primroses in a shallow bowl, with tufts of mossy saxifrage as a setting. But it is sad that so refined a flower should smell so pungently of garlic!

Anemone apennina flourishes and its drifts of soft blue have been beautiful this spring. It makes an ideal carpeting for the rose pink dwarf almond, Prunus (Amygdalus) nana, which grows barely 3ft. high, although Muscari Heavenly Blue, or Myosotis Royal Blue are nearly as effective, used for the same purpose. On the little rockery Oxalis floribunda has come safely through the winter (under a glass shelter) and its rose coloured flowers make big patches of vivid colour. The only two heaths that can be grown in this lime-loaded soil, Erica carnea and E. mediterranea, are flourishing (indeed the last named has outgrown its quarters on the rockery), but the colour of E. carnea was spoilt by frost. Wallflowers on the whole do well here, especially Cheiranthus Allioni, which seeds itself everywhere, although the hybrid Pamela Purshouse (C. Allioni × C. alpinus) has not survived the winter. That pretty little wallflower, C. Harpur Crewe has been very gay; it makes a trim little bush about 18ins. high, which is closely covered with small spikes of close-set very double flowers, brilliant orange-yellow in colour and very fragrant. It is admirable in a bed with myosotis as a carpeting or it may be effectively combined with the orange vetch, Orobus aurantiacus, Alyssum saxatile and orange tulips to fill a "golden corner."

The beautiful little Primula Juliæ, planted last autumn, has settled down well and opened quantities of its rosy-red flowers. Anchusa myosotidiflora is one of the most beautiful blue flowers in the garden and has bloomed very freely this season. So has the deeper hued Omphalodes cappadocica, but the blossoms have been badly attacked by some undiscoverable pest.—R. E. H., *Bath.*



A ROCK GARDEN LILY POOL AND BIRD BATH.

IN A LANCASHIRE GARDEN.

SIR,—In your issue of June 19th, 1920, you had an article on my rock garden (contributed by M. High), entitled "A North Lancashire Rock Garden."

I now enclose you two photographs, taken recently in the same garden, thinking they may possibly be of interest.

The bottom illustration is that of a bird pool or bath which I constructed comparatively cheaply both in time and cost. The pool is in perfect keeping with the surrounding portions of the rock garden, the sides being the exact colour of the weathered limestone about it. The water is about 11in. in depth, there is a small overflow pipe to keep it to that depth in wet weather. The pool is now one of the most interesting parts of the garden, being very much used by the birds.

The top illustration is a pool for a water lily, constructed in the same way as the bird pool, but larger and deeper, the depth of the water being 12 ins.

Last May I planted a nymphæa, variety Frobelli, a lily suited to this size and depth of pool; it did remarkably well, bearing, during the summer, ten blooms; of course, the accompanying illustration only shows the pool when it was taken the plant had not come into growth. This pool (apart from its occupant), cost me about 2s. and a Saturday afternoon to construct.—SAML. THOMPSON, *Lancaster.*

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FROST AND YOUNG GROWTH

MANY gardens, particularly in the Midlands, east and north, have suffered severely from hard frost during the last week of April. In some areas the damage has not been confined to shrubs, such as rhododendrons, which are usually sufferers when spring frosts cut flowers that are just bursting and young shoots and foliage that are at their softest; even such hardy favourites as deutzias and philadelphus have had their young growth cut back to the old wood. A few genera have apparently escaped, such as lilacs and viburnums. One would expect berberis to have withstood the cold biting winds, but in many cases the flowers have succumbed, although the foliage has escaped.

With these warnings in front of them, all gardeners who value their shrubs should make every effort to look after those which have suffered severely to the best of their ability. Feeding and conservation of moisture are of the greatest importance, for not only must they be done thoroughly in order to ensure that the plant is able to put forth a great effort to repair the damage, but gardeners must take care that in their zeal they do not feed with unsuitable material or water at injudicious times. As shrubs are forming new roots at the present time fresh farm or stable manure must on no account be used, otherwise the roots will be burnt.

A liberal mulch of well rotted farm manure will do wonders, and so will a mulch of leafmould in which has been mixed a little of one of the many complete fertilisers now on the market. On the evening after the application a little water can be applied, which will ensure that the feeding properties soak slowly into the soil in which are the roots. If it is found impossible to give a mulch, the soil around each shrub should be thoroughly hoed so as to aerate the soil and a tablespoonful or two of some complete fertiliser sprinkled on the top, preferably in showery weather.

It is important that the damaged shrubs should have no further check from a long spell of dry weather, so, in case of drought, water should be both conserved and applied. A mulch will help to keep the soil around the plant cool and moist, as will consistent hoeing, which has the added advantage of keeping down the weeds. Water should only be applied after the sun is off the plant, and it is as well to remember that an abundance of water once a week is much more beneficial than small applications every evening.

A warning must be given against the immediate removal of damaged shoots and foliage. Frost damage rarely shows to its full extent until some time after the actual frost. Also, shoots that droop and appear to be dead may not be entirely frosted and so their removal might take away potential plant growth. Sap is flowing strongly at the moment, and consistent pruning down to green wood will mean much bleeding and consequent sapping of the vitality of the plant. It is unpleasant to see the tattered remnants of damaged young growth hanging on a shrub, but I should not advise its removal until the end of June, at the earliest, when shoots that are obviously dead can be nipped off, but even then green wood should be left severely alone. E. C.

OUR PHOTOGRAPHIC COMPETITION

In view of the number of excellent photographs which have been received from readers, many of which are as meritorious from the gardening as from the photographic standpoint, it is impossible to publish as many as we should like. Indeed, it is with no small difficulty that we select those to which awards shall be made. Numbers deserve publication for more than one reason. We propose to retain, unless the senders signify their wishes to the contrary, a selection of the more attractive photographs and to publish them from time to time, independently of the weekly competition announcement, when awards will be made under exactly the same conditions as if the photographs were published in connection with the competition itself. In connection with the receipt and return of photographs we would direct readers' attention to Rules 6 and 7. We must again emphasise the importance of supplying full particulars with each photograph submitted. These are taken into consideration by the Editor in his decisions.

MADONNA LILIES ALONG THE PATH SIDE.

The Guinea Photograph, sent by MR. CLARENCE PONTING, *Pangbourne.*

The old Lilium candidum is often said to thrive best in cottage gardens. Here it is seen in the garden of The Thatched Cottage, Pangbourne. The plants have remained undisturbed for several years, and are quite free from the lily disease. They make splendid spikes, 5ft. in height. Possibly this is due to the fact that the garden is an old one, and has a moist, loamy soil, ideal for the cultivation of this lily.

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I enclose a photograph of a late summer border in my garden. This border, by judicious planting, provides a wealth of flower during many months of the year, from early spring on until late autumn. In the height of summer, delphiniums in all shades of blue and mauve, lupins and hollyhocks, phloxes and many other herbaceous plants are at their best, while from the end of August until October, the display is prolonged by means planting of many of the more modern varieties of Michaelmas daisies. Among those shown in the illustration are Ideal, Brightest and Best, Sam Banham and Ryecroft Pink. It is a splendid method to plant herbaceous plants so that a succession of bloom is obtained. Award of 5s. to MISS B. S. DAVIES, *Salisbury.*

A BORDER OF MICHAELMAS DAISIES.

An admirable way of covering a low wall is to allow sprays of rambler roses to drape over it. If the wall is of stone of neutral colouring, the effect is greatly enhanced. It is an idea which many amateurs might like to try to improve the appearance of their garden. Award of 5s. to MR. H. RUSSELL THOMSON, *Newnham-on-Severn, Glos.*

RAMBLER ROSES DRAPING AN OLD WALL.

I am sending you a photograph of a part of my town garden, which measures 14½yds. by 21yds. I am an amateur gardener and have myself planned, built and planted this little sunk garden only three years ago. Sedums, saxifrages and other rock plants are growing in the crevices of the low walls, and in the surrounding beds dwarf conifers, berberis, helianthemums, etc., are flourishing. Gentians are also doing well in this little garden. Award of 5s. to MR. JAC. KLEBER, *Amersfoort, Holland.*

In this portion of my garden I have made a semi-wild garden which, throughout the year, is most effective. Water lilies and various other aquatics are planted in the small pond, and at the water's edge small shrubs, such as the single white Japanese cherry and numerous foliage plants are grouped. These, as well as the cryptomeria close behind give very attractive reflections in the still water of the shallow pond. Award of 5s. to MR. H. L. P. BAKER, *Crewkerne, Somerset.*

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

When Building a Frame.

In construct ng the brickwork of a frame, the follow.ng will prove exceeding'y helpful : At about every three or four rows of br.cks, place two or more broken bricks opposite on both sides, project ng in towards the centre of the frame. The projecting bricks are of great value, because they act as supports for wooden shelves on which to rest boxes or pots of seeds, cutt ngs, etc. Therefore, if you have three or four of these rows, you can move boxes, etc., toward or away from the lights. The shelves should be about 9ins. w.de, 1–1½ ns. th.ck by the same length as the w.dth of the frame. With a small oil lamp placed in the centre of the frame it would make an ideal seed-raising compartment.—S. W.

To Kill Slugs.

Sink old jars or tins in the earth until their tops are level with the ground around them. Fill them wi.h salt and water right up to the brim, and sprinkle the top with a good layer of dry bran which will float, unless too much is used. The slugs, attracted by the bran, crawl on to it and sink. I have caught numbers in this way.—M. H.

Filling Gaps in Borders.

Very often in borders where large patches of bulbs have been planted for spring flowering a bare place is left for the summer when these die down. This difficulty may be overcome by sowing between the bulbs, while they are still growing, seeds of Shirley poppy, clarkia, marigold or any other dwarf-growing annual. The result will be a good display of bloom without injury to the bulbs.—W.

How to Make a Successful Marrow Bed.

Make a mound of any garden rubbish, cover with soil, then one or two barrow-loads of good short stable manure. Work up two barrow-loads of soil with a good sprinkling of slaked lime, shape it up, and leave it for a few days before putting in the seeds, taking care not to have it too sloping, or the water will run off when the plants are watered. A good way of protecting the young plants from frost or cold winds is to bend over some wire netting and cover with sacks or matting.—H. W.

For the Small Garden.

The small garden owner will find it of interest to set aside each year one bed and devote it to the growing of one special kind of flower, making a sort of speciality of it for that one year. The soil must, of course, be prepared accordingly. I have grown thus, in succession, carnations, antirrhinums, gladioli, dahlias and chrysanthemums. This brings variety into a garden where a great number of plants cannot be grown, preventing a monotonous sameness year after year. It increases the gardener's interest, enlarges his flower acquaintance, and informs him as to the special requirements of different plants. Flowers which are seen to do particularly well may, if so d sired, become a feature in the garden year by year.—J. L.

Gilia coronopifolia.

I have tried and failed more than once in the treatment of this plant as an annual, but grown as a bienn al it g ves g eat satisfact.on. I have planted out a fine batch of plants, about 100, and all over a foot h gh, that I expect to see from 2½ft. to 4½ft. in August. They were sown last May, grown on in 48's and 60's, with protection from frost dur ng winter. These plants were in the open and not injured by 12° of frost on Apr.l 2nd. I cons der them well worth the trouble of being on hand for twelve months.—A. H.

Red Spider.

Red spider very often becomes rampant on cucumbers, and it is not easy to use insecticides without risk of damagign the foliage. Heavy syringing and damping will not keep it in check. The best remedy is flowers of sulphur dusted on the foliage with one of the powder sprayers. This, if used when the first signs of an attack are seen, and at weekly intervals, will keep the plants clean throughout the season. The same plan of attack against this pest on peaches, nectarines and gooseberries has also been a success, and for pot plants it is quite safe and easy to apply, by holding the plant upside down and dusting the leaves by hand.—F. L.

Old Brooms.

When your old birch broom is too old for sweeping, do not use it for firewood. The handle will make a beautiful stake for your herbaceous border in summer, and the little twiggy bits are exactly right for supporting your sweet peas when only a few inches high and too small for the larger pea sticks. Ask your sweep to leave a little soot this year. Soot water is very good for pot ferns and aspidistras. Put some soot in a muslin bag and soak in water for a few days, and then water the plants once a week with it.—P. T.

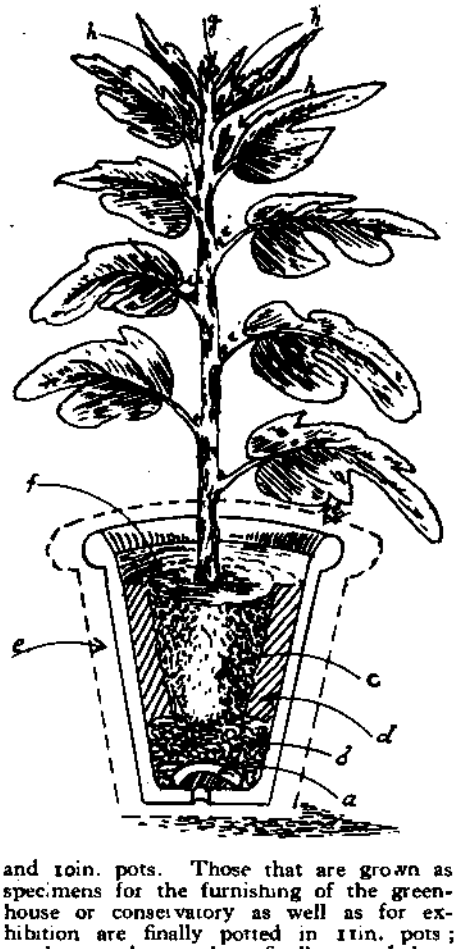
Michaelmas Daisies.

If growers of Michaelmas daisies in clumps will stop the front growths when about 9 ns. h gh, and those next beh nd at about 18 ns. h gh, leav ng the back g owths, they will obtain clumps flowering from base to top, instead of only on top.—F. S.

GREENHOUSE NOTES

Potting Chrysanthemums in Big Pots.

I AM referring to the final potting, the placing of the plants in the pots in which they are to flower. By big pots I mean those measuring 9ins., 10.ns. and 11ins. across. Plants grown to bear, say, three large blooms for exhibition are generally potted in 9in.



and 10in. pots. Those that are grown as specimens for the furnishing of the greenhouse or conservatory as well as for exhibition are finally potted in 11in. pots; so also are threes—those finally potted three plants in one pot. It is often found very convenient to place three plants in a single pot. Odd pots of this size may be so used when they would be quite unsuitable for single plants. It is a question of proportion, independent of any feeding that may be g.ven later on. As the plants are to remain in the soil until the autumn and even as late as Christmas, it is important that the compost used be of a simple m.xture and of a lasting character—that is, the bulk of it must be of fibrous loam. If it is of a heavy nature, add some sand and half-rotted leaf-soil. But I prefer builders' old mortar rubble—the dust and small lumps together. Instead of placing a large handful of broken crocks in each pot as a drainage material, place one large, hollow crock (as shown in the sketch) and a few small ones. Thus sound drainage will be prov.ded and, also, more room for potting compost and roots. A wedge-shaped potting-st.ck should be used, then the new soil can be well firmed without injury to the roots of the plants. In the accompany.ing sketch *a* snows the drainage; *b*, the coarser potting compost; *c*, the ball of soil and roots placed in position; *d*, the general new compost; *e*, the dotted lines denote the largest pot as used when three plants are grown in one; *f*, the space left at the top for watering and feeding. A bud, causing the first break, is shown at *g*; and the new resultant shoots at *h*, *h*, *h*, to be grown on. All side shoots below, at *i*, *i*, *i*, *i*, are to be removed. This in the case of plants being grown to bear exhibition blooms.—GEO. GARNER.

Clivia miniata.

THIS plant, also known as Imantophyllum miniata, is a very valuable subject for a greenhouse and it also thrives well in the window of a sunny room. In addition to having showy blossoms the clivia has very attractive leaves, wh.ch keep fresh and green in the somewhat unfavourable atmosphere of a living-room. Established plants in pots should flower each year with great freedom from spring on into the summer. The colour of the flowers is orange, each bloom having a buff-yellow centre. The blossoms, wh.ch are 3ins. across, appear in a cluster at the top of a th ck fleshy stalk, which is about 18.ns. h gh. There are a number of varieties wh ch differ to a greater or less extent from the type and some of these are d.stinctive and beautiful. Clivias are easy to grow, but it is not always that they flower so freely as

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could be wished. This is usually due to failure to recognise that the plants require a period of comparative rest from October to January, during which period very little water should be given. During the spring and throughout the summer, the clivia revels in an abundance of moisture and applications of weak liquid fertiliser will be much appreciated. The common method of increasing clivias is by division or offsets, the best time being about midsummer, after the flowering of the plants. Clivias may also be raised from seed, but this is a slow method, as the plants do not reach flowering size until they are four or five years old. Frequent repotting is to be avoided, as the plants flower best when the bulbs have practically filled the pot. When a change is essential, the potting compost should consist largely of turfy loam, adding a little leaf-mould and crushed bones, as well as some coarse sand to make it porous. Arrange ample drainage in the bottom of the pots to provide a free passage for the abundant supply of water which will be given.

A Sweetly Scented Bulbous Plant.

THERE seems to be a general idea that the fragrant tuberose (Polyantha tuberosa) will not flower unless it can be given a somewhat high temperature. This is a great mistake, for, during the summer, tuberoses can be grown successfully in an ordinary greenhouse or even out of doors in a warm sunny position. It is very important that sound mature bulbs should be obtained, and before potting up remove all side eyes or embryo sprouts, as these will not produce blossoms and will only weaken the flower spike. A 4in. pot will accommodate a good-sized bulb, or three may be placed in a pot 6ins. in diameter. Make up a mixture of turfy loam 2 parts, decayed manure 1 part, and a few pieces of peat with enough coarse sand to keep the whole porous. The loam and peat should be used in pieces about the size of a pigeon's egg. The bulbs must be potted so that the neck of each is above the surface of the soil, making the latter moderately firm. Not much water will be needed until growth is active, applying it only often enough to keep the soil from getting dry. As growth advances, keep as near the glass as possible and give a watering with very weak liquid manure once a week. The flower stems will need the support of small stakes, as they are brittle and easily broken. In the open it is safe to plant tuberose bulbs after the middle of May. Choose a sunny, sheltered border, and let the soil be as light and sandy as possible. Allow the upper part of the bulbs to be just clear of the ground, but set the bulb as a whole firmly. In very dry weather water freely and be ready with stakes for the flower spikes. The natural flowering time of the tuberose in a cool greenhouse or out of doors is August. There is a fine double variety, called "The Pearl," much used by nurserymen and florists for decorative work.

Spring-Flowering Stocks.

Their Worth for the Cold Greenhouse.

ALTHOUGH in recent years much more attention has been paid to the culture of winter and spring-flowering stocks, it cannot be said that they are very popular with amateurs, possibly because most amateur gardeners regard the stock purely from one point of view, *viz.*, its culture out of doors, and so remain content with the Ten-Weeks. Unfortunately, so few understand that seed of the late and early blooming sorts, as represented by East Lothians, Beauty of Nice, All the Year Round and Christmas Pink, may be sown out of doors in June in light soil, pricked out when large enough and subsequently quartered in nursery beds, precisely as one does in the case of wallflowers, and then in the early autumn, pot them off very firmly into 6in. pots. I have bloomed them in 5in. pots on several occasions, but when this has been done, they were transferred into pots at the pricking off stage, and plunged in the ground for the summer. The larger sized pot, however, gives the best results as it gives one the opportunity of introducing a compost of old loam with a little old manure or bone meal. The stocks in question, if grown and bloomed out of doors should be found a sheltered place. They are almost as hardy as a wallflower, hence in a cold greenhouse one may bloom them quite well, a severe spell of frost, while hindering progress for a time, simply defers the spikes opening. Many amateurs associate their blooming, I think, with warm and genial conditions, but they grow sturdier and bloom better without heat. Plants can be left out of doors until October, as a general rule, and are best given a position in the house not too far removed from the glass, away from other tall-growing plants. Air should be admitted whenever possible. The spikes will be much improved if weak liquid manure is given the plants occasionally after housing them. One may have much colour in a house in spring by sowing seed of the sorts aforementioned, keeping a batch of plants in a frame until wanted in bloom, and so provide a succession. Even in a very hard winter plants so prepared will commence to bloom in the gentle warmth of a house, filling it with fragrance and beauty, but to apply heat is merely to hasten on, and is not absolutely essential.—W. F.

THE FRUIT AND KITCHEN GARDEN

Spinach for Succession.

IN very many gardens the supply of spinach is not equal to the demand and, sometimes, the little that is grown lacks quality. It is not always regarded in a serious light; not infrequently the inclusion of it in the garden is an after-thought, and it has to make shift with what ground happens to be spare. To grow spinach well it is scarcely possible to give it too much manure. The procuring of stable manure is still a problem with many, and if this is the case something should be substituted to provide humus. Wakeley's hop manure is very serviceable, and next to this use should be made of leaves, road scrapings and any old vegetable refuse which can be dug in, along with good dustings of soot along the rows. From now onwards sowings may be made every three weeks. Victoria is a well tried variety and is good for sowing at all seasons. In August space ought to be reserved for a sowing of prickly variety for winter.

I have found that if shallow trenches are made for the summer crop 4ins. or 5ins. deep, one gains an advantage should the weather become hot. Copious supplies of water and liquid manure afforded the plants in a dry time will prevent in a large measure their premature seeding. Seed is best sown in drills or, as suggested, a shallow trench. Space is sometimes available between rows of peas or dwarf beans, and use can be made of this for spinach. Thin sowing is recommended, otherwise thinning out will be necessary.—CLAREMONT.

Turnip Crops.

THE turnip crops are of great value practically throughout the year. Succulent roots only are appreciated, but it is often a difficult matter to obtain such during the hot days of summer. When judging at shows held during July, August and September, one finds roots staged that are dry and pithy in the centre; it is the exception, rather than the rule, to find sweet, firm-fleshed, juicy turnips. But such can be obtained by careful cultivation. From spring to mid August the sowings should be frequent, but small. Late in August and throughout September, the sowings should be on a much larger scale, as the resultant roots are grown in cooler weather and they are to meet the coming winter demand. Like radishes, turnips must be grown quickly to be satisfactory. It is useless to attempt to grow good turnips in a poor, shallow soil. Where such soils obtain and turnips must be grown on them, form beds 5ft. wide, throwing up the soil from the alleys to deepen the rooting medium. Add all the burned rubbish, rotted rubbish and any well decayed manure procurable and thoroughly mix all with the original soil. Dig and break up the latter deeply. Sow the seeds thinly, thin the resultant seedlings early. Hoe the soil between the rows at least once every week and do not water. Grow early maturing varieties and use the roots in a young state.—G. G.

Seasoning Herbs.

GOOD seasoning herbs cannot be grown in a shady corner of the garden, nor are they produced in perfection in cold damp summers.

Unless the plants are freely exposed to the sun during growth, the flavouring oils which constitute the essential properties of seasoning herbs are not formed in any great quantity, or in a high degree of perfection. The majority of these herbs owe their peculiar flavour to the presence of a volatile essential oil, which is stored up in small cells in the tissue of the leaves and stems. These oils are best preserved when the herbs are collected and dried without being crushed, cut or bruised, and without being exposed to the open air, and more especially to damp weather or rain. Some herbs, such as parsley, are best dried before a bright fire or in an oven and, when dried, put into air-tight bottles.

A warm, dry and sunny season is best for seasoning herbs, and the sunniest part of the garden should be selected for growing them.

Sticking Peas.

PEAS, generally, will need sticking now.

I recently passed an allotment where I saw a number of rows of peas sticked in a wrong way. I do not know whether they were tall-growing, medium or dwarf varieties, but the sticks used were very tall with branches at 3ft. to 6ft. from the base, the lower part being quite devoid of side branches. They would have answered the purpose if dwarfer, well branched sticks had been used also. But the tall ones should have been inserted in the soil at an angle of 60°, the angle being reversed on the other side of the row so that when one looked at the row from either side the spaces between the sticks would be diamond-shaped. I have referred to the rows on the allotment to illustrate the right and the wrong way of sticking peas. Neatness is, of course, desirable, but neat trimming should not be done at the expense of the pea haulm, which must be well supported. There is true economy, too, in placing the

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sticks at the angle suggested, as fewer sticks will suffice to support the haulm. Also, it is important that the sticks be kept well apart at the top—quite 10ins.—otherwise the haulm will grow through both sides, fall over and leave the sticks bare of haulm at the top. Drive in the main sticks very firmly to withstand strong winds later on.—CHRISTCHURCH.

Sprays and Their Uses.

Bordeaux Mixture.

BORDEAUX mixture is a fungicide, and gets its name from the district of France round Bordeaux where it is largely used as a spray against the fungus diseases of the grape vine. Its chief use in this country, but by no means its only use, is as a preventive against potato blight. It can be used against a large number of diseases, and up to a few years ago was in fairly general use against the fungus diseases of the apple; but it is gradually being displaced by lime sulphur, owing to the injury its application may cause to the foliage and the fruit. Susceptible varieties of apples are Cox's Orange Pippin, Beauty of Bath, Lady Sudeley. The injury is shown by burnt patches on the leaves and by yellowing. The damage to the fruit takes the form of russeting and in bad cases may cause the fruit to crack.

The standard formula for Bordeaux mixture is: Copper sulphate, bluestone or blue vitriol, 4lb.; quicklime (lumps), 4lb.; water, 50 gallons.

To prepare, dissolve the copper sulphate in about one-fifth of the water by wrapping it in a piece of sacking and suspending it at the end of a pole just in contact with the surface of the water in a wooden tub and leaving overnight. The tub must be a wooden one. Place the quicklime in a wooden tub large enough to take the quantity of spray being made, and add the remaining water a little at a time, with constant stirring. Pour the dissolved copper sulphate into the milk of lime, stirring the while. Strain through a strainer and use immediately.

In spraying, it is essential to wet the surface of the leaves thoroughly on both sides, and the spray should be used in the form of a fine mist or fog by spraying through a fine nozzle under high pressure.

There is a number of proprietary brands of Bordeaux mixture on the market, and if one of these is used it is best to follow the directions given with the particular brand.

Pneumatic hand sprayers may be used if the quantity of spray material required is small. For larger quantities a knapsack sprayer is recommended. There are several good sprayers on the market, but remember to procure one with a fine nozzle with considerable force to produce a fine mist, and be sure to wet both sides of the leaf surface.

Bordeaux mixture owes its fungicidal properties to the presence of copper in solution. The copper is brought into solution either by the action of the carbon dioxide of the atmosphere on the mixture, or by the action of the fungus itself on the mixture. At present this is a matter of controversy.

The table below gives a list of diseases which may be controlled by the fungicide. The strength to use is given in the last column of the table.—H. B.

WHEN TO SPRAY WITH BORDEAUX MIXTURE.

Disease.	*When to Spray.*	*Strength.*
American Gooseberry Mildew.	Middle of January before the buds begin to swell ..	4—4—50
Apple Leaf Spot ..	(1) Spring, seven to ten days after petals fall. (2) Four weeks later. (3) A further four weeks later.	3—3—50
Apple and Pear Scab	(1) Just as the buds are beginning to separate in the flower bud.	4—4—50
	(2) Just as the petals have fallen	2—2—50
	(3) Ten to fourteen days later	2—2—50
Anthracnose of currants.	(1) When leaves unfolding. (2) Ten to twenty days later. (3) A further ten to twenty days later.	4—4—50
Asparagus Rust ..	(1) After cutting crop. (2) Ten days later. (3) A further ten days later.	4—4—50
Cherry Leaf Spot (on sour cherries).	(1) Soon after petals fall. (2) Two to three weeks later. (3) Just after fruit gathered.	2—2—50
Celery Leaf Spot ..	(1) On young seedlings. (2) Ten days later. (3) After transplanting. (4) Two weeks later.	4—4—50
Onion Mildew ..	On first appearance of disease and at intervals of ten days	2—2—50
Late Blight of Potatoes	About the middle-end of June or beginning of July, and three sprayings at intervals of ten to fourteen days.	4—4—50
Peach Leaf Curl ..	Previous to swelling of buds in spring	3—9—50
Tomato Leaf Rust ..	Spray the young plant once a fortnight until the fruit is beginning to set.	2—2—50

Concerning Late Carrots.

MANY amateurs imagine that carrots can only successfully be sown during March. This is quite a mistaken idea, as excellent roots may be obtained in many instances by inserting the seed right through the month of May, and even during the first fortnight of June. Such roots may not be so large as those obtained from seeds sown sooner, but as a rule the quality is there, and the flavour is often superb.

Successful Sowing.

For the benefit of those readers who have only recently taken up gardening, I would point out that carrots, whether sown early or late, require a soil which has been double dug, and which has been liberally manured for the previous crop. A mixture of equal parts of old soot and wood ashes may be forked a foot deep into the soil at as great a rate as a half-handful per square yard; but apart from this little is required.

The drills should be drawn so that they run due north and south. They should only be about ¼in. in depth, while each drill should preferably be 12–15ins. from the next.

Scatter the seed as thinly as possible along the drills, and cover very lightly with fine soil, this being preferably mixed with a little wood ashes.

Tips on Thinning Out.

Most amateurs attempt the thinning out on a dry day, but this again is a mistake. The rows can be much more quickly and easily thinned out if a wet day is chosen for the work, and a wet evening is about the ideal time.

Although it makes the operation a dirty one, it is very desirable, especially in the case of late-sown stock, to dust the plants with well aired soot immediately before and immediately after the thinning out has been completed.

Another useful tip is to earth the remaining carrots up slightly as soon as the rows have been thinned out, while a third idea is to dust the plants with sand, thoroughly wetted with paraffin oil, after thinning. All these tend to keep the carrot fly at bay.

While the small sorts only need finally to stand about 4ins. apart in the rows, the larger ones should have, at any rate, double or, better still, treble this distance allowed, if the best results are to be obtained.

Selections to Sow Now.

I recommend any or all of the following:

James' Scarlet Intermediate, which, although not new, is still one of the best.

Long Red Surrey, which it is claimed will produce longer roots than any other variety so far introduced; and

Carter's Red Elephant, of which I recently saw some specimens which were nearly 2½ft. from crown to tip.—E. T. E.

Sow Swedes in May.

SWEDES, or Swedish turnips, are now a recognised garden crop. They must never be sown too early, however, for frost has an inimical effect on seedlings and may ruin a crop; in excellent turnip-growing soil, I always sow during the second week in May. Seed may be sown a week earlier, if desired and further sowings may also be made until the second week in June. Ordinary garden soil serves for these, but preferably that which had a dressing of lime or slag last winter; a fair dressing of manure is also required and, in this connection, I may add that the farmer's plan is a good one, giving a good crop and economising in manure, *i.e.*, bury light manure dressings in drills, 21ins. to 24ins. apart, and sow seed over these, in due course. Seed is best sown when the soil is moist; in such a case it will germinate in two or three days, whereas in dry weather it may lie for weeks before it begins to grow. The man who grows a few drills only, should remember, too, that a daily dash of water from the syringe helps the seedlings considerably in droughts, preventing pests from gnawing the seedling leaves. In spite of general opinion, I am in favour of a good farm swede in preference to what are called garden swedes. The former grows bulbs averaging 6ins. in diameter, the flesh inside is of the choicest and the roots store well, if lifted in November and merely covered with soil. My choice would be St. Mungo, Best of All, Monarch, East Lothian or the Montrose, and seed is obtainable two shillings per pound, or less.—CLYDESDALE.

Lettuces in Dry Weather.

WHEN there are long spells of dry weather in the summer it is often an extremely difficult matter to grow good lettuces. It is really a very excellent plan to arrange that some of the lettuces, at any rate, are planted between the rows of root crops such as beet, turnip, parsnip, etc. The foliage of all these collect an unusual amount of dew and ensure a nightly watering of the ground where they are growing. This will be of great benefit to the lettuce plants, and often the hotter and drier the weather the greater will be the dewfall.

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WHAT TO SEE AT CHELSEA (see page 347).

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THE GARDEN

VOL. XCI.—No. 2895. MAY 28, 1927 PRICE TWOPENCE.

NOTES AND COMMENTS

Visit Wisley Gardens while at Chelsea.

WHILE on a visit to the Chelsea Show many gardeners express a desire to visit the gardens of the Royal Horticultural Society at Wisley. For the benefit of those who contemplate a visit we give the necessary particulars of how best to reach the gardens. The most convenient way of making the journey is to book from Waterloo Station to Kingston, and from thence travel by 'bus (No. 115) proceeding to Guildford. This service passes within five minutes' walk of the gardens on the Portsmouth Road.

Wisley, like most places, is suffering from the effects of the recent frosts, yet, notwithstanding the severe week at the end of April, many plants of interest are to be seen.

On the trial grounds the collection of Iris germanica, which consists of well over nine hundred kinds, is of special interest. Moreover, it is of considerable educational value to the gardener in providing a means for the comparison of the many types and varieties. Near by the iris will be seen a trial of over a hundred different stocks of aquilegia. These have suffered from the frost and continual bright sunshine.

The new alpine house contains many interesting plants in bloom. On the rock garden large drifts of phlox in various varieties are particularly bright. So also are the numerous varieties of helianthemums. Those who are keen on this free-flowering subject, which can be had in such a variety of colours, should not fail to see the trial bed of them.

Æthionema Warley Rose is a hybrid form of these beautiful plants from southern Europe, and is quite one of the best for grouping in large masses, being of neat dwarf habit with brilliant rosy pink flowers.

Bright patches of yellow are to be seen in masses of Alyssum gemonense, and orange of Cheiranthus Newark Park and Geum Borisii. In the wild garden are masses of Primula japonica. Azaleas have suffered extensively with frost and only a few of the late-flowering plants are showing colour. Rhododendrons of the hybrid class are contributing to the brightness of the garden.

In the new shrub garden, to which additions are being made annually, interesting shrubs of recent introduction are to be seen. This part contains a fine collection of heaths, cytisus and genista planted in the form of a heath garden. The herbaceous peonies are represented by a large collection, many varieties of which are in bloom.

Probably the most interesting feature at present is the various dry walls in front of the laboratory. These are clothed with plants of various kinds and are a wealth of bloom. A vigorous group of that beautiful plant Onosma taurica, the golden drop, is to be seen.

The display at the gardens, considering the season, is a good one, and all keen amateurs will find a visit of an afternoon to be well repaid. Apart from their beauty, they have much to teach even the keen gardener and much more so in the case of the beginner.

This Week's Work

For Gardens in the South and Midlands.

Harden off dahlias and bedding plants and begin to fill summer beds and window boxes.

Plant out border chrysanthemums.

Thin out shoots of asters, delphiniums and raspberries.

Sow turnips, peas, runner beans and lettuces.

Sow in the open seed of hardy perennials, such as lupins, delphiniums, campanulas, etc.

Lift daffodils and dry them off in reserve beds.

Plant out celery, cauliflowers and marrows. Earth up potatoes

Train and tie up climbers.

Sow cinerarias and Chinese primulas in the greenhouse.

Hints on Dry Weather Cultivation.

TO many garden enthusiasts, a spell of dry weather such as we have experienced during the past month or so proves very perplexing and frequently leads to the use of the hose pipe and watering can long before these are necessary, with the result that failure with various subjects is brought about which otherwise would have been avoided had they received more natural treatment in the way of surface cultivation. It has been stated many times before that regular stirring of the surface soil during prolonged spells of dry weather does far more to conserve the moisture in the ground and contributes more fully to correct root action than any application of moisture by artificial means. This applies especially to peas, beans in variety, potatoes, strawberries and other subjects in their class; and where it is found necessary to give an application to these, it must be carried out thoroughly, making certain that sufficient is given to get well down to the lower roots. In the case of salads, spinach, young carrots, turnips and other roots required for pulling in their young stage, watering may have to be resorted to at frequent intervals if their full flavour is to be enjoyed; and after one or two waterings the surface soil will get crusty and should be stirred between the rows frequently to admit air and warmth. Fruit trees and bushes, roses, herbaceous borders and shrubberies should all have the soil well stirred around them, and should it prove necessary for these to receive an application of water, a great saving of time and labour will be effected if this can be followed by a top-dressing of some approved material, such as rotten manure, lawn mowings or decayed leaf matter. If these are not available, continue stirring the surface soil, which will still have the effect of conserving the moisture down under for a considerable period.

Our Photographic Competition.

On page 352 of this week's issue will be found the photographs published in connection with our Photographic Competition. We urge all readers who are interested to send along photographs of their gardens during the summer months. The rules governing the Competition will be found on page xx.

This Week's Work

For Gardens in Scotland and the North.

Begin transplanting dahlias and other tender subjects.

Thin out hardy annuals sown in open border.

Make a first sowing of French beans.

Transplant cabbage for autumn use.

Mulch beds of exhibition onions with short manure.

Sow garden swede turnips.

Plant melons in frames.

Prick out seedlings of Brussels sprouts.

Fill window boxes and hanging baskets.

Take cuttings of arabis and aubrietia.

Complete lifting of bulbs from borders.

Keep sharp look-out for garden pests.

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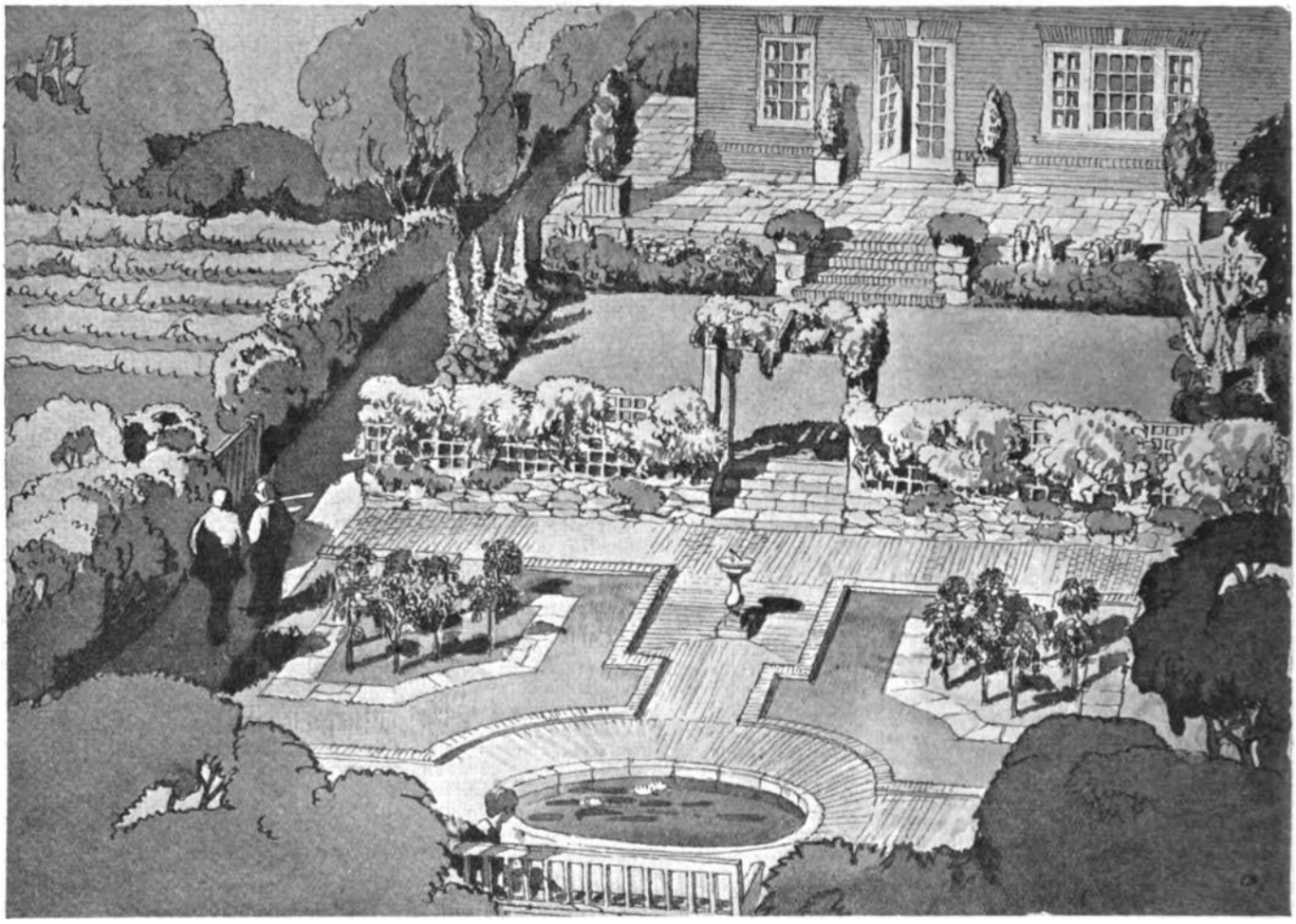
PLANNING THE SUBURBAN GARDEN

A simple scheme which embraces a lawn, flower beds and borders, rockwork and a lily pool. This terraced design is specially adapted for sites where the ground slopes away from the house. It is one which can quite well be carried out within the limits of a suburban plot.



Perspective by J. D. M. Harvey.

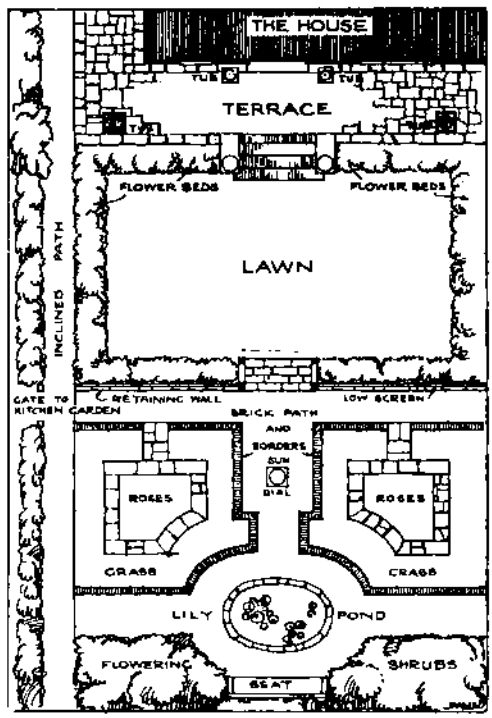
A CHARMING GARDEN MADE WITHIN THE LIMITS OF A SMALL PLOT.

THE accompanying illustrations show a garden scheme on a small plot which slopes gently downwards from the house. Such a plot involves more trouble than a flat site, but it also gives opportunity to make good use of differences in levels.

In the scheme now illustrated, there is a paved terrace next to the house. It is shown paved with rectangular stone slabs, but, if desired, brick paving (or even gravel) could be substituted. No flower beds are included in the paving, but shrubs in tubs placed on either side of the garden doorway and at the ends of the terrace are introduced to relieve any effect of bareness. In passing, it may be noted that the avoidance of flower beds next to the walls of a house has the merit of getting rid of any risk of covering up the damp-course and air bricks, thus conducing to the maintenance of a drier condition in the rooms.

From the centre of the terrace a flight of four wide steps leads down to a small lawn. these steps are bordered by a dwarf wall, and have little brick piers covered with slabs of stone, on which vases are placed. To the right and left of the steps is a border for flower planting, but, if preferred, a rockery bank could here be constructed, and would afford endless pleasure to the rock garden lover. The rockery would also serve as a revetment for the terrace.

On either side of the lawn are herbaceous borders, continued around to an arch which



is set over a second flight of four steps axially in line with the garden doorway, this arch is intended to be of oak, and joined to it on either side is a low trellis screen overgrown with roses. This screen is also intended to be of oak, with square trellis.

At the lower level now reached is an enclosure laid out with beds of standard roses set in the midst of plats of grass, and having a little paved walk, about 15ins. wide, around them. This gives a trim effect, and is also convenient for attending to the roses when the ground is wet. The grass plats are enclosed by bricks on edge, thus making a kerb, laid slightly higher than the main paths.

The centre pathway has a sundial set in the midst of it, as an item of interest. Then it opens out into an oval shape, surrounding a small lily pool, and the scheme is completed by a seat, again axially in line with the garden doorway, and having flowering shrubs planted on either side.

A lily pool is always a delightful acquisition in a garden. It can be constructed with concrete, and finished with a stone or concrete coping. It is imperative to make provision for the changing of the water freely, and facilities must be provided also for draining the pool. The latter is best effected by having a plug and chain similar to that in a bath. An overflow pipe must also be inserted, the water from both the overflow and the draining plug being conducted to a sump

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or soak-away, which, obviously, will be at a lower level than the pool itself; it should be dug in some odd corner and filled with clinker or other porous material.

On the left-hand side of the plot a path extends, and half way along it is a gate leading to a kitchen garden (if space for this exists), but this kitchen garden forms no part of the scheme, the purpose of which is to show how a small sloping plot can be laid out with a lawn and a formal water garden. G. W. H.

GIANTS OF THE GARDEN

Among hardy plants there are few to compare in elegance with the giant asphodels or eremuri. A few of the species and garden hybrids are well worth growing where space permits. If attention is given to planting, which should be done early, and in affording protection to the young crowns from late frost and slugs, the plants will prove successful and a welcome addition to the summer display.

THE coming of the Chelsea Show recalls the magnificent display of these beautiful hardy plants. Last year a few of the early-flowering kinds were shown to distinct advantage by some of the exhibitors and attracted no little attention, since they are seldom seen in the average garden. There are quite a number of species, about thirty altogether, but very few of them are in cultivation, and if they were would make little or no appeal from the garden point of view, although it is possible that some of them might prove valuable for hybridising.

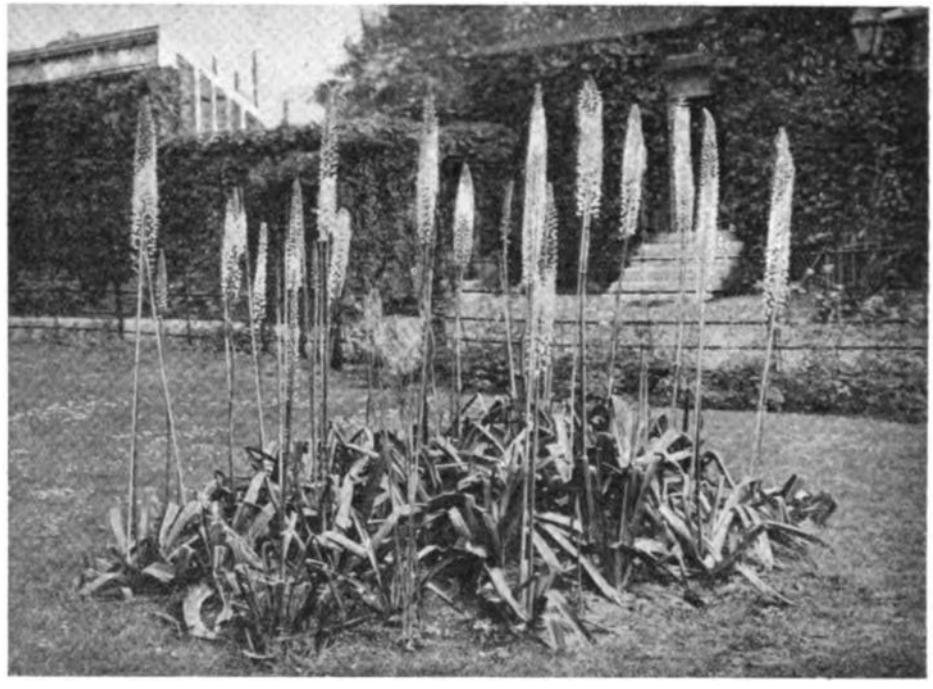
Eremuri come chiefly from Asia Minor, Persia, India, Turkestan and Afghanistan. They are very handsome plants, and strong-growing species, such as EE. himalaicus, robustus and the beautiful Elwesianus, when well grown attain a height of anything from 6ft; to 10ft., while EE. Bungei and Olgæ are smaller-growing sorts reaching a height of 3ft. to 5ft.

Planting.

Eremuri have quite distinct root system, the fleshy roots, which are very brittle, radiating from a central boss or crown like the spokes of a wheel. On account of the brittle roots, which are very easily damaged, great care must be exercised when planting or replanting them. Fortunately, it is not necessary to replant them often, provided they are well established in carefully prepared sites; although I may say there are exceptions to this, as to every rule, and the late H. J. Elwes lifted his collection every year and kept them out of the ground for several weeks, and he contended that that was the only way to grow them. It may be that in cold districts where they do not get properly ripened that there is something to be said for this method; there is, however, considerable risk of damage to the roots.

Choice of Situation.

Eremuri may be grown in the herbaceous border, but are really seen at their best when they can be grown in more or less natural conditions in warm, sheltered situations associated with groups of handsome foliage plants, being seen at their best against a dark background of shrubs or trees. They may with advantage be planted with moderate-growing shrubs, which afford them some degree of protection from frost and cold winds in their younger stages, for although they are perfectly hardy, they start to grow so early that they are apt to suffer from frost when they commence growing. At the same time the shrubs must be so thinly disposed that they do not shade the roots too much and thus prevent them getting properly ripened. They thrive in a rich medium loam, and as they dislike stagnant moisture, perfect drainage is very essential for success. The sites should be thoroughly prepared and should be trenched at least two spits in depth, working in plenty of well decayed manure, using cow manure for preference. If the existing staple is poor, a portion of the soil should be removed and replaced with good loam. On the other hand, heavy soil may have to be lightened by the addition of gritty material; in fact, a quantity of small stones is a distinct advantage, especially when dealing with heavy soils, for, as a rule, eremuri grow naturally in stony ground, thus soils that are close and pasty are very unsuitable for these plants. The time of planting is important, for there is no doubt it is unwise to keep them out of the ground for any length of time, although they may be kept out of the ground for possibly six or eight weeks without suffering any serious damage; indeed, as has been indicated, in the opinion of some cultivators it may, under certain circumstances, be an advantage to keep them out of the ground for several weeks. But, as a rule, it is certain that they may with advantage be left undisturbed for a number of years, hence the importance of preparing the sites thoroughly in the first instance. They should be moved after the foliage has died down, and planting may be done any time from the end of July to October, although, in my opinion, the best time is during August and September. Of course, where one has home-grown stock they may be replanted as soon as possible after they are lifted. In lifting and replanting great care must be taken not to injure the roots. The crowns should be covered with about 6ins. of soil, and if there is any suspicion that they may suffer from damp during the winter, some clean sharp sand should be placed underneath and over the crown of the plants. A surface dressing of well decayed manure should be lightly forked into the surface soil every year. Eremuri flower during the later half of May and beginning of June. That means that they start to grow very early, thus the young growth is apt to suffer from spring frosts, although when the foliage is more advanced it seems capable of withstanding a considerable amount of frost without injury. It is therefore wise to have some protecting material at hand in case of frost, Dry bracken or some evergreen branches will serve the purpose. An excellent method of protecting the young growth is to place large inverted flower-pots over them at night, removing the pots again in the morning. The advantage of this method is the fact that there is not any protecting material left around the plants during the day. They thus get the full benefit of light and air during the day.



EREMURI LOOK PARTICULARLY HANDSOME WHEN PLANTED IN A BED BY THEMSELVES, ALTHOUGH THEY ARE MORE COMMONLY GROWN IN A BORDER BACKED BY SHRUBS.

Species and Varieties of Garden Merit.

The species and varieties or hybrids commonly in cultivation are E. himalaicus, pure white; E. robustus, deep pink; E. Elwesianus, light pink; and E. E. albus. All the foregoing are strong growing and most suitable for general cultivation. Other species are E. Bungei, clear yellow, growing about 3ft. tall. This species has been used to a considerable extent for hybridising, Tubergeni being a hybrid between this species and himalaicus. There is also EE. Himrob, Shelfordi and Warei. E. Olgæ is also a good species. These handsome plants should be more generally cultivated, but many cultivators are deterred from attempting their cultivation by the mistaken idea that they are difficult. Provided certain essentials are observed, that is, a light, rich soil and perfect drainage, no one should experience any difficulty in growing them successfully. Given the right conditions, they are long-lived plants.

J. COUTTS.

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BLUE POPPIES FOR THE ROCKERY—II

A description of some of the best species for the amateur to try. Full cultural details were given in last week's issue.

THERE are many species of Meconopsis which are now in cultivation, but the following may be regarded as established favourites for the amateur to try:

Meconopsis Wallichii.—One of the earliest cultivated species, discovered by Hooker in Sikkim. Biennial. In the first year it forms a long carrot-like root crowned by a rosette of almost pinnate, sea green leaves, suffused with silken yellow hairs, giving a bronze colour to the whole. In the second year the tall central stem goes up like a rocket which, on bursting, shakes out a shower of sky blue star-clustered flowers, with a puff of golden stamens in the centre of each. There is a muddy purple flowered variety which should be shunned, though it is impossible to tell, even with seed saved from the bluest blood, whether it will go Bolshevik or not. To overcome this difficulty, some nurserymen pleasantly describe the flowers as varying from sky blue to "claret," as though it were a delightful and surprising discovery of theirs. Nurserymen who do that should be shunned also. It is, perhaps, hardly necessary to warn the bibulous against drinking "claret" of this particularly revolting hue! M. Wallichii in full bloom is a glorious sight, the 5ft. leafy stems being crowded with azure flowers which are borne in clusters all the way up. It requires a rich soil, and should be grown in half shade, or even in thin woods where clumps look particularly effective.

M. paniculata and *M. robusta.*—These are yellow-flowered biennials. The former resembles M. Wallichii in habit; the latter has the flowers solitary instead of in clusters. Both may be grown in clumps, in half shade, and, as with M. Wallichii, send up such noble spires of leaf and flower that a solitary plant on the rock garden, as aloof as a Chinese pagoda, always looks fine. They flower in May-June in the south, in June-July in colder parts of the country.

The familar prickly blue poppies include *M. Prattii*, a smaller plant than any of the above, not exceeding 2ft. in height. The pale blue flowers, which have a tendency to degenerate into washy purples, are borne singly all the way up the stem in an apparent raceme, though the topmost, of course, opens first. The whole plant is covered with short stiff prickles instead of with long silky hairs. M. Prattii, being less statuesque than M. Wallichii and its allies, lends itself to a more casual scatteration over the rock garden, and as it seeds itself freely, it is likely to do this anyhow.

M. PRATTII, WITH PRICKLY STEMS, FOLIAGE AND SEED PODS.

THE HAREBELL POPPY, MECONOPSIS QUINTUPLINERVIA.

M. latifolia.—This is closely related to the last, but is considerably taller, reaching 3–4ft. The flowers are of a dazzling azure blue, not so prone to wash out as those of M. Prattii, and deliciously scented. It is, indeed, one of the very finest species, requiring a light soil and full sun; it should be planted in clumps against a south wall, or at the foot of the rock garden.

It must, however, be borne in mind that all these species characterised by a central stem stuck all over with flowers have one blemish: the flowers—which, during inclement weather, last only a few days—open from above downwards, so that presently there is left a length of bare pole at the top, from the lower halyards of which flutter, like bunting, a few battered blooms. But, under favourable conditions, the poppyworts make such a fine display that a little peevishness of this sort may be forgiven.

I pass on to another group, comprising four species, two of which are in general cultivation.

M. simplicifolia.—The crown sends up, as it were, a *feu de joie* of rockets, each of which, descending again in a graceful curve, bursts into a large sky blue fragrant flower. Thus the habit is quite different from any of the other species described, for there is no main central stem, every flower (and there are usually two or three, or even four) having its own stem. The species enjoys half shade and may be grown high up on the rock garden for effect.

M. quintuplinervia, the harebell poppy, resembles the last in habit, but the flowers are smaller, narrow bell-shaped instead of saucer-shaped, violet instead of azure. It does remarkably well in some parts of Scotland. Colonies of this dainty species look particularly well in open pockets of the rock garden, and it has the advantage of being perennial. It can be raised from seed but is more readily propagated by division.

M. Baileyi is another sky blue perennial, though very different again from the last. A tall leafy stem rises from a great spreading crown of stalked leaves, bearing the half-dozen blooms each nodding at the end of a long pedicel, the three uppermost reaching approximately the same height (2–3ft.). The flowers are 4ins. across, with a shock of golden stamens. The stem leaves are unusually large so that flowers and leaves are lightly clouded up in a sunlit sea of blue, gold and green. M. Baileyi should be grown in clumps in full shade. It seeds readily, and may presently come from self-sown seed, or be propagated by division.

Lastly, there are:

M. integrifolia and *M. pseudointegrifolia.*—The former is the Tibetan Lampshade Poppy, and it has the largest flowers of any known species, sometimes reaching 6ins. across, otherwise it is a smallish plant, hardly exceeding a foot in height, and throwing up a fountain of chrome yellow balloon flowers from its short central stem. M. pseudointegrifolia is a taller plant with smaller flowers. Both are biennial, flowering in June. They may be grown in full sun or in half shade.

There is no space even to mention the two dozen other species which are or have been in cultivation under protest, as it were. Sooner or later—and generally sooner—these much petted prizes commit *hari-kari*, and, however eminently desirable they may be I cannot recommend them as possible garden plants while they are unprocurable. It may, however, be added that both the Welsh horned poppy and the curious little Californian annual poppy belong to this same distinguished genus, meconopsis.

F. KINGDON WARD.

A ROBUST SPECIES WITH YELLOW FLOWERS, M. PANICULATA.

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THE CARE OF THE FLOWER BORDER

The value of early staking cannot be too strongly emphasised. It is a job which should be attended to at once before growth becomes too large. By early staking all danger of broken flower stems will be avoided.

IF a border is to show its best it must be cared for with unceasing watchfulness. Every few days there will be something that needs attention, for there are many small matters that, if not set right at once, will cause some defect that cannot be remedied later. Among the first plants that will claim attention are the clematises, that are so useful, planted in the back of the border to be trained over earlier-blooming plants that have gone out of flower; for even the Jackmanni section, that do not bloom till late summer, will want careful guiding from early June onward. Some of the low-growing plants will want early attention. Stachys lanata, one of the best carpeting things with silvery leaves, that is so valuable at a front edge in company with pink and purple flowers, will be proposing to throw up its ing spikes by this time. These upright growths must be cut down close, for the flower, which is on a stem 2ft. high, has no beauty, whereas the value of the plant is in the silvery foliage. As soon as it understands that it is not allowed to flower it spreads at the root and soon forms the perfect silvery carpet. Even earlier than this the spotted leaved Pulmonaria saccharata demands attention. This also has a flower that is of poor effect compared with the beauty of the leaves. The flowering shoots are well forward at the present time and should be cut out; a fortnight later more will have formed and must, in their turn, be removed, in order that all the strength may go to the handsome leaves. Heuchera Richardsoni, whose bronze red foliage is so good a foil to some of the warm-coloured early flowers should also have the flower stems removed.

A MIXED BORDER SHOWING CARE IN THE ARRANGEMENT AND STAKING OF THE PLANTS.

When the hardy plants are beginning to make strong growth, some of the first to want regulation will be the delphiniums. Well established plants make more shoots than are wanted. All the weakest should be taken out, leaving a small proportion only of the strongest, and these should at once have the support of some small branching spray. Clematis of the earlier kinds make early growth, and if not attended to in good time may become unmanageable. Branched spray such as is used for peas makes the best support, fixing it in any position that suits the intended disposition of the flowering masses. Others of the earlier border plants must be staked in good time. The fine deep yellow-flowered perennial mullein, Verbascum densiflorum, is one of these. It grows rapidly and, if not attended to in time, the heavy spike of bloom will be found lying down instead of displaying itself upright. Anchusa requires the same attention. Those useful border plants, the heleniums, especially H. pumilum and H. cupreum, though their height is under 2ft., should have the support of some short, stiff spray, or some day they will be found fallen down in a thick, sappy, unmanageable mass. By the third week of June Michaelmas daisies will have made good growth and will want some carefully arranged support. I use last year's pea sticks, striking them in between the plants; not using any ties, but leaving them so that, as time goes on, a little careful handling will guide the aster growths among the sticks in such a way as will show the natural attitude of the plants, while giving them just as much support as they need. Nothing is more deplorable than the fate of these beautiful things if staking has been neglected, till the plants fall down and are then gatheredup in shapeless bunches and tied to single sticks. Gypsophila paniculata wants some stiff spray thrust in firmly in such a way as to allow the young growths to come through and show the plant in its full beauty. Timely staking of the same class, but with taller stuff, is also wanted for that fine herbaceous clematis, C. recta, for the heads of bloom are too large and heavy to stand up without support. The tall Campanula lactiflora must be staked in time. This also has a heavy head of bloom; stiff spray or slender sticks must be carried up, cleverly concealed, to the very flower heads, or they will be broken down by wind or rain.

There is a great advantage in planting in long-shaped drifts rather than in blocks; it not only has a better appearance, but it makes it easier, when one kind of plant is out of flower, to train over, or to a certain extent bring forward what may be behind. G. J.

THE WRONG WAY TO STAKE AND TIE A PLANT
Note how ugly it looks compared with the next illustration.

THE RIGHT WAY TO TIE AND STAKE A PLANT
The plant has a more natural appearance, the shoots having room to develop properly.

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LATE PLANTING OF ALPINES

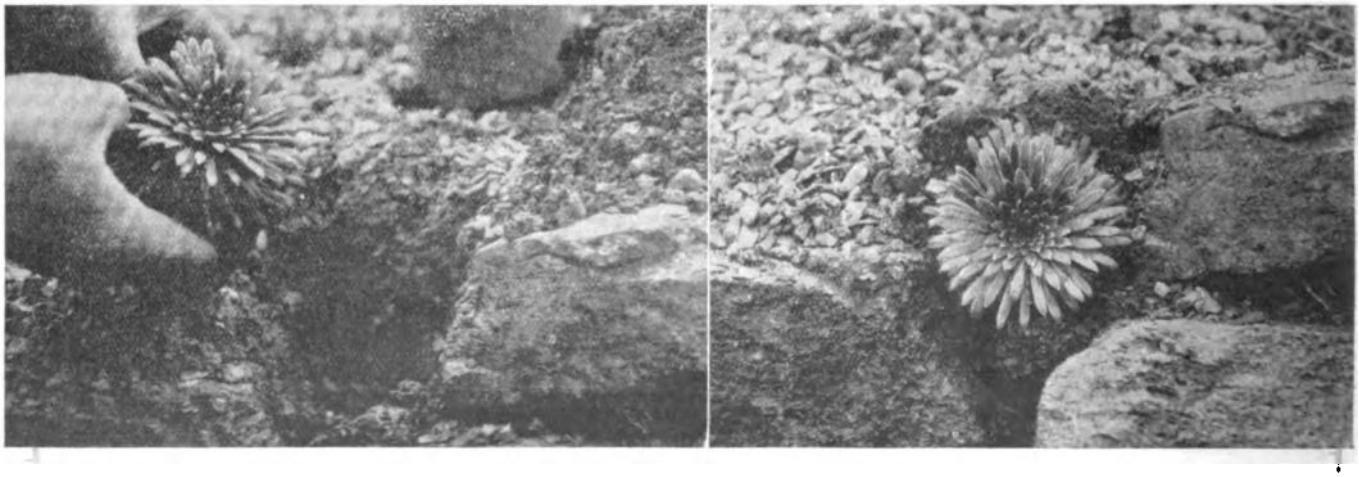
The idea that alpines can only be planted in spring and autumn is a mistaken one. Many alpines are grown in pots so that they can be safely transferred to the open ground even in the height of summer. If the plants are well watered they will soon become established. Summer planting is to be recommended for filling up gaps in the rockery.

ALTHOUGH the majority of alpines are best planted in autumn or early spring, it should be borne in mind that planting can be carried out even in the height of summer, if found necessary. The point to notice is to give the plant as little check in its growth as possible, otherwise small flowers and stunted plants will be the result. Prepare the soil pocket first by forking it up well and if the soil is in a very dry state, it is much the best plan to water the ground the day before. If it is given a good soaking so that the moisture penetrates well down, the soil should then be in a good condition for planting the following day. Be sure the plants to be planted are in a moist condition also by giving them a good watering the previous day. A moist plant turns out of the pots much more easily than when dry, the roots of a plant that is dry have a tendency to cling to the pot and will cause much disturbance to the root system, a thing that must be avoided at all times, more especially where late planting is being undertaken. Tap the plants out of their pots with care, so as not to damage foliage or any flower buds that may be showing. The crocks or other drainage may now be removed. This will free some of the roots, so that they will more readily take to the soil. No other disturbance of the plant is needed. Place the plant in the cavity prepared for it and press the soil firmly round the roots. Avoid pinching into the collar or neck of the plant a common fault with all beginners, and one which undoubtedly causes the death of many plants. The soil should be firm under a loose surface, which will get quite firm enough when the plants have been watered, and with rain. Watch the plants carefully for the next fortnight, seeing they do not get too dry, or eaten off by slugs and other pests that seem to have a special weakness for choice alpines. The plants should show marked improvement within a week and at the end of a fortnight the roots will have a good hold of the ground and will grow on quite happily with the same attention that is given to the established plants.

A few hints regarding the subjects that will move readily under this treatment may be useful to the reader. Shrubs will plant well if the roots are undisturbed, in fact I have a number of dwarf conifers doing very well on a dry wall that were planted in June without any ill effects whatever, and there is often a jutting point in the rock garden that can be improved by the dwarf Pinus sylvestris or Juniperus prostratus. Crevices too often get left till late in the season, and there is a wealth of subjects to choose from to fill these spaces, which will flourish if the roots get well down behind the rock; a plant that has all the soil knocked off by being squeezed into a narrow crevice and its roots mutilated, can hardly be expected to live. The saxifragas are fine crevice plants, especially the encrusted varieties, such as S. Cotyledon, S. longifolia and S. lingulata. S. longifolia is the pride of the rock garden, more for its beautiful silvery rosette than for its 2ft. to 3ft. long spike of white flowers. All these may be planted successfully even in full flower from pots. Campanulas, too, make a brave show and will thread their roots beneath and through any rockwork. C. Raineri and C. Allioni prefer this treatment, and the glorious open blue cups of C. mollis

PLANTING ALPINES FROM POTS.

The soil round the plant should be kept intact and a hole sufficiently deep to accommodate the roots taken out. After planting water the plants.



SAXIFRAGA LONGIFOLIA BEING PLANTED IN A CREVICE.

Removing the plant from the pot ready for planting. *The plant in position before being tightly wedged between the rocks.*

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THE BRILLIANT SCARLET FLOWERS OF VERBENA CHAMÆDRIFOLIA.

PLATYCODON GRANDIFLORUM, WITH ITS HANDSOME BLOOMS.

are at their best when hanging from some high crevice, the woolly grey foliage making a fitting background to set off their elfin grace. These and many other plants will charm one from unexpected corners and niches, while other empty pockets may be planted late in the season with such plants as the prostrate Verbena chamædrifolia or Platycodon grandiflora, which bears large bell-shaped blooms of deep blue. Dianthus Lindsayi will do well and D. hybridus salmonius is at its best in late September. Erodium guttatum flowers all through the summer months if the seeds are picked off, as does E. chamædryoides, without this attention. Gentiana sino-ornata, with rich blue trumpets may be planted and will flower in September, following the upright cluster heads of G. septemfida. Pentstemon heterophyllus, with rosy blue and lilac flowers makes a brave show against the delicate frailty of Saponaria Wienmanniana's creamy rose flowers. Nierembergia rivularis makes a wonderful carpet of pinky white cups in late summer, as also does Œnothera macrocarpa's giant golden flowers on long flopping stems until frosts and rain call them to rest along with that flaming glory Zauschneria californica, whose scarlet flowers have at times cheered many November days. All these interesting subjects may be planted with a little care in May or even June, from pots and they should be a joy in the garden well into the autumn of the same year of planting. J. W.

NOTES ON THE FLOWER GARDEN

Ivy Geranium Mme. Crousse.

THOUGH there are a number of ivy geraniums of varied and deeper colouring, there is none that, for general garden use, surpasses this good old variety. Its clear pink colour and freedom of bloom are qualities that ensure it a welcome in every garden. The illustration shows it at the top edge of a low dry wall that retains a narrow border and a path next a house. The place is in rather poor soil and in full sunlight. It is not quite hardy in the home counties, but stands out in the Isle of Wight and the mild climate of our south-western counties. It is a capital plant in a cold greenhouse or any well lighted structure that is safe from frost. It is curious to notice that the leaf of ivy geraniums not only has the shape but also a smell that closely resembles that of ivy.—G. J.

ONE OF THE BEST OF IVY GERANIUMS, MME. CROUSSE.
It should be grown in every garden.

For the Sunny Rock Garden.

THE sternbergias are very interesting plants which are suitable for a warm south or a sunny part of the rock garden. Some of the species are of special value, owing to the fact that they blossom in the autumn and winter and produce large quantities of golden yellow flowers. Other species are spring-flowering, and these will usually follow on the crocuses. The soil for sternbergias must be well drained, light and sandy, while at planting time it will improve matters to mix in some leaf-mould round the bulbs. Those which are to flower in the autumn should be planted during June or July, and the spring-flowering kinds in September or October. The bulbs should be put 3ins. deep and from 4ins. to 5ins. apart. Increase of sternbergias is carried out by the division of offsets, which should be removed at the seasons recommended for planting. When the bulbs have settled down and have shown that they are happy, it is much better not to disturb them, as they will then go on growing for some while, providing they are not seriously overshadowed by other plants.

The chief autumn-flowering sternbergias are as follows: S. lutea, flowering from October onwards; S. macrantha, often in bloom up to the end of the year and S. colchiciflora. The best known spring-flowering sternbergia is S. Fischeriana, which open its golden yellow flowers in April. The sternbergias grow to a height of from 6ins. to a foot.

A Dainty Erigeron.

FOR a close-up ledge in the rock garden or stone trough, the soil being light and gritty, Erigeron rifidus will prove a most engaging little plant. It makes a neatly rounded tuft of rather deeply lobed, hairy foliage and from April onwards for a long period produces a succession of daisy flowers on 2in. stalks. These are large and bold for so small a plant and they are a beautiful pale lavender. This should also make a good moraine subject, but it seems to be soundly permanent in a poor, stony soil, which ensures

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thorough drainage. Full exposure is desirable. E. trifidus appears to be synonymous with E. flabellifolius and is closely allied to the equally delightful E. compositus.—A. T. J.

A Creeping Sandwort.

ARENARIA BALEARICA is a plant of miniature growth, well adapted for sunless corners and cool positions on the rock garden, while it is also useful for crazy paving and low retaining walls. It is a good grower and, if afforded a congenial position, it increases rapidly, and will neatly clothe everything with its vivid green, soft felt-like growth. The damp, shady side of a rock covered with A. balearica is very attractive, especially when the countless numbers of small starry white flowers are in evidence from May till July. The creeping tendency of this plant is somewhat similar to a tiny moss, and it is scarcely half an inch in height. On account of its free seeding qualities, seedlings are frequently found in close proximity to the parent plant, and these, if not required, could be lifted and transferred to other suitable stations. Moreover, the old plants can be divided at any season, and if the position is kept damp for a few days it quickly becomes established. As this small sandwort has a decided preference for shade, it will be found useful in the garden where the rays of the sun are seldom present—B.

Artemisia lactiflora.

WHEN a new plant comes into our gardens it takes a season or two to make its close acquaintance and to see what are the best ways of using it. This 5ft. high artemisia proves to be one of the easiest things to grow, and its creamy spikes of bloom are a welcome addition to the flowers of late summer. There are some who have expressed disappointment, because at the moment of its fullest bloom it looks as if it might be going to do something more and does not do it. Yet anyone who is generally acquainted with the genus cannot but see that it already makes a showier head of bloom than any other that is commonly in cultivation, and when we are content to accept its natural limitations we are amply repaid by finding out how good it is to use, if not for its own merit alone, as a delightful companion to other flowers. We all know the unsatisfactory appearance of the lower parts of sunflowers—lanky yellowish legs—and, even if the only sunflower grown, as in the garden where this note is written, is the primrose-coloured tone of moderate height, yet its bare stems are equally unsightly. But if the sunflowers are inter-grouped with the artemisia, so that they look out above it and among it, the whole thing is unusually pleasant both in form and colour; and if, in the same grouping, there is, still farther back, some pale yellow hollyhocks and a Clematis Flammula trained over pea sticks, the whole thing becomes a charming picture of varied form and agreeably related colouring.—J.

THE FEATHERY CREAM COLOURED SPRAYS OF ARTEMISIA LACTIFLORA.
A fine shrub for late summer decoration.

Campanula pyramidalis.

A bellflower which every amateur should grow in his garden.

WHEN a garden is well established, many pleasant surprises come of themselves. Such a one is the successful flowering of a plant of the Chimney campanula that placed itself at the edge of some shallow steps that lead away from the house to some slightly higher ground. The self-sown seedling plant has been there three years; one year it sent up one spike, but it was wrecked—wrenched out at the bottom—by a storm of wind.

When the steps were built there was no intention of leaving spaces for growing things, and the ground below is almost pure sand, so that the plant must have had some difficulty first in penetrating the mortar joint and then in finding any kind of nutriment.—G. J.

Some Autumn Crocuses which Can be Planted Now.

They are suitable for the rockery or front of the border.

FEW garden effects can be more pleasing than colonies of our native meadow saffron, Colchicum autumnale, growing either in a border or naturalised in grass in a small corner of the garden. The foliage of these bulbs appears in spring, and immediately the ample leaves become yellow and wither off is the best time to procure and plant new bulbs or to transplant one's existing stock.

Colchicums, and more especially the large-flowered species, never look better than when naturalised in grass. The situation should be fairly open, as it is most essential that the bulbs should be well ripened preparatory to a new season's growth.

The smaller species and those of some rarity may be accommodated in the rock garden or in a border; as a matter of fact, all colchicums are very beautiful on the rock garden when in flower; but, alas! the very large leaves of such species as speciosum have a deleterious effect during spring and early summer and are extremely untidy from the time they commence to "yellow."

Disturbance is much resented by these bulbs, and, indeed, long-established colonies will provide one with mature and colourful beauty during late summer and early autumn.

Of our native C. autumnale there are several very pretty and distinct varietal forms, notably roseum (syn. Tenorei), album, album plenum, plenum double lilac, atropurpureum of deep and attractive colouring. The giant speciosum from the Caucasus rears up huge goblets of rosy carmine colouring, and a lovely variety of intense colour is Ruby Queen, ruby red with a white centre; the var. illyricum from Salonika has its soft rose flowers lit up with golden anthers, a choice and beautiful blossom.

THE ELEGANT CHIMNEY BELLFLOWER, C. PYRAMIDALIS.

C. speciosum album has been called the finest of all autumn-flowering bulbous plants, and it is most difficult to visualise anything more chaste or more lovely than the large purest white goblets, their beauty enhanced by that slight stain of greenish yellow at the base; a few open flowers never fail to bring forth exclamations of admiration and this plant should be in every garden where good plants are valued. An intermingling of this fine colchicum and Amaryllis Belladonna makes a charming association.

C. giganteum from Asia Minor is of large size, soft rose with a white centre, and somewhat reminiscent of this fine species is the well known C. Bornmuelleri with a larger expanse of basal white. Mixed varieties are excellent for naturalising and should be planted in bold drifts.

The species with chequered flowers are both quaint and pretty, the better known plant being C. variegatum, flowers chequered rose-purple and white; and C. Parkinsonii, white tessellated and barred purple and of rather starry form; these, with their congeners, will give much that is desirable to the garden in autumn, the wholly appropriate setting provided by the golden brown and crimson of the fading year, enhancing the beauty of the great crocus-like blooms.—R. E. A.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Seeds to Sow Now.

IT is much more fun to grow one's own plants from seed than to buy them ready for flowering. And it is much cheaper. A number of the brignt flowers which are now just putting off their gay attire are very aimple to raise from seed. Forget-me-nots, wallflowers, honesty, all of which have been specially find this spring, can now be sown. Use boxes or pans of rich soil, and prick out the seedlings as soon as the second pair of leaves have formed.

Stately Hollyhocks.

It is not generally known that hollyhocks are quite easily raised from seeds. Buy a good, strong plants to put out in their permanent quarters in autumn. Sow in the open or in a box, and transplant into a nursery bed. They like a moderately rich soil, and plenty of light and air to ensure sturdy growth.

Money-in-Both-Pockets.

This is another name for honesty (Lunaria biennis), given to it on account of the position of the seeds on both sides of the pod. The purple flowers are not unlike those of the wallflower in form and are followed by the "silver spectacles" so often seen as winter decorations. The plants are biennial, and like to grow in the shade, beneath orchard trees, etc. Common garden soil will do, and the seeds can be sown as advised for Canterbury bells.

AN ATTRACTIVE TOWN GARDEN WITH ITS SMALL BEDS FILLED WITH SUITABLE BEDDING PLANTS.

good strain, and grow them in rich soil. Red spider sometimes attacks the leaves, but this pest is easily controlled by spraying well with water. Double hollyhocks do not always come double from seed, but the richer the soil, the greater will be the percentage of doubles.

Sweet Williams and Columbines.

These two old-fashiomed flowers are hard o beat for beauty and sweetness. They flower in the lull between spring and summer flowers and are specially valuable where successional flowers are desired. Sow seeds in boxes and plant out 6ins. apart in the nursery bed. Only lightly cover the seed with soil—a good rule is to cover twice their own depth. When the seedlings are put out, it may be necessary to water if the weather is dry. Excellent new strains of these hardy flowers are obtainable from all the leading seedsmen.

Canterbury Bells.

These flowers, in various colours of pink, white and blue, are very showy biennials. That is, they make growth one year, and flower and die the next. The secret of their culture is to sow early enough to secure

Use and Beauty Combined.

HAVE you a bare and ugly wall, or a trellis, or archway which you would like covered with greenery during the summer? If so, there is no better plant for this purpose than the ordinary scarlet runner bean, for not only is it a popular vegetable, but its flowers and foliage greatly enrich the appearance of the garden.

On the allotment, runner beans make an excellent screen plant, and for this purpose should be on the north or east side of the plot. If the land has been dug and manured, the only further preparation needed is to draw a drill 3ins. deep where the row is intended. Place the beans in the bottom, 8ins. apart and cover with the loose soil. Stakes, string or other support need not be fixed until the seedlings are above the soil. Fairly tall supports are necessary, as in ordinary garden soil beans attain a height of 6ft. or 8ft. Should this height not be desired, the tops can be pinched out when the desired height is reached. Some growers pinch out the tops when the plants are a foot high, and, in this way keep the plants dwarf; but of course, the bean pods gathered from these are not clean. Two of the best varieties, which are both useful and ornamental, are Scarlet Emperor and Painted Lady. Both of these are strong growers.

The King of the Begonias.

VARIETIES of the Rex section of begonias are often cultivated as window or room plants. They are grown chiefly for their richly coloured foliage. For a shady border in a greenhouse or a cool fernery begonias are very useful plants. They are used to decorate walls, and in this case the wall is first covered with wire netting, supporting fibrous soil or sphagnum moss, and in this the begonias are planted at intervals. During growth they require copious supplies of water, but like the tuberous section, they are best kept dry during winter.

A Plea for Simplicity.

WITHOUT being too conventional, one can gain a good deal by adopting a simple scheme of bedding out, and *sticking to it*. A mixed border is a perpetual charm, and has in it always something at its best. But the geometrically shaped beds cut in lawns lend themselves to simple treatment in the matter of summer flowers. Two or three kinds chosen with an eye to colour and height, will give a better and more lasting show of bloom than a larger variety. The deep blue Salvia patens, for instance, contrasted with white alyssum, makes a strikingly beautiful subject for a small flower bed. Antirrhinums, of two colours and two sizes, with an edging of lobelia or tall fuchsias, with a carpet of dwarf begonias, are other suitable selections for this purpose. The small symmetrical flower bed is viewed as a whole, and should be planted with this in mind.

Treatment of Tender Vegetables.

MARROW seedlings are now showing their first pair of leaves. No time should be lost in preparing a site for them. The common belief that a raised mound of manure and soil is necessary for marrows is wrong. These plants will grow equally well on the flat, if the soil is deeply dug and manured. Bush marrows are best for small gardens, but if a piece of waste land is available, the trailing sorts make admirable "smother" plants. Water, in liberal quantities, must be given to marrows, especially during the first few weeks.

Celery trenches should be opened, and a good supply of manure forked into the bottom. Celery is a semi-aquatic plant and commercially grows best on marsh land. A moist part of the garden should, therefore, be chosen.

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THE BUSY MAN'S PAGE

Chrysanthemums in Pots.

IT is very important at the present time to watch potted chrysanthemums closely to see that they do not suffer from dryness. It is a great mistake to allow the soil to become dusty, even for a few hours, as this seriously checks the plants. In warm, dry weather go over the plants twice a day, at least, testing the pots with the knuckles or a small mallet and if a sharp ring is the result, water will be needed. Then provide the chrysanthemums with liquid manure, which may be of almost any kind, providing it is weak. As a matter of fact, it is an excellent thing to change the character of the fertiliser, as plants benefit greatly from alterations in the character of the food which they absorb through their roots. Very weak solutions of fertiliser may be given several times a week with great advantage. As the chrysanthemums grow, provide them with stakes which will ensure a straight growth of stem and also prevent breakage by wind.

Bedding Calceolarias.

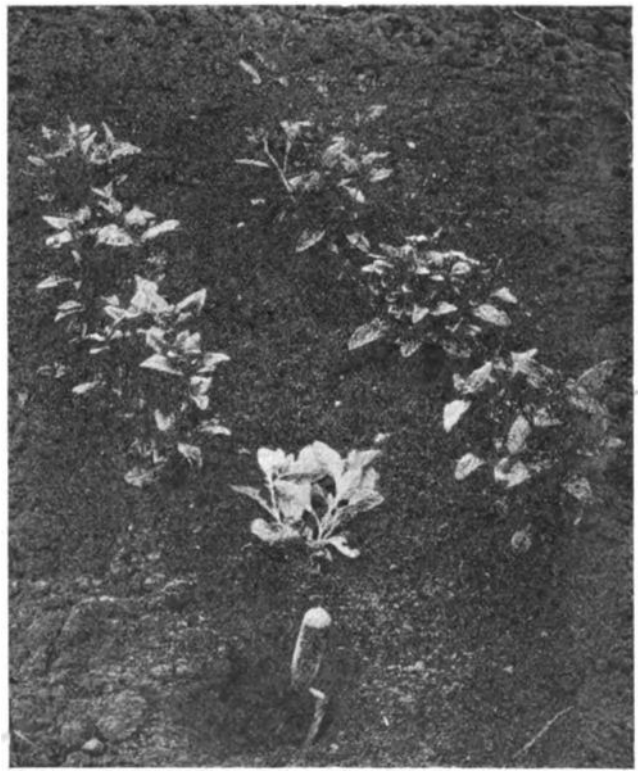
BEDDING calceolarias were at one time considered a most essential class of plants for the adornment of the garden in summer and there were few bedding schemes which did not include a goodly proportion of these, particularly of the yellow and brown shades. Nowadays they do not, however, figure quite so prominently, having either been displaced by the larger and more brilliantly flowered greenhouse varieties or by some different class of plants entirely, with the result that many of the once popular varieties are now difficult to procure.

Fortunately, for they are charming little plants, it is still possible to obtain these in sufficient variety to enable them to be used with good effect either in bedding schemes or to brighten up some portion of the garden.

Provided the weather is at all favourable, these may be planted out now, and, as short jointed stubby little specimens give much better results than long spindly ones, preference should be given to the former when selecting one's plants. Success or otherwise depends to a certain extent on the season, as a very hot, dry season considerably shortens their period of usefulness, but as coolness at the roots is appreciated by this class of plants, these should be planted in a fairly rich loam, which has been deeply cultivated. The space allowed between each plant depends on whether they are used as dots or massed, but well shaped symmetrical plants can only be obtained by permitting ample room for development and the ground between the plants should either be carpeted with a dwarf subject to keep the roots cool or else stirred regularly with the hoe for the same purpose. The well rooted plants shown in the accompanying illustration shows admirably the type of plant most likely to go ahead when planted out now.

Transplanting Half-Hardy Annuals

THESE annuals are raised under glass, in the greenhouse or frame, where a very early display of blossom is required. They are gradually hardened and then transplanted in prepared borders. When all detail work is well carried out the plants thrive splendidly, but most of them fail to give satisfaction when the work connected with the transplanting is badly done. They should be treated as follows: Take extra pains with soil of a cold, adhesive nature; thoroughly break up the lumps and reduce as many as possible to powder. Procure some finer loam—such as that from the potting bench or some heap where tree leaves and other material of a similar nature have been laid to decay. Sift all such, have some in a box by your side and, as each young plant is dealt with, place a small quantity round the roots. Apply water at once. The planting should be firm, not pressing hard on the roots, but around them and a gentle pressure to the soil immediately on the roots. Whether growing in boxes or in beds in frames the soil should be thoroughly watered a few hours before the plants are lifted, then it will be possible to transfer a neat ball of soil adhering to the roots as well and this means continued progress instead of a check. Slugs always attack newly-planted annuals more persistently than those that are raised in open border, because the soil is loosened round the young specimens and the tiny slugs lodge there, often eating away the tender stems below soil surface and thus remaining unseen. Scatter soot or lime around the plants, but not on them. A small quantity and frequently, does more good than one big dressing. Asters, ten-week stocks, zinnias, African and French marigolds, petunias, nemesias, cosmeas, schizanthus and verbenas are some of the principal kinds to plant. Cosmeas if growing now singly in small pots, may be planted in the pots, just burying the latter, then the plants will flower sooner and for a longer period.



PLANTING OUT CALCEOLARIAS.

Shrubs and Hedges.

SHRUBBERIES, hedges and trees of the evergreen species may be trimmed in July, if they have been making a strong or straggling growth. Whether to use a knife or shears will depend upon the size of the foliage. Shrubs with large leaves are best trimmed into shape with a sharp knife. In this way the foliage will not present such a mangled appearance as when shears are used.

Hedges of yew, privet and other small-leaved shrubs can be clipped with shears. Even when closely cut, the foliage will not look unsightly.

Boxwood edgings should, of course, be trimmed with the hedge shears. If cut too late in the season, the box edgings are likely to become brown for some time, if the weather is hot and dry. If clipped moderately early, a fresh growth may begin before the summer drought sets in. Old woody stumps should be removed with a knife.

Lawn Mowings.

IN hot, dry weather it is not a bad plan to allow the fine mowings to remain on the lawn after cutting, as these will act as a protective mulch and prevent scorching. The plan is really effective for it is just after cutting that scorching is most likely to take place. Lawn mowings make a fine mulch for spreading round fruit bushes, in the strawberry bed and elsewhere in the garden. Spread among young carrot or onion plants they will help in the fight against the "flies" that attack these crops; any insecticides which may have been sprayed over the lawn mowings will retain their virtue for a long while. The mowings may be dug into the soil to open it up and enrich it and they can be added to the manure heap to eke out the supply of the material.

Early Eradication of Rose Pests.

THE spraying of roses ought to begin early in the spring. Already THE GARDEN has mentioned the good effect of several sprayings with dilute formalin and we merely wish to emphasise the matter by extending the principle a little farther. Too "forcing" manures often encourage disease and, on the other hand, starvation may be equally bad; our roses must be grown in a rational and kindly way. Bushes inclined to disease constitutionally may, with advantage, be hard pruned—pruned so that sun and air may obtain free access. Weather is also a factor to be considered, for alternating mild days and chilly winds do a lot of harm in encouraging mildew: unfortunately, we cannot run the weather to our own ideas, but we can, at least, watch for the first signs of disease and act, or, indeed, act without waiting. Insect pests never assume virulent proportions on roses sprayed early; hoeing the soil around bushes is also very helpful and the dewing of plants in droughts, with a touch of some insecticide in the water, also goes a long way towards immunity. Growers who are usually troubled in summer should now invest in a small tin of lime sulphur (for diseases) and a bottle of nicotine (for insects); it is often carelessness that lets the troubles become serious and the presence of these washes makes one watchful and prompt. Other sprays may, of course, be preferred, but, by realising facts, every grower should be able to record a season in which his roses were free from all parasites. Roses which are clean produce a greater number of blooms.

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WHAT TO SEE AT CHELSEA

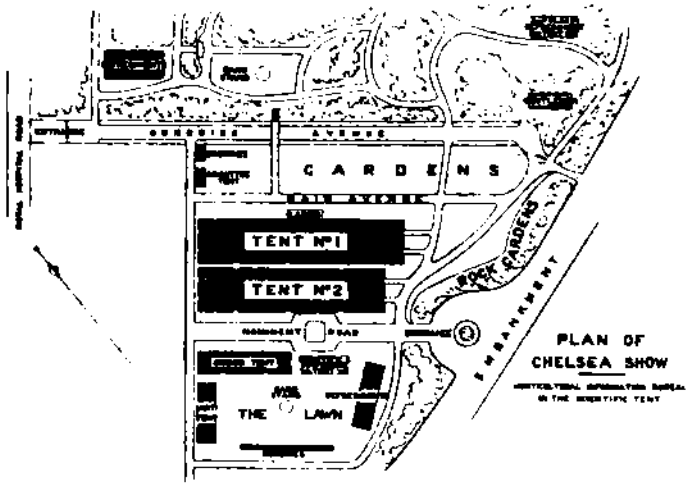
The Show opens on May 25th and remains open until Friday evening the 27th.

THE Chelsea Show, from the position that it occupies as the premier horticultural show in the world and as the culminating peak in the gardener's year, needs no introduction to the majority of our readers. On the other hand, there may be many who have never visted Chelsea, and it is for these that we call attention to a few of the items for which one should keep a look-out on a visit to the Show.

Every amateur gardener, if he can possibly spare the time, should make a point of visiting the Show. Not only is it the finest collection of flowers in bloom to be seen anywhere, but it ranks as part and parcel of one's gardening education. It provides an excellent opportunity of studying plants at first hand and appreciating their merits or discovering their demerits. It permits of comparisons between this and that type of plant or between varieties of the same plant which are not possible on other occasions, since seldom, if ever, is such a collection brought so closely together as at Chelsea for display purposes. Not the least important part of Chelsea is that it allows the visitor to make a selection of plants for his garden, and to order and purchase those which will prove successful in his particular soil and situation. Although it is not the season of the year when gardeners, especially amateurs, wish to be bothered with the plant or seed order for next year, it is important that attention should be given to this while on a visit to Chelsea. There is no need to rely on glowing catalogue descriptions when selecting and purchasing plants Visit Chelsea and see them in the flesh, and order accordingly with discrimination and with an eye to your pocket. If it is thought too early to order, then do the next best thing and take full notes of plants and other items which strike you as likely to be of service to you in your gardening duties. These personal notes and impressions will greatly assist you when making out the gardening order in the autumn. Combined with a catalogue, they will jog the memory, recalling impressions of the many fine things which were seen at the Show. It should be borne in mind that when a definite order is given, few of the plants and seeds can be delivered for several months, Only in the case of irises, alpines, dahlias and a few others can immediate delivery be expected. But early ordering means early delivery and, in turn, early planting, which will help in the autumn in getting the garden re-stocked and new plants established before the onset of winter.

On the whole, too, it is better to order from the exhibitors at Chelsea, as then the respective nurserymen can gauge the demand for a particular plant and regulate the supply accordingly from orders received at the Show. If these are low, then he may underestimate, with the result that the stock runs out and orders received later in the year cannot be met. It is in this way that the regulation of supply and demand, sometimes so acute in the gardening world, can be arranged to everyone's satisfaction if orders are given early. Remember that Chelsea is a flower show at which to buy, as well as to look at and admire.

It is a little difficult, in view of the excellence and variety of the exhibits, to advise the visitor as to what to include and what to omit in his itinerary of the Show. The best way is to decide to see everything and drift with the crowd. Have a quick walk round, thereby gaining a general impression, and then return and examine exhibits of your favourite flowers more leisurely. By that time, no doubt, you will be ready to retire, weary and footsore, but satisfied that you have seen everything worth seeing from your own standpoint.



VISITORS SHOULD MAKE A POINT OF LOOKING OVER THE OUTSIDE EXHIBITS BEFORE BEGINNING THE INDOOR DISPLAYS.

There is no other show in the world which can provide such an attractive display or exhibit more tempting wares to the purchaser as a flower show; and at Chelsea, where things are done on a huge scale, the display is magnificent. Indeed, a general complaint to be heard on every side at the Show is that these things can never be in a small private garden. Amateurs are swamped by the splendour of the trade displays and by their number and variety, and leave the Show feeling disgruntled and dissatisfied. But do not let Chelsea dishearten you; rather let a visit stimulate you to further effort, determined if possible to emulate some of the exhibits staged. Remember that much patience, time and money have been expended by the nurserymen in the production and staging of these exhibits, more so than is possible in the case of the amateur. These displays stand as ideals at which the amateur should aim. That they can be accomplished on more simple lines there is no doubt, and that thought should encourage all amateurs while going round the exhibits.

Chelsea has much to teach apart from the actual display. It brings new plants into prominence and introduces many which have long since gone out of popular favour and which may be unknown to many visitors. The eremuri are a case in point. Last year the exhibits of these tall, handsome subjects excited considerable attention and admiration. It serves to illustrate the wide range of plants which exist to suit all conditions and all gardens. Shrubs, herbaceous plants, rock plants, bulbous plants, greenhouse flowers, orchids—all are there and shown to advantage. In many instances the exhibits indicate to the critical observer and keen gardener how the plants should be grown, and in this way stand as a valuable object lesson to the amateur in showing what to aim at in cultivation. In the rock and formal garden sections this is a point worth noting, and, while a few of the exhibits may lead one astray, in that several plants are introduced solely for the effect of creating a bright display, the majority teach how the various alpine plants are best grown and situated, and how a skilful and simple design of the garden makes for its charm and beauty. When walking round, and any points arise on which advice is sought, never hesitate to ask the attendants. They will be only too willing to supply the

THE ROCK GARDENS SHOULD ON NO ACCOUNT BE MISSED WHEN VISITING THE SHOW. *Many of these are simple designs which can well be carried out within the limits of a small garden.*

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THE FORMAL GARDENS ARE ALWAYS ATTRACTIVE.
They suggest lines of treatment to make a small plot effective and beautiful.

necessary information and help you with advice gained by years of practical knowledge and experience. Chelsea exists from year to year to assist not only those who are keen gardeners already but those who are only just beginning to garden. The ideas of the amateur who has just commenced his gardening education may be nebulous to begin with, but after a visit to Chelsea they will slowly but surely crystallise and gradually he will find himself becoming expert in that particular branch which has attraction for him.

If you have not visited Chelsea, do so this year. There is a spirit of attraction in the Show. It is not a fashionable parade. It is an educational display which has for its object the stimulation of the love of flowers which is inherent in every one of us.

On entering the Show, the rock and formal gardens call for first examination. This year the formal gardens constructed are varied in design.

In the main avenue, on an angle site, Messrs. Pulham have built an attractive formal garden. It consists of a raised York stone terracing from which a series of columns arise. These are uncommon in design, consisting of alternate York stone and red tile courses, and are surmounted by sawn oak timbers, forming a pergola on which climbing roses are trained. The terrace is reached by two short flights of York stone steps which are led up to by paved paths from different points. At one point the terrace breaks into an octagonal angle, the rim of which is raised, and here a small pool is introduced. Around the court beds are planted with polyantha roses, and the turf in the outer portion of the exhibit is also set with beds filled with roses. The side borders are planted with hydrangeas, delphiniums, anchusas and other herbaceous plants.

Messrs. Hodson's of Nottingham are exhibiting a miniature formal garden planted with flowering and ornamental standard and bush shrubs. In this garden is shown a new type of hard tennis court, green in colour, requiring no attention or upkeep and unaffected by frost, rain or snow.

The principal feature in Messrs. Carters' garden is a fine Italian temple surrounded by plantings of rhododendrons. The setting of this garden, being raised above the general level, is very effective. The planting is chiefly at the sides and rear, leaving a sweep of grass and an uninterrupted view

THE INDOOR EXHIBITS OF ALPINES HAVE MUCH TO SHOW IN THE WAY OF HARDY ROCK PLANTS AND NOT A FEW NOVELTIES.

IRISES FORM A PROMINENT FEATURE OF THE SHOW.
They are in full flower now, and can be planted during the summer.

through the centre. Two pools, one on each side of the garden, make a pleasant break. A most attractive walled-in garden is laid out by the Horsecombe Quarries and Stone Works. In the centre is a sunken garden with, as a focus point, a small lily pond. Balustrading surrounds the front and gives a fine finish to the exhibit.

In the formal garden section Messrs. Suttons stage a novel exhibit which is sure to attract the attention of all who are interested in the formation and upkeep of bowling greens and tennis courts. The exhibit takes the form of a miniature bowling green and tennis court, and they have also constructed a miniature lawn tennis court of a new type which requires practically no upkeep. Visitors should make a point of looking at this exhibit.

Among the rock gardens there are many attractive lay-outs which should be noted. Mr. George Whitelegg's garden takes the form of a mountain stream descending through a gorge of Cheddar limestone, finally coming to rest in a pool at the base of the garden. The rock outcrops, all well placed, are planted with choice alpine plants, saxifrages, phloxes and hosts of others all suited to their various positions.

That of Messrs. Hodson's is on a more lavish scale. It is of a weather-worn Westmorland limestone, with pools and waterfalls.

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The crevices between the rocks and the stretches of a fine lawn are planted up with alpines in variety and dwarf shrubs. Among these are to be noted the late-flowering mossy Saxifrage Douglas Haig and the red Hodsonii, phloxes, drifts of Daphne Cneorum and Genista hispanica, Dianthus alpinus and many dwarf conifers.

Messrs. Pulham's rock garden is not so large as usual this year. The stone used is Westmorland limestone, and the outcrops are planted up with a wide selection of alpines. A narrow stream enters at one corner and winds down to the lower portion of the exhibit.

There are many other rock gardens laid out by experts, and each one is worthy of the attention of every visitor to the Show. While many may seem arranged and planted on a much too extensive scale for the amateur to follow, it should be borne in mind that the exhibits only indicate what may be done with rock plants.

Collections of herbaceous plants are always seen in large numbers at this great Show, lupins, irises, delphiniums and other early summer perennials being well represented.

THE EXHIBITS OF HERBACEOUS PLANTS FORM THE BACKBONE OF THE SHOW.

Every amateur should look over the display critically and make a selection for next planting season.

GREENHOUSE FLOWERS, EXHIBITED BY OUR LARGE SEED FIRMS, PROVIDE A PERFECT BLAZE OF COLOUR.

varieties, while Coralina, Mollie and Lena are three good sorts for baskets.

Messrs. Oliver and Hunter have an exhibit which will be of great interest to the lover of primulas as well as the rock garden specialist. Many new Tibetan species which have been recently introduced, such as P. Florindæ, P. microdonta and P. Waltoni, are represented. Primula Geraldiana alba and P. tsargonensis, belonging to the muscarioides section, are also among this group.

A collection of alpine plants backed by many choice and new varieties of brooms, Japanese maples and other dwarf shrubs is staged by Messrs. Bowell and Skarratt. Several uncommon lewisias, trilliums, alliums and tulip species, and Viola gracilis sulphurea are noted. Another table rock garden which is of particular interest is that of Mr. W. E. Th. Ingwersen, who has chosen for a background fine specimens of the rare Cupressus leptoclada and similar slow-growing conifers. Saxifrages, primulas, phloxes and hosts of

Some of the finest new lupins are among the group of hardy plants shown by Messrs. J. Waterer, Sons and Crisp. Sunshine, Delight and Pink Pearls are three of the most attractive varieties which can be seen. Rhododendrons, including Prince of Wales, a striking novelty; azaleas, flowering ornamental shrubs and an exhibit of alpines are also staged by this firm.

Those who do not know the famous Wrexham strain of delphiniums should make a point of examining Messrs. Hewitt and Co.'s stand, where many varieties are on show. Rose Marie, Great Strides and Ruffled Beauty are three of the newest of this type.

Large and handsome spikes of delphiniums in vivid and striking colourings can be seen on the stand of Messrs. Blackmore and Langdon, a firm which has raised many excellent new varieties. Included in this comprehensive collection are such varieties as Millicent Blackmore, Sir Douglas Haig, Mrs. Foster Cunliffe, Blue Queen and Constance. This firm has also a very fine group of begonias, some varieties of which are adapted for growing in baskets. These begonias are all in soft and yet glowing shades and they make a beautiful display. Brian Langdon, Mabel Langdon, Lady Ann and Mrs. D. B. Crane are a few of the most attractive double

THE DISPLAYS OF SWEET PEAS CANNOT FAIL TO ATTRACT.

They are always magnificent in their colourings and appearance.

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choice alpines can be seen flourishing in the crevices and pockets between large blocks of richly coloured weathered sandstone.

Two exhibits which are particularly worthy of notice are those of Mr. Amos Perry and Mr. H. J. Jones. The former has included some of the finest ferns and a number of new seedling irises in his group, while among the magnificent collection of hydrangeas shown by Mr. Jones are several new seedlings raised by the exhibitor himself.

Roses, carnations and sweet peas occupy considerable space in the tents. Mr. E. J. Hicks has a large and representative group, comprising pot-grown plants of the leading varieties of hybrid teas, teas, polyanthas, etc. Messrs. B. R. Cant, Limited, have a splendid collection, including twelve seedling varieties of their own raising, among them being the new Cecil, Mrs. Beatty and Lady Wakefield. Orange Perfection is a striking new dwarf polyantha rose which is displayed on this stand.

Messrs. A. J. and C. Allen of Norwich are exhibiting cut and pot roses, consisting of specimen ramblers in variety, including Yvonne, Paul's Scarlet Climber, Excelsa and Ille de France, a novelty which is an advance on Hiawatha. Numerous dwarf polyantha roses, a section in which this firm specialises, showed the considerable advance which has been made in this attractive class during the past four or five years. Golden Salmon, a most attractive novelty in a most distinct and pleasing colour, of which its name is indication. Hybrid teas were represented in popular sorts, and many good novelties are also noted. Messrs. Allen are also exhibiting cut flowers of the striking new Gaillardia Tangerine, a noteworthy addition to the herbaceous border.

Two good new seedling roses, Mrs. S. F. Harvey Cant and Mrs. E. Caxton, are to be found in the rose group of Messrs. F. Cant and Co., who have selected for exhibition the leading new varieties as well as many old favourites.

The carnation exhibits add to the floral display. Vesta and Sunny are two outstanding novelties in Messrs. C. Engelmann's magnificent group, which contains nearly twelve thousand blooms. Messrs. Allwood Brothers' carnation exhibit cannot fail to attract attention, for it occupies a prominent position, is well staged and contains all the best varieties under cultivation, both in perpetual-flowering carnations as well as border carnations. Several of their new Allwoodii pinks should be noted.

The richly scented Sir Philip Sassoon is one of the principal varieties in Messrs. Stuart Low and Co.'s group. This is really a giant reincarnation of the old clove. The uniquely coloured violet-purple Sybil and the ruby red of Ruby Glow are conspicuous; while the perfume of Fragrant Rose is what the carnation world has been aiming at for some years—a development in scented varieties.

Another carnation group, which includes some of the best of the modern varieties, has been put up by Messrs. Keith Luxford and Co.

GREENHOUSES OF ALL KINDS AND TO SUIT ALL PURPOSES ARE SHOWN AT CHELSEA EVERY YEAR. HERE IS A TYPE SUITABLE FOR A SMALL SUBURBAN GARDEN.

Each year at Chelsea Show Messrs. Sutton and Sons have an exhibit which is outstanding and always commands much attention. This season their exhibit is a striking one and is carried out on a large scale. The group consists entirely of salpiglossis, one of the most showy and charming of all half-hardy annuals. There are almost fifty different varieties in this group and the plants range from dwarf varieties about 1ft. in height, to tall, stately plants almost 8ft. tall. Many new and beautiful shades can be seen and the colour of some of the varieties is most uncommon. This firm has also staged a comprehensive collection of vegetables, which includes practically every vegetable in and out of season.

Messrs. Edward Webb and Sons, Limited, have arranged a wonderful group of greenhouse flowers raised from seed—banks of calceolaria, cineraria, hybrid schizanthus, gloxinia and Primula obconica. The plants are of excellent form and glorious colourings, exemplifying in a marked degree the perfection of this firm's strains. Annuals in pots—including nemesia, linaria, clarkia, ageratum, alyssum, rhodanthe, dimorphotheca, salpiglossis, etc.—are other items of interest.

Messrs. Carters' exhibit in the main tent takes the form of one huge group, each subject being planted in big blocks, having as the background a feathery band of bamboos and a number of palms. The tall Rehmannia angulata is used as a central feature, while among other subjects forming the back of the exhibit are Clarkia Brilliant Princess and Scarlet Queen, cinerarias, schizanthus and salpiglossis. Imposing groups of their well known strains of calceolarias, begonias, nemesia, Cineraria Brilliant Prize are also included, and in the centre is a large bank of their Gloxinia Invincible Prize. Brompton stocks are also used in variety. No gardener should miss this exhibit, for it is well staged and contains many fine plants raised from good strains. In another tent Messrs. Carters have a separate special exhibit of sweet peas.

The grower of sweet peas should look among Messrs. Dobbie and Co's sweet pea group for Prince of Orange, a novelty of uncommon colouring. Its effect is quite dazzling. Other outstanding varieties are Pinkie, a rose pink pea of the Hebe type; Sunkist, an exact replica of Youth on a cream ground; and Hero, a charming shade of deep reddish rose. There are a number of tulip novelties among this firm's tulip group.

Messrs. Laxton Brothers, the famous strawberry specialists, are, as usual, exhibiting a collection of strawberries in pots and gathered fruit. These include Duchess of York, a new maincrop variety, The Duke, Laxton's Prolific and Majestic. No fruit grower should miss Messrs. Thomas Rivers' exhibit, for it is of educational value. The pot-grown fruit trees bear evidence of good culture, for they are fine specimens, carefully trained, clean and cropping well.

Excellent examples of topiary work are on show and are exhibited by Messrs. John Klinkert, the well known topiarists, who have done so much to bring this class of work to a state of perfection.

In the grounds outside the tents, Messrs. Hillier and Sons are exhibiting conifers, while inside one of the tents they have a large group of ornamental flowering trees and shrubs. Among these there are various brooms, wistarias and many new Japanese and Chinese cherries and crabs.

Orchids of all kinds are always one of the items of interest at Chelsea, and this year they are exhibited by several of the leading growers. Cattleyas and their hybrids are the outstanding feature of Messrs. Stuart Low and Co.'s group, and among these the variety Lord Lambourne, which received the award of merit on the 10th, stands out with its gorgeous golden throat and deep purple lip with its halo-like sepals and petals of rosy lilac. That easily cultivated plant the cool orchid, notably cymbidiums, odontoglossums and odontiodas, are well represented.

Apart from the floral displays, one of the most important features of the Show are the exhibits of horticultural sundries. These, as can be seen, are countless in number, and among them are all the recent horticultural inventions, the most up-to-date types of greenhouses and boilers, the latest samples of garden ornaments and furniture, as well as tools and spraying and mowing machines for every purpose. The progress of science in horticultural matters of all kinds is clearly seen at Chelsea, especially in connection with plant foods and sprays for combating fungoid and insect pests. New and more efficacious fertilisers and spray fluids are on show, and every gardener should make a point of getting full particulars of any of these materials which are likely to suit his especial requirements.

Among the exhibits of greenhouses there are structures which are adapted for general

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purposes in the amateur's garden: large houses which could be used as cool conservatories and houses suitable for growing tomatoes and chrysanthemums on a small scale. Messrs. Messenger and Co. are exhibiting an excellent conservatory which is well constructed and made of the finest material.

Heating apparatus of various types is also on show. Messrs. Charles P. Kinnell and Co. have a great variety of boilers, and among them the "Horse Shoe" Boiler Apparatus which is suitable for a small greenhouse. This firm is also exhibiting the "Norwich" Valve, which should prove of great service in any garden. Unlike the ordinary tap, it has a full-size waterway consequently, a greater quantity of water is emitted in a shorter time, and this saves the gardener much time in watering.

Messrs. R. Melhuish have a large display of tools and sundries of every description. One of their newest implements is a draw-cut pruner, which cuts as a knife and cannot bruise. They are also specialising in straw mats for the protection of strawberries—a method of protection which is far superior to the old-fashioned custom of placing loose straw around each plant.

Very useful netting supports can be seen on the stand of the House and Garden Sundries Company. The uses of these netting supports are many, and among them are the protection of newly sown lawn grass seed, flower and vegetable seed or strawberries from birds. A new patent metallic wall-plug, seen on this stand, is an excellent device and does away with all the difficulties with regard to securing plants or shrubs on concrete or cement rough-cast walls.

Major C. Walker is demonstrating the value of his Adjustable Wall Tree Protectors, his Transferable Fruit Cage and Bush Tree Protectors. He is also showing every kind of netting, including Walker's Special Frost-proof Netting.

The Papworth Industries have a good selection of garden furniture in natural teak and white enamelled wood. They also have a well designed summer house, and a useful fruit storing cabinet.

Vita Glass and its results in comparison with ordinary glass are being exhibited by the Chase Continuous Cloche Company, who are also including in their exhibit cloches, alpine plant protectors, fruit racks and bulb-drying racks.

On the stand of Messrs. Corry and Co., among numerous sundries is a new material called Corry's Ant and Woodlice Death. This is non-poisonous, and should be of great use in gardens where these pests are troublesome. Weed-killers, fumigants for white fly, and winter washes are also shown.

Furniture of every description as well as new types of bird boxes and feeding trays are being shown by Messrs. Abbott Brothers. Some of these are new in design.

An interesting feature among the sundry exhibits are the nesting boxes for wild birds shown by Messrs. A. H. Moorton, Limited; bird baths, sundials and garden ornaments are also displayed by this firm.

Again this year Messrs. Adco, Limited, are showing samples of synthetic farmyard manure made by the "Adco" process from wheat straw, garden refuse, grass, bracken and hop bine.

GREENHOUSE CALCEOLARIAS & HOW TO GROW THEM

CANDIDLY, I do not think that herbaceous calceolarias appeal to the average amateur, and I venture to say the reason is that they are plants too little understood. As a rule, an amateur's glass accommodation consists of one house, heated in winter, and a cold frame—possibly one or more. In these, he tries to grow a variety of subjects, and in the end finds that all plants are not a success when given the same treatment. Notwithstanding exigencies of space, it is possible by going the right way to work, and studying the needs of these very handsome flowering plants, to have good results. To the one who may not have been successful with them, or, who may have been prevented from giving them a trial because of their admitted tendency to attack from green fly under certain conditions, a review of their requirements from the time seed is sown to their period of bloom, is here set down.

For the amateur, a sowing of seed in June is best, and shallow pans or boxes should be prepared three parts filled with a compost made up of old loam, leaf mould and a good proportion of coarse silver sand; the whole should be thoroughly incorporated and passed through a fine sieve, then made firm in the pan, and the seed—which is very fine—scattered thinly and carefully on the surface. After sowing, scatter over it a dusting of fine soil, quite free from lumps. Cover the pan with a sheet of glass and turn this each day to remove moisture. It is best to place the pan where it can be partly shaded, and at this time (June) bottom heat will not be needed to aid germination. In about ten days the seedlings will begin to appear, when the glass must be at once removed from the pan. As soon as the second leaves show, no time should be lost in pricking off the young plants, and it is best to do so in small pots, as if pricked off into boxes and removal takes place later into pots, there is always the danger with the inexperienced in giving the plants a check. It cannot be too definitely stated that herbaceous calceolarias while in their young state must have shade. This is imperative. It is the absence of shade that causes many promising plants to die off under the hands of amateurs. They must not be allowed to become dry on any account, but should have dewings or sprinklings of water in a tepid state administered from a fine rosed can. From the thumb pots in which the plants were first located to their next stage, about a month will be necessary; then 5in. pots may be brought into use. These pots should be well crocked and over the crocks, coarse coconut fibre, or leaves must be placed, filling up with compost as previously suggested, except that to it a little old rotted manure or bone meal and old soot may be added. In shifting a plant from one pot to another, extreme care is necessary in order that the roots shall not be disturbed at all. When the plants have got over the shift, they can be removed to a cold frame having a north aspect, where air must be admitted freely. Until that time arrives, they must be kept in the coolest part of the greenhouse away from the sun. Once more it is worth while to remind the would-be grower, that shade is necessary to their well-being. Green fly usually attack plants when in a dry and consequently debilitated condition. This should be avoided, and while one ought not to over-water, no plant will grow quicker if given the happy medium of moisture.

Housing the Plants.—By the middle of September arrangements should be made for the transfer of herbaceous calceolarias to the greenhouse. A temperate atmosphere will meet their needs. By this I mean one in which the usual run of greenhouse plants are wintered. The best place for the plants under notice is a shelf not too far removed from the roof, where they will get all the possible light; and the more air which can be given them with safety the better. If a temperature ranging from about 45 to 50 degrees can be maintained, that is all the herbaceous calceolaria wants. All decaying foliage should be removed. Plants must not be packed close together, having regard to the tenderness of the leaves, and they must be given plenty of head-room as the blooming season approaches. Trusses will be much improved if, as the buds begin to appear, the plants are given weak applications of liquid manure, or an approved fertiliser occasionally. Cool treatment, which means progressive growth, should be the aim of the grower, rather than attempt to hurry them into bloom by exciting them in an overheated atmosphere.

CLAREMONT.

A FINE DISPLAY OF CALCEOLARIAS IN AN AMATEUR'S GREENHOUSE.

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OUR PHOTOGRAPHIC COMPETITION

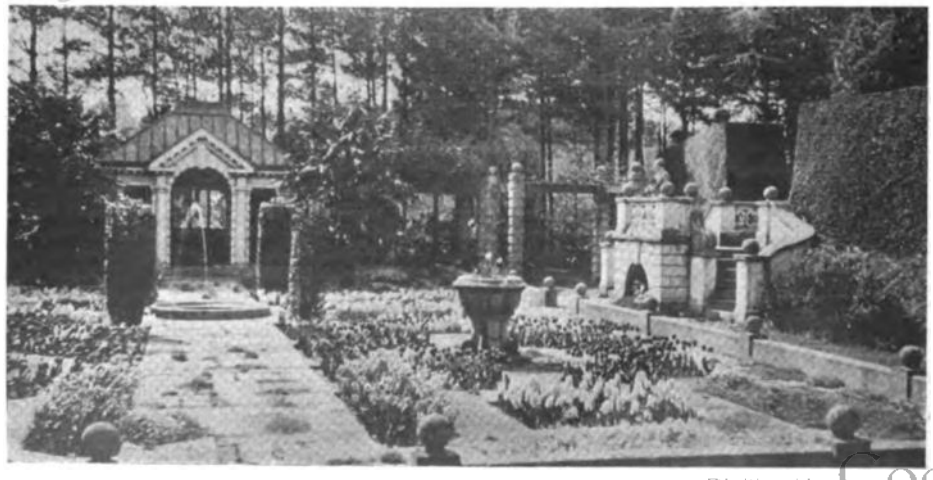
In view of the number of excellent photographs which have been received from readers, many of which are as meritorious from the gardening as from the photographic standpoint, it is impossible to publish as many as we should like. Indeed, it is with no small difficulty that we select those to which awards shall be made. Numbers deserve publication for more than one reason. We propose to retain, unless the senders signify their wishes to the contrary, a selection of the more attractive photographs and to publish them from time to time, independently of the weekly competition announcement, when awards will be made under exactly the same conditions as if the photographs were published in connection with the competition itself. In connection with the receipt and return of photographs we would direct readers' attention to Rules 6 and 7.

This paved path is always a charming sight during the spring months and from the semi-circular teak seat which is placed at the end one has a very pleasant view of the path and the garden itself. Purple and lavender aubrietias and Alyssum saxatile citrinum, the lemon yellow madwort, are planted at the path's edge, and in between the bold clumps of these, there are cottage tulips of beautiful and distinct colourings. On either side of the path there is a row of dwarf conifers which form a most attractive background for the brightly coloured perennials which trail at their feet. It makes a most attractive corner in the garden for many months of the year.

The Guinea Photograph, sent in by MRS. J. E. VICARS, *Ingarsby Old Hall, Leicestershire.*

This tulip garden was made last October out of our artichoke bed. Two of the beds are planted with Inglescombe Pink, a beautiful salmon pink cottage tulip, and two with the Darwin tulips, Pride of Haarlem, Clara Butt and William Copland. Forget-me-nots have been used to carpet the beds. — MRS. TANNER, *Nailsea, Somerset.* Award of 5s.

This photograph of the rose pergola in my garden was taken last summer. The rambler roses on the arches are of various colours, and in the beds beneath, pinks are thickly planted. Spanish irises, preceded by Darwin tulips, are interspersed among the pinks.—MR. R. M. RYDER RITCHIE, *Barford, Warwick.* Award of 5s.



The accompanying photograph shows my Italian garden in spring. A tall yew hedge 8½ ft. high and 4ft. 9ins. in width divides this portion of the garden from the rest, and curved steps lead down to it. Blue hyacinths, the early flowering apricot tulip, Thomas Moore, and the narcissi Lucifer and Beauty fill the formal beds. Sweet alyssum, aubrietias, mossy phloxes and Erinus alpinus are growing in the crevices between the paving stones, and make a charming spring display. — MR. W. WATHEN BARTLETT, *Burley, New Forest.* Award of 5s.

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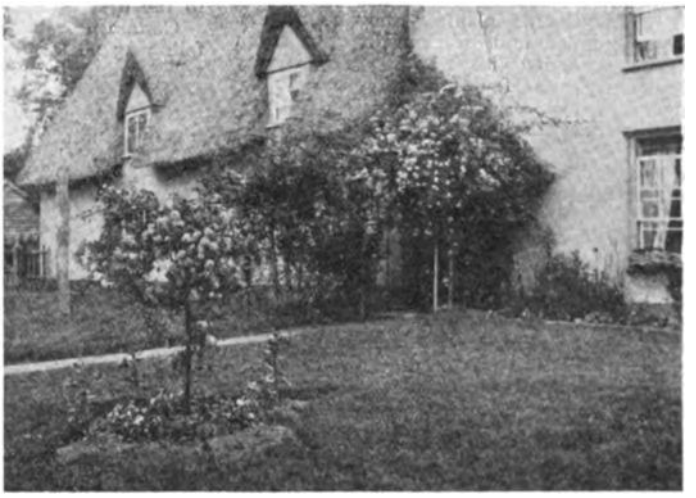
This photograph was taken in April of this year. It shows a rock garden which was a blaze of colour in the early part of the month. The purple aubrietia and pale mauve of the catmint, white candytuft, pink and red rock roses, sprinklings of gold dust, red and white saxifrages and the brilliant blue of the bell-shaped gentian all combine to make a wonderful colour scheme. In a bed behind the rockery are clumps of red, yellow and cream wallflowers, planted out with forget-me-nots. Here and there next to the blue, the bright orange of the perennial wallflower makes a delightful picture. Later on the wallflowers will be replaced by antirrhinums, while most of the rock plants will go on flowering throughout the summer, since a number of the late-flowering kinds have been planted for a succession of bloom.—MISS V. DAVIS, *Crediton, Devon.* Award of 5s.

In this garden wide steps of sandstone lead down to the rose terrace, which is bordered with lavender and standard roses. Thymes, Erigeron mucronatus and Dianthus graniticus are flourishing in the crevices of the flagstones, and the five square beds are filled with the roses Prince de Bulgarie, Mme. Butterfly and Joseph Hill. Beyond the steps, the varieties Betty Uprichard, Hugh Dickson and Mme. Alfred Carrière hang over the yew hedge. Along the trellis above a vine is growing—MRS. CRESWELL, *Ewhurst, Surrey.* Award of 5s.



This photograph shows the rose Dorothy Perkins used as a weeping standard as well as a climber. The weeping standard was budded by myself ten years ago and is still doing as well as ever and when in bloom it looks like a huge shower bouquet. The ground in which it is planted has a gravelly subsoil and it gets no special treatment beyond plenty of water in the dry season. Although this old variety is eclipsed by many of the more modern sorts it is still worth growing.—MR. R. W. THOMPSON, *near Ipswich, Suffolk.* Award of 5s.

This photograph, which was taken during last March, illustrates part of my greenhouse, in which 500 plants of cyclamen have been in bloom since last November and are still in full bloom. It indicates the long flowering period of the cyclamen, which blooms during the dullest months of the year. Good plants can be obtained from seed. The best time for sowing is during August or September.—MR. G. S. LONDON, *West Ferry, Forfarshire.* Award of 5s.

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GREENHOUSE NOTES

Bush Chrysanthemums.

How to Treat Them.

CHRYSANTHEMUMS grown to form bushes will bear large as well as small and medium-sized blooms. The plants, in bush form, are splendid for placing on the greenhouse stage or the floor of the conservatory. To be successful in the culture of these plants suitable varieties should be grown. The tall-growing sorts have, as a rule, weakly stems and need the support of stakes freely. The robust, dwarf and medium-height varieties are the best for our purpose. Examples: Mrs. W. Buckbee, Katrina, Huntsman, Cranfordia, Mrs. R. Luxford, Majestic, Mrs. G. Monro, Mrs. Spencer Chichester, Rose Day, Peace, Sulphur Queen, Mrs. M. Sargent, and The Favourite. The amateur cultivator should not attempt to grow specimen plants in small pots—those 7ins. and 8ins. in diameter, or the lower leaves will be lost. The final pot should be at least 9ins. across, a 10in. one being an ideal size. The young plants should be potted on now with a view to placing them finally, late in June, in these large pots. The compost must be one of fibrous loam, a small quantity of leaf-soil, old mortar rubble and bone-meal. It may be that the plants are now about 9ins. high, stopped and bearing three to seven shoots averaging 3ins. in length. It is very important that a few stakes be placed to the plants early so that the young shoots can be made secure to them, thus keeping, at first, the centre open, as this part is sure to fill up in due course. If the young shoots are trained outwards early there is no likelihood of them being broken off later on, when it would be necessary violently to pull them outwards. Throughout, the plants must have an open position and the pots be made secure against the risk of being blown over. To ensure perfect specimens, the last stopping of the shoots must not be later than the last week in June. Also, very close attention must be given to watering and feeding.—GEORGE GARNER.

White (Snowy) Fly in Greenhouses.

How Best to Control It.

AN enquirer in a recent issue of THE GARDEN desires to be informed of a method by which he can control white fly, which infests his greenhouse, and as this pest is all too common under glass, and the small grower is frequently puzzled to know how to get rid of it, this note describes an effective, simple and inexpensive method of destroying it. To a certain extent, fumigating with nicotine, tobacco shreds or similar substances is not very successful against white fly, while spraying with insecticides also proves ineffective. These materials, however, prove efficacious in dealing with many other greenhouse pests.

For many years past large commercial growers of tomatoes, etc., have successfully checkmated this pest by fumigating with hydrocyanic acid (prussic acid) gas. The gas is generated in the houses by dropping a certain quantity of sodium cyanide or potassium cyanide into a carefully measured amount of sulphuric acid or phosphoric acid and water. As there is much danger attached to this method, it is not one to be advocated for use by amateurs.

Potassium cyanide can also be purchased sealed up in zinc containers, all that is necessary being to drop the container into a solution of acid and water, the time taken for the acid to eat through the zinc being sufficient to allow the operator to leave the house and securely fasten the door. This method is quite good, but it entails a certain amount of trouble and precaution in the measuring out of the acid, which is extremely corrosive. More recently a method of fumigating with hydrocyanic acid gas, which is equally as efficient, infinitely easier to apply and, moreover, is quite safe for the amateur to use, has been evolved. I refer to the use of calcium cyanide, which is being marketed under the proprietary name of "Cyanogas" and can be obtained through any nurseryman. Calcium cyanide is in the form of a grey powder, and all that is necessary is to sprinkle it on the floor of the house to be treated and then leave the house, securely locking the door so that no one can enter. The operation should be performed about one hour after sunset, and it will be quite safe to enter the house the following morning, when, if correctly used, all the white fly will be found dead. Repeat after an interval of ten days or a fortnight, in order to destroy insects hatched from eggs which are not destroyed by the gas. The great advantage of this method over the old-fashioned way of fumigating with hydrocyanic acid gas, is that no acids are required, and that the gas is only generated slowly; consequently, ample time is available to sprinkle the powder and leave the house without any danger to the user.

Certain precautions must be taken and the following points should be strictly observed when using calcium cyanide:

(1) Carefully and accurately calculate the volume of the house in cubic feet, by ascertaining the length and breadth and height.

(2) Accurately weigh or measure out the quantity of material required. Start with the lowest dose advised by the makers, and then, if satisfactory results are not achieved and the plants do not suffer any injury, gradually increase the dose until the correct quantity is reached.

(3) Leave as much ventilation on the house as possible until one hour after sunset, then tightly close all ventilators and block up any holes or cracks. If the fires are on, a little extra stoking is recommended, as a rising temperature while fumigating is advisable.

(4) Do not water the plants for at least twenty-four hours prior to fumigation, and no water should stand on the leaves.

(5) It is advisable to pick any ripe tomatoes or other fruit before fumigating.

(6) A certain amount of moisture is necessary in the atmosphere to effect the release of the gas. To obtain this, damp the paths down some little time before sprinkling down the calcium cyanide.

(7) A falling temperature causes water to be deposited on the foliage, and, as the gas may be dissolved in this and result in scorching, the necessity for a rising or steady temperature will be understood.

(8) Ventilate the house as early as possible the following morning, to dry off moisture before the sun becomes at all powerful.—T. H.

Primula kewensis.

THIS delightful member of the popular primula family was, as the name indicates, raised at Kew, the parents being P. floribunda and P. verticillata. It possesses the free-flowering nature of the former—indeed, it is almost perpetual-flowering—and carries the rich yellow flowers of the latter: a happy combination which justifies its fine reputation. In habit, the plant is dwarf and compact; the leaves are a deep green, with rough margins; the flowers are carried on stout stems 9ins. to 10ins. high, in whorls; and they are, as already stated, a clear distinct yellow. Seeds may be sown at this time in a pan of sandy greenhouse compost, containing rather less leaf-mould than is usually mixed in it. Transplant the seedlings into a box of loamy compost, giving them some 3ins. or 4ins. each, and finally put them in 5in. or other suitable pots. When in the pots and established there, keep the plants near the glass; water as required, and give an occasional dose of liquid manure when the flowers are out. At all times avoid a forcing heat; these primulas are coolhouse subjects and they do best when allowed to develop in a natural way. After flowering, old plants may be divided up and grown on a second year—and even a third and fourth—although it is wise to discard plants at the first sign of deterioration, keeping seedlings in readiness to take their place.—LANARKSHIRE.

The Training of Standard Fuchsias.

FUCHSIAS are graceful plants; they bear flowers throughout the summer and early autumn months; they are equally useful for the open border and the greenhouse, and, in both cases, where the plants are grown in standard form, others can be associated with them. The present is a good time to begin the training of the plants; new shoots are growing rapidly, and the best specimens should be selected staked and supported as the growth goes on. Repotting, just at the right time, is very essential, because there should not be any check to free growth during the early part of the summer.

Fuchsias, unlike some kinds of plants, may be practically denuded of their soil in late winter and again be potted into smaller pots, where they are grown under the resting system. So we should try to obtain a strong and rapid growth of main stem now. Recently rooted cuttings will grow and form stems about 18ins. in length during the summer. Plants rooted last autumn, or those one year old, will attain to a height of 3ft. during the current year, bear pinching—stopping—of main shoot at that height and, in addition, produce a number of small shoots which will form the base for the head. Very firm potting must be avoided; the best compost is one of fibrous loam 2 parts, leaf-soil 1 part, old mortar rubble and pounded bricks 1 part. Use coarse sand if old mortar rubble cannot be obtained. To a bushel of the combined parts add a 5in. potful of bone-meal. Make the drainage sound so that water can be freely applied without causing sourness of soil. A cool position, sheltered from strong winds, but not unduly shaded, will be an ideal one for the plants throughout the summer.—HANTS.

Genistas.

AFTER the genistas have done flowering, cut back the young shoots into a shapely head, then stand the plants in the greenhouse or a close frame, and keep them well syringed. Do not allow them to get dry at the root.

When they break into fresh growth, let them have plenty of air. In June place them out in the open, and feed freely with liquid manure. Cuttings taken when the shoots are about 3ins. long may be put into small pots filled with sandy soil. These cuttings root best when kept close, moist, and shaded in a frame. When rooted, they may be potted singly in small pots. Let them have plenty of air when they start into growth again.—J. W.

Watering Pot Plants.

IT is probably true to say that more pot plants are damaged by over-watering than by being given too little. It is impossible to lay down any hard and fast rule as to how much water should be given to a plant in a pot. Generally the idea is to keep the soil just moist, never allowing it to become saturated or dust dry. Give water when

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the soil shows signs of beginning to get dry, but before it has actually dried right up. Naturally, plants require more water in the summer than in the winter. In the former season water may have to be given once, or even twice a day, while during the cold, sunless months a weekly application may be sufficient. It is important when giving water to let the pot be filled to the brim so that the soil is thoroughly moistened. Then give no further water until the soil shows signs of needing it. The practice of giving a little water frequently is a bad one, as this will, without doubt, result in the souring of the soil. When watering greenhouse plants, strive to have the water at a similar temperature to the air of the house. When, by any chance, a neglected plant has been allowed to get so dry that the soil has contracted round the sides of the pot, a little special treatment is needed. Immerse the pot completely in a larger vessel of water and then, after about twenty minutes, take it out and allow it to drain. Where the soil in the case of a potted plant fails to dry up within a reasonable time, it is safe to conclude that the drainage is at fault. Here, the only safe step is to repot the specimen and re-arrange the drainage system. If this is not done it is quite likely that the plant will die owing to the sour state of the soil.

In a general way, soft-wooded, quick-growing plants require a larger quantity of water than the hard-wooded, slow-growing kinds. Seedlings always need special care in watering, for there is a risk that they may die off from damping. By far the best way is to immerse the pot or pan to the brim in a bowl of water.

PLANT TUBS FOR THE GARDEN

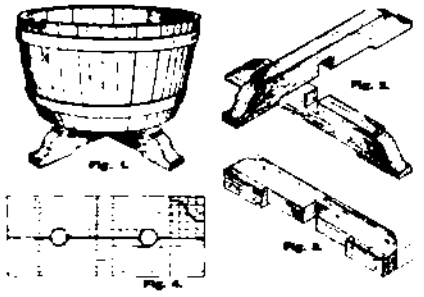
An Interesting Job for the Handyman.

PLANT tubs in oak and other kinds of wood can be purchased ready-made in a variety of shapes and sizes; but those who wish to make them may either adapt barrels or boxes of suitable sizes or make the tubs from new or otherwise prepared timber. There is generally no difficulty in obtaining suitable barrels which are quite free from deleterious matter, or small cases made of wood of substantial thickness; and, as well, suitable wood can be obtained from packing and other cases.

The best method of dealing with a round tub is shown at Fig. 1. The tub or half-barrel is supported on two cross pieces of stout material joined together in the centre as shown at Fig. 2. For a tub of 15ins. or so in diameter, the supporting pieces should be about 2½ins. by 1½ins. The shape of the ends is given as a suggestion but there is no reason why a simpler method should not be used as shown at Fig. 3. To prepare the two pieces shown at Fig. 2, the easiest way is to use a length of 1½in. thick wood about 5½ins. wide. The two holes along the centre line, as at Fig. 4, will enable the under portion to be cut away, and it will be found more convenient to mark the end shapes in the method shown.

The shaped ends should be smoothed with chisel and gouge and finished with file and glass-paper. If the finished work is to be painted, a priming coat should be applied first, or if varnished, the wood must be previously sized.

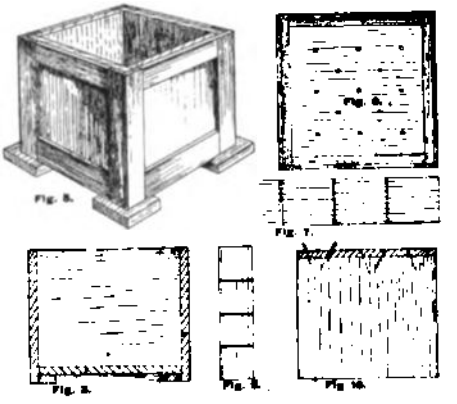
A method of utilising a small packing-case is shown at Fig. 5, the outside of the case



er box being faced with suitable strips of wood. Although it is usual to have square boxes, there is no reason why other shapes should not be used, but it is not a difficult job to cut down an oblong tinned-fruit or similar case to give a square box. The facing should be done with wood at least ¼in. thick, and the edges of the corner pieces should be nailed together in the opposite way to the sides of the box; this increases the strength of the corners. The bottom of the box should be bored with holes at intervals, as shown in the plan at Fig. 6, and then four corner feet should be prepared from thick wood, as at Fig. 7. A square tub can be made from ¾in. wood as shown at Fig. 8; but to give increased strength to the bottom, the latter should be raised ¾in. above the bottom edge, and small squares, as shown at Fig. 9, fitted in the corners before the feet are nailed on. To enable the sides of the box to hold together, the nails should be driven in on the slant, as shown at Fig. 10; this method of nailing gives a dovetail effect to the joint and is very strong.

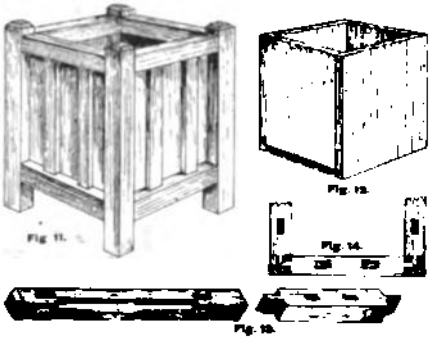
Another form of square tub is shown at Fig. 11, the interior being a square box made as at Fig. 12. A convenient size for the box is 12ins. each way, and if ¾in. thick wood is used the four corner pieces should be about 1½ins. square in section. The box is supported on rails of similar material to the uprights and tenoned in, as at Fig. 13. The tenons should be ¾in. wide, and the inner upright strips also ¾in. in thickness and about 1½ins. wide, and let in about ¾in. deep. The section at Fig. 14 shows the position of the tenons and slots for the upright strips. When the work is fitted together, the inner box rests on the edges of the bottom rail and under the top rails.

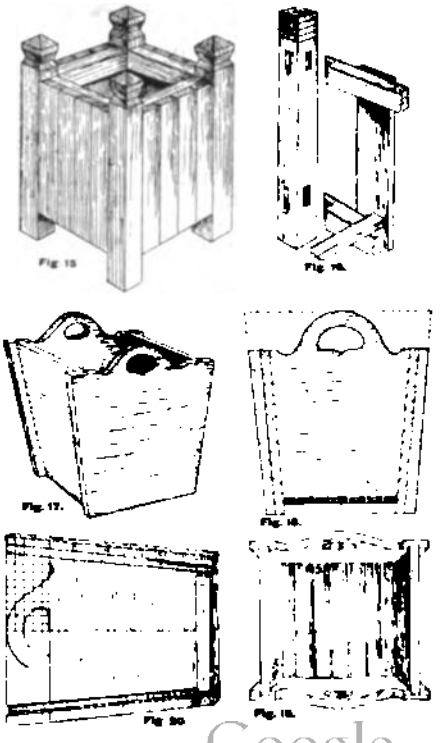
The tub shown at Fig. 15 is suitable for large shrubs, the corner pieces should be about 2ins. square in section; the rails, as shown in the details at Fig. 16, are 1½ins. thick and from 1½ins. to 2ins. wide. The outside boards should be ¾in. thick, and



the bottom formed with strips about 1½ins. by 1in., depending on the size of the tub; they should be spaced about ¾in. apart. The tops of the uprights are easily shaped with a sharp chisel and will give a neat finish to the work.

The tub shown at Fig. 17 is suitable for small shrubs or large flowering plants to be placed in the porch; the handles are provided to make it portable. The section at Fig. 18 shows how the bottom is made, and the plan at Fig. 19 shows the sloping sides. The method of making the two handled sides is shown at Fig. 20; the grooves should be equal to the thickness of the wood used—¾in. is suitable; the total length should be about 18ins., the width across the top 16ins. and at the bottom 13ins. The grooves should be not less than ¾in. away from the edges, and the handle portion 2½ins. to 3½ins. deep. To obtain the shape of the handle, divide the space into five equal parts, form into squares, and then transfer the lines as indicated. The shape of the handle can be worked out with a bowsaw, but if this tool is not available, a few centre-bit holes bored close together will remove all the waste, and the smoothing can be done with a spokeshave. The bottom of the tub, made of strips of wood about 1½ins. by ¾in. in section, is nailed to two stout fillets, as shown in Fig. 20.





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THE FRUIT AND KITCHEN GARDEN

Intercropping Lettuce.

READERS who have a very small garden must make the most of it and raise as many vegetables as they can in the restricted space; thus it comes that intercropping is generally advised and frequently practised in such places. The idea behind intercropping is easily understood; a slow growing crop which does not monopolise all the ground until late in the season, has, planted in among it, another crop which matures quickly; the latter is harvested before the former begins to make extensive demands on the space. The same idea holds where a late-maturing crop is planted amid early maturing vegetables. Of all vegetables, the one which lends itself most readily to intercropping is the lettuce. Inside the greenhouse, in early spring, lettuce can be raised between tomatoes in the greenhouse border. Raised as seedlings in spring under glass, plants of lettuce, duly hardened off, may be planted outside in April and May, between cabbages, savoys and cauliflower. Rows of seed may be sown between sprouts and thinned out in due course; lettuce may also be planted out in the shallot border in June and it is common to see them grown between rows of peas and on the ridge of the celery trench. Lastly, a leek border, prepared in April, say to take leeks in June, may be sown down with lettuce when made; leeks can be planted in it while yet the lettuce are there, the lettuce being removed long before the leeks grow large. When intercropping, see that the soil is rich and don't overcrowd; overcrowding defeats its own end and intercropping must not mean such congestion that neither crop is a success.—CLYDESDALE.

Growing Cucumbers in Frames.

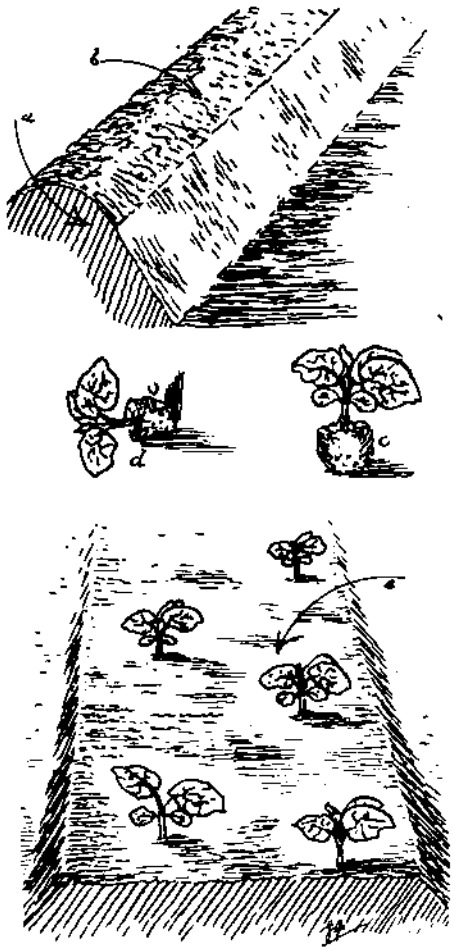
Stop and Pinch at the Right Time.

THE extent to which a cucumber plant will fruit depends to a large degree on the stopping of the shoots at the right time. As soon as the plant has formed, say, five or six leaves, it must be stopped by pinching off the top. Side shoots will then form and these must be encouraged until they show fruit, which is generally after the development of the third leaf. Stop each of the side shoots at the second leaf above the fruit. Now and again the side shoots do not show fruit at the third leaf. In such cases stop the shoot at the fourth leaf and others will form on which fruits will show. These in turn must be stopped at the second leaf above the fruit. All along the new shoots should be stopped in the same way. The plant will rapidly fill the frame with foliage and fruit. After gathering the first crop of fruit, the plant will show signs of exhaustion. At this point good results are secured by cutting away a good many of the older growths that have produced fruits. Other shoots will quickly form and these will, in turn, produce fruit. Even a third crop, somewhat inferior in quality, may be obtained by again thinning the plants after the removal of the second crop. It is an excellent plan to give cucumbers a top-dressing of new soil once a month during the growing season. To keep the soil properly moist when the frame is full of foliage and the plants are bearing fruits, water will be needed two or three times a week. It is a very good idea to let the ordinary watering alternate with applications of weak liquid manure. Soot water is excellent for cucumbers and a very weak solution of guano might be employed with good results. Never allow the fruits to hang overlong on the plants. After they are fully grown, cucumbers rapidly lose their juiciness and their presence on the plant will check the production and development of others.

No shading will be needed after the plants are established, but they should be syringed twice a day in the morning and again in the late afternoon when the frame is closed.—S. LEONARD BASTIN.

Vegetable Marrows and Ridge Cucumbers.

AT the end of May preparations are made for planting out vegetable marrows and ridge cucumbers in the open borders. In the southern counties they may be safely planted on June 7th; in the northern counties it will not be safe to do this work before the



middle of June. The plants must be properly hardened in a cold frame by practically full exposure by day and tilted lights over them throughout the night. Fewer mistakes are made in these days than formerly regarding raised, dry beds in the open air. Sound judgment should be the rule in this matter. If the situation is low and naturally damp, then a raised bed, such as the one shown at *a* and *b* would be the right one to build up, but in normal conditions a low, flat bed, such as the one shown at *e* would be the best. In high, naturally dry gravelly gardens the bed should be of a rich soil formed in a hollow. Soil is dug out forming a long, narrow hollow about 9ins. deep—making a total depth of 18ins.—and good compost is put in to a depth of 1ft. Then the question of compost must be taken into consideration seriously and, along with it the materials for the bed. Usually, strawy litter forms a heap; a few inches of poor soil placed on the surface forms the rooting medium. Now, I would make up the bed without using any strawy litter. Good, well rotted manure and equally good turfy loam, mixed and employed in bulk, rather than sparingly, form the ideal bed in which to grow these plants. Vegetable marrows may be planted 4ft. apart; ridge cucumbers, 3ft. The distances will allow room for free growth. Put in the plants in an upright position as shown at *c*, *c*, and not as shown at *d*. The stems should always be clear of the soil, then there is less danger of decay. The branches will form and can be trained evenly on the surface of the bed.—G. G.

Late May in the Vegetable Garden.

RUNNER beans that have been raised in boxes should be hardened off now and planted out in the prepared situations. The planting should be carried out alternately in double rows, allowing from 6ins. to 9ins. between the plants. Dust the soil round the plants with soot and lime to keep away slugs. It is just as well to put the sticks in straight away and these should stand quite 6ft. or more clear of the ground. Hardened plants of vegetable marrow may be put out on rich soil, although there is no need to set them on manure heaps. About 4ft. should be allowed between the plants. Water frequently and remember that, if the nights are cold, it is well for a week or so to protect the plants with inverted pots. In fairly good soil it is a mistake to add any manure to the position for the outdoor tomatoes, as this induces a rank growth of leaves. A sunny wall is an ideal situation and take care to support each plant with a good stake. The main crop varieties of potato should be hoed directly the rows can be discerned and any hard lumps of soil broken up. In doing this work avoid getting too near to the plants as the roots are easily damaged. Main crop peas should now be sown in well prepared ground. Rows sown earlier are in need of sticks and these should be given at once. For early use celery plants will now be ready for removal from the boxes to well prepared trenches. Water the boxes before taking out the plants and set these firmly not less than 9ins. apart, preferably in single rows. Water in well and keep up an abundant supply of moisture. Further sowings of dwarf beans may be made for succession. Undertake the thinning of all crops which need such treatment in good time. Vegetables which require thinning include parsnips, carrots, salsafy, onions, beet, turnips, etc. Avoid, if possible, thinning when the soil is dry as when it is in a moist state the plants left are not so likely to suffer from the disturbance. Pass the hoe through the rows when the thinning is completed.

Thinning Bunches and Training Shoots of Vines.

DIRECTLY the hot weather comes the shoots of the grape vine grow very rapidly. In a very short time they become a tangle if not properly treated, and then the amateur cultivator feels at a loss as to how he should deal with them. After the vines have flowered, the berries swell rapidly, too, and these are soon spoiled if not thinned out at the proper stage. They should be first thinned when of the size of early, round-seeded peas. Use a forked stick and clean grape scissors. Do not touch the berries with the fingers. Begin at the bottom of the bunch, working upwards, finishing at the shoulders, which may be neatly tied up if they are large. All over the bunch at the points there are three berries and the central one should always be retained. A novice usually cuts it out. More severe thinning may be done near the bottom and less near the top, because there is more room at the

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top for the berries to swell. First remove the small, non-seeded berries and be sure that they will not be left too thickly near the centre of the bunch. The final thinning out should be done later and before there is any overcrowding of the berries. The shoots, when the vines are in flower, should not be forcibly tied down to the wires as they are, at this stage, quite tough and likely to part from the main rod. When engaged in stopping and tying down the branches, have in mind the fact that the whole of the roof space should be covered with healthy leaves, but in an uncrowded state. Usually it is correct to stop the shoot at two joints beyond the bunch. But if more space must be filled, then stop beyond three joints and just beyond the first leaf on the sub-lateral shoots. Thus, a well managed grape vine should consist, at this stage and onwards, of the main rod, side shoots, sub-laterals and bunches.—HANTS.

Thinning of Fruit.

THINNING of fruit is a necessary operation where the finest fruits are to be obtained. If all the fruits that set were allowed to mature, the crop would consist of small-sized fruits, poor in colour and flavour.

Apples and Pears.—When the fruit is set, thinning should commence. First remove those fruits which are the smallest and ill formed. The second thinning should take place after the June drop, and the fruit should be thinned to one or two fruits per spur. The effect of such thinning will be to give a better colour to the fruit, as well as an increased size, and to reduce the tendency towards biennial bearing.

Plums.—Plums should be thinned at two operations, one when the fruits are the size of a nut, removing the smallest and ill formed fruits, and again when they are the size of a small walnut. This time remove badly shaped and badly placed fruit, and any pairs. The fruit left to mature should be 2–3ins. apart or more, depending on the variety.

Peaches and Nectarines.—Thin at two operations, the size of a small marble and again at the size of a walnut. Leave fruit on the top side of the shoot only, spacing at 9–10ins. apart.

Apricots.—Treat as peaches, but the final distance for thinning should be 4–6ins., according to the variety.

Gooseberries.—Gooseberries can be thinned at several times, starting from the time when the thinnings will be large enough for use as pie fruit. The final distance apart should be 1–2ins. for the finest fruit.

Feeding Pot-Grown Strawberries.

FROM early in May to mid-June amateur cultivators should be busy attending to the bulk of their strawberries growing in pots. It seems to be a very easy matter to feed a strawberry plant growing in a pot. But much care and watchfulness are needed. If a plant becomes very dry at the roots the berries, when ripe, will lose much flavour and also lack colour. The flavour will be impaired if manure water is applied while the soil is very dry. The correct way to feed is to apply clear water first and clear liquid manure about one hour afterwards, before the soil gets dry again and while it is in a perfect state to retain the manurial properties for the benefit of the plants and their fruits. If these conditions are observed, food may be applied daily and on to the full maturity of the berries.—CHRISTCHURCH.

Checking Celery Fly.

AS soon as the celery plants have been set out, steps should be taken to stop the celery fly from laying its eggs on the leaves. Anything that makes the foliage unpleasant to the insect will help to check the pest. Even in districts where celery fly abounds, the crop may be kept free from the pest by syringing with quassia water twice a week and dusting with soot once a week. The treatment must be kept up until the plants are fully grown and are ready for earthing. Where it is evident from the blistered appearance of the leaves that the grub of the fly is at work, a simple means of destroying that particular mischief-maker is to crush between the thumb and finger. Leaves that are very badly affected should be burned.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

AN all too brief spell of delightful summer weather raised the hopes of Scottish gardeners whose work has been hindered by the vagaries of our northern climate; but, alas, they again experienced disappointment, for the high temperature of the week-end was followed by frost on successive mornings and vegetation has received a further check which betokens a late season in various districts of the country.

The young foliage on the rose bushes was developing rapidly after pruning operations were completed, but it has been blasted beyond recovery. The best thing to do under the trying circumstances is to rub off the brown coloured or burned leafage and cut back the stems beyond the point of discoloration. This treatment will encourage the lower buds to break and provide bloom a little later than would otherwise have been the case. Last year when my roses were also frosted about the middle of May I subsequently discovered that the second growth which succeeded the foliage destroyed by the frost went blind and was flowerless during the first period of bloom in June–July. On enquiry I discovered that other rosarians in the west of Scotland had a similar experience, but it would be interesting to know from readers how their bushes were affected.

Sweet pea germination results have been very irregular this season, especially among amateurs who make a practice of sowing the seed under glass in early February. A well known competitor who resides in a county near the Border states that the novelties, eight in number, yielded a full percentage, while in other parts of the country fairly experienced gardeners only got four plants out of packets containing ten and twelve seeds. Another correspondent likens his germination results to a curate's egg which was good in parts. This year I am growing thirty-seven varieties, twenty-five of which are novelties, and the percentage of germination works out approximately at 93 per cent. An analysis of the figures shows that the new varieties of sweet peas have germinated better than the old, and it was the ratio of loss in the latter group that was responsible for the comparatively low average. The seeds were subjected to the same treatment; they were germinated in gentle heat without chipping, but those seeds which were found to be sound were chipped and put back in the soil where they came away later. All the others had rotted. As the result of previous experiments it was found that seeds germinated better in mild heat than those sown in boxes and germinated in a cold frame.

The schedule of the Scottish Pansy and Viola Association, which has just been issued, contains the names of fourteen experts who are to judge the new varieties at the three meetings to be held in Glasgow on July 2nd and 23rd and August 13th. A maximum of twelve points is allowed by each judge, and any variety receiving three-fourths or more of the total number of points is awarded a first-class certificate, while those receiving one-half and up to three-fourths are entitled to a certificate. An important condition which might be followed with advantage by other societies provides that any judge exhibiting blooms is to retire from the room after handing his blooms to the secretary. The following varieties were awarded certificates of merit in 1926: Fancy pansies—McFadyen's Yellow, Doreen Dow and Mrs. Robert Brooks (McFadyen), Mrs. Thomas Brown, John Martin and Dan Cochrane (Cochrane), Jim Harvey (Stevenson), Bailee McEwan (Dobbie). Violas—Abbey Craig, Norwood, Easdale and Fereneze (Howie), Mrs. Jacob Bell, May Gray, and Milton Beauty (McFadyen), Peggy Tennant (Tennant), D. Stevenson (Stevenson), Mary Raeburn (first-class certificate) and Rita Cochrane (Cochrane). The raiser's name is given in parentheses.

A first sowing of French or dwarf beans may now be made in fairly rich light soil. Owing to their bushy habit the plants require plenty of room for development, and the production of satisfactory crops. A foot between each row is not too much, and in sowing in drills 2ins. to 3ins. deep it is a sensible plan to allow for losses by placing the seed 6ins. apart and afterwards thin out the plants to 12ins. This system does not lead to waste, as the surplus can be transplanted to other quarters, but some gardeners favour the alternative method of dibbling the seeds in to the required depth and width. When they are sown too closely, as they often are, the plants cannot grow properly and under crowded conditions there is a tendency to rot off in a wet season. Moisture is essential after the first pods begin to swell, but artificial watering is not necessary when the hoe is frequently used. As the pods become tough if they are allowed to remain too long on the plants, they should be gathered while they are young and crisp. It is only in that condition that they are fit for table use, and the facts should not be overlooked that frequent pulling maintains the productive power of the plant, and a sprinkling of nitrate of soda during growth increases the crop.

In order that a succession of bloom may be available for cutting throughout the summer the annual form of gypsophila should be sown in small quantities at intervals of two or three weeks. When one sowing is made the flowers are past long before the perennial type comes into flower in August, and there is always the danger of wind or rain damaging the slender stems and causing premature decay.

As the planting out season is now at its height in Scotland, here are a few suggestions for the formation of colour schemes in beds or borders of the showy antirrhinum. For beds of self colours Bonfire (orange and flame), Enchantress or Nelrose (pink), Spitfire (orange scarlet) and Golden Monarch (yellow) offer a choice selection; while Mauve Beauty associates with Canary Yellow or White, and Orange Scarlet goes well with Charm (rose pink). A border composed of Tom Thumb varieties in front, intermediate sorts in the middle and a background formed of tall specimens has a delightful appearance, while a distinctive decorative effect may be obtained by using Tom Thumb varieties as a carpeting and planting the tall sorts in rows or irregular intervals in a circular or central bed. ST. MUNGO.

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WHAT OUR READERS SAY

A SAXIFRAGA FOR EDGING.

SIR,—It is surprising to me that the very useful Saxifraga Andrewsii is not more generally used. It is what one might term "a good all-rounder," and that qualification merits the keeping of a stock of it in the nursery part of the garden. One purpose for which it may be used is the furnishing of parts of a newly made rock garden where it will be no eyesore or disgrace to the owner until such time as he sees fit to raise or purchase plants of a more aristocratic grade.

Furthermore, if an edging is wanted for a border, S. Andrewsii, in addition to being tidy, is of sufficient vigour to suit itself to the occasion. The leaves, which are markedly serrated, are arranged in such a manner that the whole form a funnel-shaped rosette, the outer leaves being from 2ins. to 3ins. in length.

The flowers are carried in a like manner and are similar to those of the better known London Pride (S. umbrosa). As for the soil requirements, try the soil at your disposal; if S. Andrewsii refuses to grow in it, then I feel sorry for the prospects of any other cultivated plant in that soil.—W. HOWELL, *Dawlish*.

A RAVINE FOR ROCK PLANTS.

SIR,—This experiment, which I carried out in my own garden, may be of interest to a few of your readers.

Feeling sorry for the tiny rock plants, so overshadowed by their tall neighbours in our small town garden, I decided to give them a corner to themselves. A rockery was out of the question; but I thought of the possibility of a "ravine." I dug a trench 12ft. long, varying the depth from 15ins. to 24ins. By adding some good soil at the sides (that from the bottom of the trench was removed altogether), I deepened it in places another 8ins., sloping it away here and there and making it from 15ins. to 30ins. across.

The sides were made secure, irregularly, with grey stones, and some well weathered bricks of delightful shade; these, placed two, sometimes three, deep, were ideal for trailing plants, which I tucked behind and around them as I went on, making pockets for the larger plants higher up and adding a few small ferns on the shady side of the trench. At the end of it, which came up against our neighbour's fence (this was covered with an American blackberry) I planted catmint.

Lilies of the valley, white foxgloves, southernwood and chrysanthemums were already growing round about and will make a good background later on. The bottom of the trench is paved with fairly large stones that I picked up on the beach in the winter; they are fragments of slate, polished by the action of the waves to all shades of grey and blue.

Though only a few weeks have passed since this miniature ravine was made, it is a cheerful little place, occupied by what promises to be a really happy and flourishing rock plant family.—SARAH ROBSON, *West Hartlepools*.

SOUTH AFRICAN CHINCHERINCHEES.

SIR,—During the month of December, 1924, my employer had seeds sent to her from South Africa of Ornithogalum thyrsoides, also known by the name of "Chincherinchee."

These seeds were sown as soon as received, the resulting plants being grown on with warm greenhouse treatment mainly, till about the middle of last month (April), when they came into flower; practically every plant in a batch of about four dozen throwing up its spike, to a height of 2ft. to 3ft., on which the flowers are numerously produced.

The flowers are pure white, with a dark centre and are very effective as cut flowers, in which state they are very durable, lasting a long time in water.

Some time in 1925 we received a further consignment of seed labelled "Ornithogalum spp.," presumably several species of the genus. These were sown and grown in a like manner to the first lot, but the plants have not grown so freely.

Three plants have just recently bloomed, the spikes being much shorter than in the case of O. thyrsoides, and the flowers less numerous, and of a golden yellow colour, very much admired.

The species O. thyrsoides was first introduced to this country from the Cape in 1757, so that it is not a new plant.

It has, according to "The Dictionary of Gardening," two or three varieties, the type being yellow, with white and varying yellow shades in its varieties.—R. DEAN, *Basingstoke*.

THE SLUG PEST.

SIR,—Your correspondent, Cecil M. Bailey, Belfast, rightly calls attention, in your issue of May 14th, to the difficulty of raising eschscholtzias out of doors in autumn owing to the slug pest. This trouble is not common to the north of Ireland or to any particular plant as your correspondent points out. The most disappointing feature of the whole business is that one has been able to do so little to check the pest or its ravages. Lime or soot, particularly the former, help, but only if applied two or three times in succession on a damp night. One dressing is of little use as the slugs are able to throw it off their bodies by means of the mucus or slime which they exude. They are, however, unable to repeat this process more than twice or thrice at short intervals, so that three fair dressings given at dark on a damp night will kill them. I was over in Ireland during April and having the pleasure of meeting some of my gardening friends there told them of my experience with the copper sulphate and kainit treatment recommended as the result of experiments by the Agricultural Department of Leeds University. For a long time I have suffered dreadful damage from huge numbers of slugs. The liming as indicated above reduced them but I could never get free from them. The University advise a combination of sulphate of copper and kainit in the proportion of 1 to 20 or say 5lb. to 6lb. of copper sulphate to 1cwt. kainit, as being deadly to slugs, and the proportion of copper sulphate is not sufficient to damage crops.

I mixed 6lb. of copper sulphate and 1cwt. kainit and used most of it on a little under half an acre of garden land. The immediate effect was marvellous and I advise any reader who really desires to get rid of the pest to do the same. There is no doubt of its efficacy. The best time to apply it is at night when the slugs are on top of ground, preferably on a damp night. There is no difficulty in doing this when the moon is on duty. The preparation appears to have a paralysing effect upon the brutes, which quickly die. It seems that copper sulphate causes the slug to writhe and cover itself with the dressing, when once it touches the upper part of its body.—L. M. MARSHALL, *Worcester*.

DAMAGE BY FROSTS.

SIR,—From reports the effects of the recent frosts have been disastrous in many parts of the country and the extent of the damage is just beginning to be fully realised. It may be of interest to numerous readers to compare notes with this list of shrubs more or less damaged in R.H.S. Gardens, Wisley, with the destruction caused in their own gardens.

In comparing notes I may state we registered the following degrees of frost, *viz.*, on the morning of April 27th, 15 degrees, 28th, 14.8; 29th, nil; 30th, 12.0. These figures are the grass register. The weather station is situated on part of the highest and driest ground in the gardens and I have no doubt from the damage done in the lower part of the gardens that the register would have been much greater.

Collections of pears and apples surrounding the weather station have not suffered extremely as, fortunately, they were thoroughly dry. Gooseberries are left with about half a crop. Black currants on this ground have not suffered so severely as those on the new trial grounds. The early flowers of iris on the trial ground which is lower down were all destroyed, likewise all early shoots of roses in the recently planted rose garden. But it is when we come to examine the shrubs in the wild garden and recently planted shrub garden, that we begin to realise what this means to the display of flower and crop of berries during summer and autumn. Of the large collection of berberis few are left untouched, unless the evergreen section; such varieties as B. Sargentiana, B. Soulei, B. replicata, B. Jamesiana, have the appearance of being scorched with fire, even the accommodating B. Wilsoni and the large collection of hybrids have suffered in many instances beyond recovery for the season.

The majority of the varieties of deutzias have nothing left but brown, withered shoots, the same may be said of philadelphus, viburnums, stranvæsias. Of buddleias the one that seems to have stood the ordeal best is the beautiful B. alternifolia. In the wild garden the early growths of rhododendrons are all more or less destroyed completely, settling the question of flowering next season. We will have to wait for two years before we can see flowers on such kinds as Rhs. decorum, Loderi, sutchuenense, Fargesii and many other species.

Probably the greatest loss at the present time is felt in the azalea garden. These always create a beautiful display during May, and are looked forward to by visitors as one of the chief features of the Gardens for this month. Many will be disappointed this year, as few buds have been left undamaged and much young growth has been killed. Cercidiphyllum japonicum and Hamamelis arborea have suffered the same. As have young growths on heaths, many herbaceous plants, such as astilbe, polygonum, cimicifuga and a host of others, which make a long wearisome list.

Pyrus in many varieties, although in the same exposed positions, have not suffered to any extent, nor have Berberis stenophylla and its varieties, although in full flower during that period. Our only consolation is that all was dry, otherwise our tale of woe would have been longer.—R. F., *Wisley*.

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SHRUB NOTES

A Valuable Evergreen Shrub.

ESCALLONIA LANGLEYENSIS is a valuable hybrid derived, according to "Hortus Veitchii," from the intercrossing of E. Philippiana and E. macrantha, sometimes known in gardens as E. sanguinea. It is an elegant evergreen, but occasionally during a cold winter it will lose most, if not all, of its leaves, although I have never known it injured by frosts, even when growing in an exposed position. It will attain a height of 8ft. or more, the general character of the plant being semi-scandent, and for this reason it is seen to advantage if planted on a slightly elevated piece of ground. The slender elongated branches are furnished with small oval leaves of a glossy green, and the bright rose carmine flowers are produced on short, leafy twigs, the whole shrub when in bloom being a glorious sight. The flowering period is extended over June and July, and even later, but in the Chepstow district it is usually at its best in June.

This escallonia is well adapted for walls and fences, but owing to its manner of growth the best effect will not be obtained if it is kept close to its support. If employed as a wall plant the main branches are tied to the fence or wall, and the secondary growths are allowed to develop without any hindrance. This will permit the plant to grow more or less naturally, and its free-flowering qualities and gracefulness will not be curtailed.

When any pruning is needed, it should be done immediately after the flowers are over, and it consists in thinning the shoots and cutting back others that may be encroaching on their less vigorous neighbours.

E. langleyensis is readily increased by cuttings in August if a cold frame is available, while they will also form roots in the open if inserted a month or two later. Like most escallonias, it can also be propagated by layers, which may be done at almost any period.—T. W. B.

Ceanothus Gloire de Versailles.

MANY of the ceanothuses are somewhat tender, but several of the hybrids raised on the Continent from C. americanus, C. azureus and C. ovatus, are quite hardy, especially the one quoted above. Although often recommended as a wall plant, it makes a much finer specimen when set in the open, where there is ample space for development and, moreover, where it can be seen on all sides. Such a specimen is a fine sight during the summer months and although the best display will be in July and August, a few sprays will continue to appear throughout the autumn. This ceanothus will form a well shaped, rounded bush 3ft. to 5ft. high, it is deciduous and will succeed in any good garden soil if afforded a light, open situation. The rich blue flowers are produced in clusters and this delightful hybrid is undoubtedly one of the best. Annual pruning is advisable and this should be carried out in March or early April. It consists of cutting back last year's growth to two or three eyes and by this means the plant is kept within bounds, while strong flowering shoots are encouraged. No doubt it would exceed the height already stated if left unpruned, but this is not advisable, especially in small gardens.

Propagation is effected by cuttings and these will form roots in a cold frame during July or August. A mild hot bed is very useful for increasing this type of plant. So far this ceanothus has not been seriously injured by frosts, and even if it is killed back slightly it is only the wood that is removed at the time of pruning, therefore no harm accrues. A very free bloomer, C. Gloire de Versailles is certainly among the first half dozen of our hardy summer-flowering shrubs and, moreover, it is in bloom when blue flowers are not over plentiful. A most beautiful and desirable shrub.—B.

Some Shrubs to Prune After Flowering.

THE art of pruning flowering shrubs is apparently little understood by the great majority of amateur gardeners. They either prune all in the same manner, during the winter or early spring, as they would roses and fruit trees, or else they do no pruning at all. In either case the best results cannot be obtained. Many shrubs flower during the spring and early summer months, and the cutting back of these early in the year results in the loss of flowering wood.

Shrubs must always be pruned judiciously—in comparatively few cases is it necessary to "spur" them back as is done with many fruit trees—in a large number of cases a careful thinning out of weak and overcrowded wood is all that is required—while certain shrubs, such as magnolias, are better left unpruned, and with others, for example, rhododendrons, it is only necessary to remove any odd, straggly shoot which may spoil the shape of the plant.

It is the purpose of this note to indicate certain shrubs which require attention in the matter of pruning, so soon as the flowers have faded.

Ceanothuses of the spring-flowering section, such as C. rigidus, C. Veitchianus and C. divaricatus, are usually accommodated on walls, these may be spurred hard back.

Clematis montana, another useful wall shrub, should have the old flowering wood removed to the place from which the new growth is pushing.

Cydonia japonica, prune back specimens on walls and trim bushes in the open to keep them shapely.

Deutzias require little pruning beyond the removal of an old branch or so, right down to the base.

Deirvillas (weigelas), remove a proportion of the oldest growths right down to the base and cut away the tips of the remainder to a point from which strong, new growths are appearing.

Jasminum nudiflorum, the flowering growths—other than those required to nail in, to extend the area covered by the plant—should be pruned to within a short distance of their base.

Kerria japonica requires treating in the same manner as the diervillas.

Philadelphus, of the Lemoinei type, may be well thinned out, cutting away the shoots which have flowered.

Prunus japonicus fl. pl. and *P. triloba fl. pl.* both require similar treatment. They should have the growths which have flowered cut back to within 2ins. of the old wood.

Ribes sanguinea (flowering currant) only needs a little thinning out of overcrowded or weakly shoots.

Syringas or lilacs should have the young growths thinned and the faded flowers removed.

Spiræas of the spring-flowering class should be thinned a little as may be required. S. Van Houttei being a good example of this section.

Wistarias may have any shoots not required for extension purposes spurred back several times during the summer season.

Cytisus and *Genistas* (brooms) should have the shoots cut back almost to the wood of the previous year's growth; by this means they are not allowed to become "leggy."—T. H. EVERETT.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

The Value of Stones in Assisting Root Formation.

When striking outdoor cuttings of many plants, roses included, I have found the use of flattish stones, pressed firmly about their base excellent in result. Not only do the stones keep the soil in an evenly moist condition, but they prevent disturbance from birds. Shrub cuttings put in a sunny corner strike with great success. In such a situation the warmth keeps life in the cells above ground and the firm, moist earth assists energies below. Recently, when dividing primulas in a bed, the stones came into play. When top-dressing plants in rock borders stones were laid here and there upon the fresh soil. It is, of course, not necessary to retain them permanently. An interesting mesembryanthemum (M. equilateratum), sent me last summer from Cornwall, where it grew wild on cliffs, responded in an extraordinary way to this method. Planted on a sunny slope, it sent out long shoots and flowered in what would have been considered an impossibly short period. Again, a cutting of one of the shrubby veronicas and two shoots of this mesembryanthemum were potted in some fairly light compost in a 3in. pot and three small flat stones were packed on top. Both plants have successfully rooted.—M. C.

Early Tomatoes Out of Doors.

Last year, when I had planted my tomato plants out of doors, I put some old big frames over as many as I could, only putting the lights on at night and on stormy days. I continued doing this until the plants had reached the glass; then I removed the lights altogether, and from the plants thus treated I was able to pick the fruit four or five weeks earlier than from those plants which had to start their outdoor life without the protection of frames.—E. B.

To Make a Good Liquid Infuser.

Procure an old tin with a tight-fitting lid, perforate with small holes, pass a piece of wire from top to bottom the same length as the tub is deep. Fill with the manure required, and stir by lifting the tin up and down by the piece of wire. This prevents coarse pieces stopping up water cans, and the tin does not rot like an old sack.—H. B.

How to Keep Tools Clean.

All practical gardeners know the value of clean tools; but I am afraid that often, at the end of a busy day cleaning is only rather badly finished. Many will call to mind the sand boxes in camp in war-time, where we "cleaned" our knives by pushing them through the sand. Keep a sand box in the garden with some sort of cover to keep it rather dry, and when the rough dirt is scraped off trowel or fork or spade, give the tool a good digging in the sand and you will be able to put it away clean and smooth, ready to work smoothly when required. I have found no cleaning method so quick and handy. The sand can be used for any of the usual garden needs, refilling the box being an easy matter.—N. D.

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

How to Prepare a Frame for Striking Cuttings.

I have a cold frame which I desire to bring into use. What soil and other materials should I require for cuttings and seeds?—H. M., Blackpool.

The frame should be made up as follows: A layer of 3ins. or 4ins. of broken brick and crocks as a drainage layer, covered with a layer of moss and a few leaves, 2ins. to 3ins. deep. This layer will prevent the sand and soil on top from trickling down into the drainage. The final layer should consist of sandy loam, which is rougher towards the bottom, becoming much finer towards the surface, and should be finished off with a dressing of 2ins. or 3ins. of sharp sand. The soil should be on an average from 6–8ins. in depth. This should prove quite suitable for raising cuttings and seeds.

Transplanting Streptosolen and Plumbago.

I have large plants of Streptosolen Jamesoni and plumbago, at present in a greenhouse. I am going to another house, so must move them. Would they grow on a sheltered south wall, or would they want a veranda or other protection of glass?—E. K., Salisbury.

Provided the south wall is sufficiently sheltered there should be no harm in planting out Streptosolen Jamesoni and plumbago. They would do all right in the summer; but for the winter they would need to be transferred under glass, as we do not think they would stand the winter, even in Salisbury, if left out of doors. They will certainly do better if they can have the protection of a veranda.

How to Strike Geranium Cuttings.

Will you kindly tell me when and how to take geranium cuttings (Paul Crampel), and should they strike in a cold greenhouse?—A. R., Birmingham.

The geranium cuttings should be about 5ins. long, severed just below a joint, the leaves from that joint being removed. Insert the stems 2ins. deep in pots or boxes filled with a light, sandy compost. Water once thoroughly, then repeat this operation only just before the soil is getting dry. The cuttings will soon form roots in a greenhouse.

Naturalising Hardy Cyclamen.

I wish to naturalise Cyclamen hederæfolium, or other September-flowering cyclamens, under trees which give a semi-shade: I think they will do there, as they flourish already near-by, but the ground is rather barren and shallow, and I would like to help the roots to grow as fast as possible, as they are naturally slow-growing. I have three or four loads of earth carted from a garden, which can be used, and about a load of leaf-mould. Is there any particular manure which it would be well to mix in? Old mortar rubbish is difficult to get. Possibly ground limestone, lime or bone-meal would be beneficial? And would ½in. of the soil spread over the old soil be enough? I have some hundreds of one-year roots and a less number of two-year.—C. Y,. Newton Ferrers.

If the trees are not pines, the cyclamen should succeed under them. Rich loam 2 parts, leaf-soil 1 part, and well rotted farmyard manure would form a suitable compost, but it should be at least 2ins. deep. Neither lime nor bone-meal need be added to the compost, but should be applied in a year or two's time.

Propagating Border Carnations.

I have one each of a dozen good varieties of border carnations. These I should like to propagate as far as possible, with a view to having a considerable number for exhibition next year. What methods of propagation can you recommend, and when should it be done? I have no hothouse, only a cold frame at my disposal.—R. K., Glasgow.

The best method of propagating border carnations is by layering in July. The dead grass and any weeds found should be removed from the base of the old plants. Some gritty compost should be packed underneath and, after making a slanting cut 1in. long in the stem and about half-way through it, peg the layer into the new soil and keep the latter nicely moist. Roots should form by the end of September.

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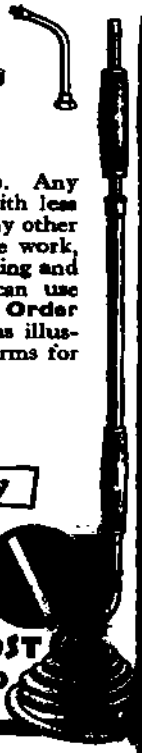

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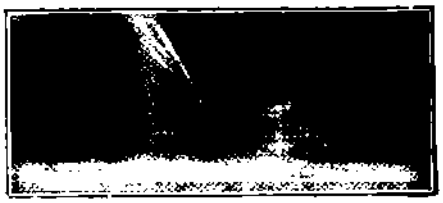

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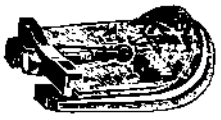

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Fig. 2. Welted Boot.

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CHELSEA SHOW REPORT (see page 367).

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THE

GARDEN

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Vol. XCI.—No. 2896 Saturday, June 4th, 1927 Price TWOPENCE

SALPIGLOSSIS in all colours formed a prominent feature in many exhibits of greenhouse flowers at last week's Chelsea Show, and attracted considerable attention from the many visitors. They are ornamental half-hardy annuals and provide a bright display in beds and borders during the summer, while they are excellent as pot plants for greenhouse decoration. Many of the large-flowered varieties are distinct and attractive in colour and most desirable for the small garden, where they look exceedingly well in clumps in a border. Plants obtained and planted out this month will flower during the summer, or seed may be sown in a cool greenhouse or cold frame from the middle of July until August to produce flowering plants next year.

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THE GARDEN

VOL. XCI.—No. 2896. JUNE 4, 1927. PRICE TWOPENCE.

NOTES AND COMMENTS

Wall and Wayside Gardening.

IN many pictures of English landscape, one notices time and again how the artist brings into prominence wayside and cottage gardens, and makes much of the flowers and plants growing around the homes. These are, in many cases, surrounded by a stone wall, covered with trailing plants in full bloom. Possibly it is aglow with flaming patches of aubrietias, in blue and purple and rosy pink, or white with sprays of Cerastium tomentosum, or iberis (candy-tuft), or that other old-fashioned wall plant, the arabis. One may wonder how it came about that such plants, apparently with little root room, should do so well, and how they came to be there perched up from the road. It may be that in the first instance a few seeds were scattered in the crevices of the stones, or cuttings were stuck about the wall. In the springtime they are a blaze of colour with Cheiranthus in flaming orange, and as they appear from out the crevices one comes to the conclusion that birds must have deposited the seeds. Inside such cottage gardens is probably a flagged path, put down with not much idea of "looking pretty," but for the sake of utility, yet it strikes one as being very delightful, with roots of thyme sprawling across and patches of sweet alyssum at different points. The owner's fondness for pinks and violas and pansies is usually apparent. Clumps of aquilegias and drooping pink racemes of dicentra are also favourites, and flag irises have their place up and down the border. What probably strikes one most is the lack of order, yet the whole aspect of the place is one of beauty. Around the cottage door a familiar, sweet fragrance is noticeable almost before one has ascended the steps, and the bushes of lavender appear as if they must have been planted many years, judging by their thick stems and the abundance of spikes. It is such gardening which has done much to popularise the growing of all kinds of plants and create a love for even the most lowly flowers. Visitors to the country should make a note of the arrangement in these old-world gardens.

Our Photographic Competition.

On page 376 of this week's issue will be found the photographs published in connection with our Photographic Competition. We urge all readers who are interested to send along photographs of their gardens during the summer months.

RULES.

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xxiii, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor wil not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following date of publication.

The Royal Gardeners' Orphan Fund.

THE annual festival dinner of this national gardening charity, which was held at the Hotel Victoria, London, on Friday, May 20th last, was the most successful of recent years. The Fund was fortunate in having, as chairman of the dinner, Sir Henry Whitehead, who made a splendid appeal for support on behalf of the orphans of gardeners and those engaged in allied callings. Although the appeal realised over one thousand guineas, funds are still needed and we heartily commend this well managed and wholly admirable charity to our readers, who are invited to send donations, which will be gratefully acknowledged by the Secretary, 19, Bedford Chambers, Covent Garden, London, W.C.2.

This Week's Work

For Gardens in the South and Midlands.

Finish planting out all bedding plants and dahlias.
Fill any gaps in the herbaceous border with annuals, dahlias or border chrysanthemums.
Plant out celery, cauliflowers, Brussels sprouts, winter greens, etc.
Earth up potatoes.
Plant out marrows and ridge cucumbers.
Trim evergreen hedges.
Give fruit trees and wall shrubs a light mulch of strawy manure.
Hoe regularly all beds and borders.
Thin carrots, parsnips, onions and turnips.
Sow runner beans, turnips, carrots, beetroot.
Stake perennials in the herbaceous border.

This Week's Work

For Gardens in Scotland and the North.

Sow seeds of auriculas, cowslips, polyanthus and primroses.
Remove side shoots of tomato plants.
Dust gooseberry bushes with hellebore powder after rain.
Plant celery in a double row in prepared trenches.
Sow an early variety of peas for late cropping.
Move late chrysanthemums into their flowering pots.
Earth up second early potato crops.
Plant kale and cabbage for winter use.
Remove pot roses that have flowered indoors to a sunny part of the garden.
Complete bedding out half-hardy annuals.
Clear away soil from shallots to ensure ripening of bulbs.

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SCENTED EVENING FLOWERS

FOR most of us, the evening aspect of the garden is the one that interests us most; it is only in the cool of the day that we have full leisure to enjoy the fruits of our labour, and what shall we see if we plan out garden from the viewpoint of colour values only? Vivid colours may show up well at mid-day, but in the evening garden fragrance must reign supreme above all other qualities. It is a curious provision of nature that brilliantly coloured flowers possess no scent, for these rely upon their bright hues to attract insect visitors. Fragrant flowers are mostly of soft and subdued tones and, in the case of night-scented species, the colour is usually white or pale yellow, for these shades show up best in the dusk of day.

Let us take a few examples, all plants that may be put in at the present time for providing a profusion of sweetly scented blossom during the summer months.

Nicotiana affinis (the tobacco plant) is one of the most powerfully fragrant of all half-hardy annuals, and is probably familiar to all readers. A big mistake in dealing with this species is to dot the plants about singly. Far finer effects are produced by growing in large masses of six or a dozen, though, of course, this is not possible in a small border. When selecting plants growing in boxes at the nursery, choose only those that look sturdy. Seedlings that have commenced to spindle up to flower in the seed-boxes will never make good plants, though they may blossom very early in the season. N. affinis, of course, bears long tubed white blossoms; besides this, there are the Sanderæ hybrids, with flowers in varying shades of red, pink, mauve, etc., but these scarcely seem so fragrant as the white form. All nicotianas will flourish in partial shade, and in such positions grow very luxuriantly.

A PLANT OF THE TREE LUPIN WILL GREATLY ADD TO THE ATTRACTIONS OF THE EVENING GARDEN.

ONE OF THE BEST OF FRAGRANT FLOWERS.
The sweet-scented stock grown below a window so that its fragrance in the evening can be fully appreciated.

Another fragrant annual is Matthiola bicornis (night scented stock). Seed should be scattered freely in positions where the scented air may be wafted into the living-room. During daytime, the flowers are rolled up in tight balls, but with the approach of evening, or during cool, showery weather, they open wide, and emit their powerful and refreshing fragrance into the surrounding garden for yards around. The double ten-week stocks are also members of the matthiola family, and added to their fragrance, they have the advantage of showiness and ease of culture.

With a fragrance all its own, Schizopetalon Walkerii is an annual that should be far more widely grown than is the case at present. This is a plant that simply must be sown in its flowering quarters, for it is quite impossible to move the delicate rooted seedlings. This also does not open its blossoms till evening, but when it does unfurl its buds, the grower must be prepared for a surprise. The delicate lacy flowers are perfectly *square*, and possess a sweetness quite unlike that of any other flower in the garden.

Of perennial plants, the evening primrose is still a prime favourite, for its beautiful yellow "primroses" show up with startling boldness in the dusk of a summer's night. Though this species is, strictly speaking, of biennial duration only, yet, once it is introduced into the flower garden it will hold its place by means of self-sown seedlings. There are several other delightfully fragrant members of the œnothera family—among the best of these being cæspitosa, with very large white blossoms, 1ft.; speciosa, very graceful in habit, with light sprays of satiny grey flowers; and odorata, an annual species, with bright yellow flowers and growing anything up to 3ft. in height. The double rocket (Hesperis matronalis fl. pl.) is an old-fashioned flower, but owing to its uncertain habits has, unfortunately, waned in popularity. The only way to keep a constant stock of plants is to propagate annually by cuttings, these being inserted on a shady border during summer, for providing flowering specimens for the following year. A moist, rather rich soil will suit this plant best, and in such a position the fragrance will be very pronounced. Border pinks, of course, need little eulogy. Though they are sweet throughout the day, it is only in the evening that one seems to enjoy their fragrance to the fullest extent. Mrs. Sinkins is still one of the finest and sweetest of border sorts, but there are also the dainty single pheasant's eyes, whose charms must not be overlooked. The yellow tree lupin will add greatly to the attraction

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of the evening garden, though this is a plant that can only be used in large borders, for it will reach a height if quite 6ft., and is often of the same dimensions measured through the bush. There is also a good white variety of this, named Snow Queen, and recently there has been introduced a mauve form in L. Payneii, though the writer cannot claim to have given this species a trial. For edging shady borders, the sweet woodruff has many recommendations, not least of all being its scent, resident both in the flowers and the foliage, and exactly resembling the fragrant breezes blowing from a field of new mown hay. The flowers are produced in small heads, and though not showy, have a delicate grace all their own. Lastly may be mentioned heliotrope, the cherry pie of many districts. This is not a hardy species, and should not be planted outdoors until the end of May, but for the sake of its refreshing scent, it is worthy of a place in every garden. Small plants purchased in pots will flower well during the coming summer, and if desired a few may be potted on to larger pots; these will grow quite well outdoors if they are given a little attention in the way of watering, etc., and will make fine specimens for the hall or dining-room table, where the sweetness will be very apparent. B. D. S.

HOLLYHOCKS FOR NEXT YEAR'S BLOOMING

Seed should be sown this month and the seedlings transplanted to their flowering positions in autumn.

VERY few gardeners trouble to grow hollyhocks nowadays for more than two seasons at the most, because they find that the older the plant becomes the more susceptible it is to the rust disease. The old method of raising plants by means of cuttings is only practised by those who, to carry out a colour scheme, must be absolutely certain that the colours will be those desired. In the mixed border, where certainty of colour is not essential, plants raised from seed satisfy all requirements, and prove very little affected by the rust disease unless grown on, year after year, when they lose the vigour which they possessed as seedlings, and fall a prey to the fungus which produces the bright yellow spores on the stem, and causes all the lower leaves to dry up and eventually fall off.

Gardeners who have heated structures obtain very good results from seed by treating the hollyhock as an annual, sowing the seed in heat in January, and hardening off the plants ready for planting out in May. The hollyhock is, however, a perfectly hardy plant, and it is, in my opinion, a waste of valuable greenhouse space to treat it as a tender plant when much better results can be obtained from outdoor sowings. So hardy is it that seeds which have been self-sown or been scattered when the flowering stems have been cut down and thrown on the rubbish heap, will remain unharmed through the rotting rains and severe frosts of winter, and commence germination in January under conditions to which it would never be subjected by the most careless of gardeners. Such self-sown seedlings, if lifted and pricked off into pans, will make splendid plants for planting out in May, the only protection necessary being that of the cold frame.

It is not, however, advisable to rely upon so haphazard a method of obtaining plants. Seed may be sown all through June, either in shaded cold frames or in the open ground. As the seedlings will be pricked off in the early stages of growth, no special pains need be taken to make a good seed bed, or to space out the seeds in the row, although, as the seed is large and easily handled, this is the recommended method with a choice stock of seed. One can, therefore, either sow the seed broadcast in a small patch, raking over to cover the seed, or make shallow drills in which the seed is scattered. It does not really matter, for, as soon as the seedlings have made the first pair of true leaves, they are lifted and pricked off into nursery rows, allowing at least 6ins. between the plants, which space they will fill before they are ready to lift for the autumn planting into flowering stations in the border. The seedlings can be lifted with an old table fork, and rapidly dibbled into any vacant piece of ground which receives full sunshine, such as the ground left vacant when the early potatoes have been lifted. If the ground is very dry, it should be watered an hour before putting out the seedlings, when the rough clods will fine down if lightly raked. Having dibbled them in, pressing the soil firmly round the roots, they may receive a light watering to consolidate the surrounding soil, and require no more attention beyond hoeing and weeding until autumn.

They should then be plants which delight the gardener's heart. Lovely stuff, with leaves akin to that of small rhubarb, and with a tap root which will require a goodly hole for its accommodation. The plants always seem to do better when planted out in the autumn, any damage to the roots by the lifting being made good by the callus, and emission of new rootlets due to the warmth of the soil, anchors them firmly before winter sets in. If put out too late, or when the ground is cold, frost will sometimes lift them; but I have never found this to occur when plants have been put out in late September and October.

Such plants will produce splendid stems of bloom next year, and still finer in the second year, after which they should be discarded to make way for another batch of seedling plants. As they are gross feeders, the ground should have had a good dressing of rotted stable dung, hop manure or coarse bone-meal dug in when planting new plants over the stations occupied by the old ones.

When the soil is not unduly lacking in humus, I find that the best manure for young seedling plants is a handful of bone-meal dug in before inserting the plant. This rots down during the winter and becomes available for the plant at a time when it needs food to produce those tall stems which make the hollyhock so valuable for the back of the herbaceous border.

During recent years the single varieties have rapidly increased in favour, and, in my opinion, make a better show than do the doubles, which often have their blooms partially hidden by the leaves. The singles also bloom earlier than the doubles, which is an advantage where successional blooming is desired—clumps of both sorts being planted for this purpose. While isolated plants are very pretty in the border, I prefer to plant at least six at a station at 1ft. intervals, especially if seedling plants are to remain only one year in the border. A healthy seedling usually sends up one main spike, unless the top has been damaged, when it may throw two or three shorter stems. In the second year the plants break up into a series of stems, not quite so tall as those produced in the first season, but which make a more effective display in a large border.

Stakes should be provided for each plant, not thin bamboos, which cannot hold the spikes in a gale, but sturdy hazel stakes, 5ft. in height, driven into the ground for at least a foot, and the soil well rammed to keep them firmly in position. Almost any soil seems to suit the plant: I have seen splendid specimens growing between the rails of the permanent way of a railway siding. A heavy clay, the despair of the gardener, will produce spikes of bloom of which any gardener may be proud, while very good stems may be obtained from even a sandy peat, in fact, the hollyhock is one of the most accommodating of all perennials. C. P.

A FINE GROUP OF HOLLYHOCKS RAISED FROM SEED.

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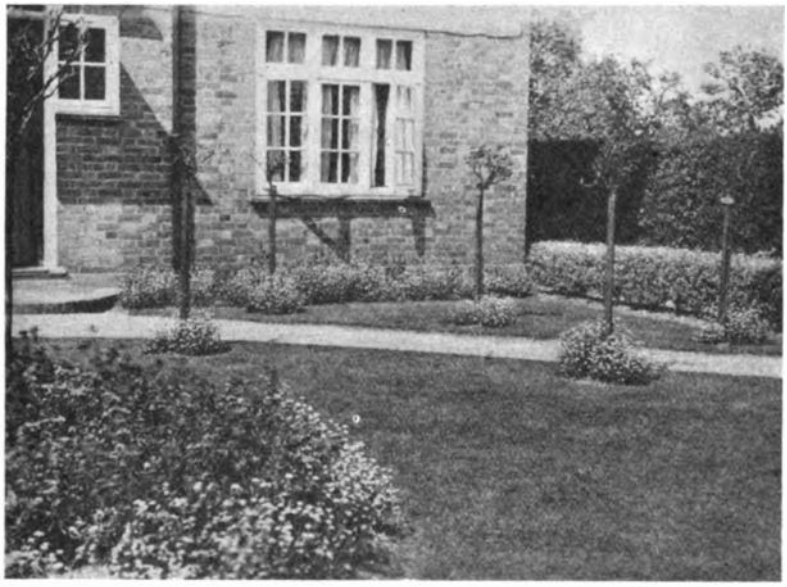
GARDEN FAVOURITES TO SOW NOW

Forget-me-nots and columbines are among the favourite spring garden flowers of all amateurs. They are both graceful in habit and beautiful in flower, easy of culture and suitable for any garden scheme. Seed of both kinds should be sown now in a bed outdoors and transplanted to their flowering positions—in the autumn in the case of the former and in spring with the latter—to provide flowering plants for next year. Every amateur should sow a packet of selected seeds now.

THE idea, which at one time prevailed in the minds of quite a number of amateurs, that forget-me-nots made a fine display in a garden in spring, provided they could be given a moist place, and that, without such conditions, results would be meagre, has long since gone by the board. True it is that some varieties, like the old Myosotis palustris which skirts our streams and rivers in many parts of the country, are in their element when in a moist situation; but there are other sorts which, to a great extent, are independent of an excess of moisture at the roots, that give splendid results when grown in a garden under quite ordinary conditions. To-day, we recognise forget-me-nots as among our most useful subjects for a spring display—so much so, that it has become quite a common practice when planting bulbs in the autumn to finish the work by setting on the top of them these blue-eyed favourites; or, if the planting is not undertaken in the autumn, then opportunity is taken to do so in spring before their growth has far advanced.



FORGET-ME-NOTS CAN BE USED WITH GREAT EFFECT DURING THE SPRING MONTHS AS EDGINGS TO BEDS AND BORDERS.
In this illustration they provide a perfect display in a small front villa garden.

Raising Plants.

The most satisfactory method in getting a stock of plants together is by way of seed, and this can be sown in May or June out of doors in any fairly light soil, and it will often be found that once sowing is generally sufficient, inasmuch as from "self sowings" there are usually enough plants the following year. In pricking out the plants, which ought to be done as soon as they are large enough to handle, it is well to choose a shady place in the garden where they can remain until the autumn. Some postpone the sowing of seed until July, but the objection to this, so it seems to me, is that, not infrequently, hot weather, following close on the time for pricking plants out, losses ensue. That, at any rate, has been my experience, and I prefer the earlier sowing, and to get plants out into a shady spot.

Varieties.

Among the many varieties at present in cultivation there are some with pink and white flowers, but the greater interest centres round those in shades of blue. There is, for instance, a wide range from palest blue to the deep tint of indigo. To-day, most firms of repute cater for the "spring bedder," and in this particular the amateur is not by any means slow to appreciate what a glorious display of "misty blue" a packet of seed will bring, sown the previous spring.

Here are a few of the sorts at the disposal of the grower, and it only remains to be said that forget-me-nots may be grown with as much satisfaction in the suburban garden and around villa residences, as in the pure air of the country.

Myosotis Royal Blue, height 12ins.

M. palustris semperflorens, 9ins., bright blue (Water forget-me-not).

M. dissitiflora, 9ins., much used for massing with bulbs.

M. sylvatica, 6ins., blue.

M. Sutton's Perfection, 9ins., noted for its great output of very bright blue blossoms.

M. alpestris Victoria, 6ins., azure blue.

Columbines.

THERE are few plants to excel in grace and elegance the long-spurred aquilegias, while the wide range of colours displayed in the blossoms leaves nothing to be desired. Even the short-spurred sorts—the columbines of our childhood days—are worthy of garden space, while for the semi-shady part of the wild garden there can be nothing more charming during May and June. All aquilegias are of great value for cutting for they last long in water, and their graceful habit of growth lends them an added beauty in the vase. Groups of five or seven make a bold show in the border during early summer, the individual plants being placed quite 18ins. apart. Specimens growing in partial shade will give the finest blossoms being larger, of a better colour, and lasting longer than those grown in the full blaze of the sun. Spring is the best time for planting out seedlings, and they will benefit if the ground has previously been liberally dressed with leaf-mould and rotted manure: heavy soils should also have a dressing of grit, for sticky, pasty ground is anathema to all but the commonest sorts.

A GRACEFUL LONG-SPURRED AQUILEGIA.
These flowers are useful both for garden and indoor decoration. Seed can be sown outdoors now to obtain flowering plants next year.

Aquilegias are easily raised from seed sown outdoors at the present time, and, indeed, self-sown seedlings usually spring up by the hundred in favourable soils, though these will not give such fine flowers as those raised from a selected strain of seed. It is sometimes an advantage to grow aquilegias in separate colours and, besides the mixed packets, many seedsmen now put up packets containing separate pink, blue, white or yellow shades. A shady border is the best place for the seed bed, and the seed should be sown very thinly, thus obviating the necessity of moving the seedlings to nursery beds. Throughout the summer constant hoeing should be practised, and occasional soakings of clear water given during very droughty periods. Beyond this no special attention is needed, for in all essentials the aquilegia is an easy plant to grow. The main object is to get strong young plants for next summer's display, and no attempt should be made to induce them to flower during the current season. As stated earlier, spring is the best time for planting out, so the seedlings may remain undisturbed until that season. When lifting, reasonable care must be taken to avoid breaking the roots, for this often causes a serious set-back to the plants, and in any case will adversely affect flower production.

Besides the long-spurred hybrids, there are the many extremely beautiful parent species, and these are also raised from seed as described above. Caerulea is exquisite in cool blue and white, and is a favourite plant for the rock garden, though in some soils it is not perfectly hardy. Alpina is another blue-flowered species and, with me at any rate, more robust than the preceding. Rather dwarfer is A. glandulosa, growing about 1ft. high, and also blue and white. Chrysantha is regal in golden yellow, and Skinneri unique with greenish yellow and scarlet blossoms borne over a long period. There are also double aquilegias admired by some, but they do not possess one tithe the elegance of the long-spurred singles, though it is true that they give a quaint old-world touch in the flower border, which may be some reason for their popularity.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Staking and Thinning Border Plants.

The Art of Staking.

MOST of the crops are now planted, and beyond checking insect pests and keeping down weeds there is not a lot to be done in the garden. June is a month of growth and fruition; flowers, early vegetables and fruits are ready. It is the season of the early harvest. As the summer advances our whole efforts must be directed to keeping the garden at a high level of excellence. One of the most important things is to give support to plants wherever it is needed. This is pleasant work. Walk round the flower garden and note all plants that require stakes. Obtain stakes according to the approximate height of the plant when in flower. Tall rudbeckias, some Michaelmas daisies, everlasting peas, and tall lilies need 5ft. to 6ft. stakes; galega, helenium, anchusa need 4ft. stakes; lychnis, pyrethrum, clarkias only 2ft. stakes, and so on. Allowance should be made for the 6ins. or so of the stake which will be pushed into the soil. As a general rule, the stake needs to be about two-thirds of the height of a fully grown plant.

How to Tie.

Having obtained all the necessary stakes, lay them out beside the plants for which they are intended. This saves trouble if a large number have to be done. A plentiful supply of tying material will be required. Use string for or tall, heavy plants, and raffia or green twist for small, soft-stemmed flowers. Hold a committee meeting with yourself over each plant. If it is at the moment only a foot high, but is likely to grow to six feet, put a stake to it and run a string round. This helps it to grow up straight, instead of being bent by the wind. The secret of a well kept border is to stake in time.

The writer's first experience in tying plants is still remembered by the instruction that a clump of Michaelmas daisies is not a bundle of hay. One stake is useless for a big clump of flowers. Three placed trianglewise are better. Run a string round the clump, tying it to the stakes, but leave one stem outside to tie to each stake. This covers it, and the art of staking is to conceal the stakes. When the plants are in flower not a support should be seen. Remember to twist the string round the stake first, and then tie round the plant, loosely enough to allow for growth.

Thinning Perennials.

Herbaceous perennials, such as asters, heleniums and sunflowers make a remarkable number of new stems each year. Some are strong and others weak, and the weakly ones should be pulled out before the plants are tied up. This gives added strength to the stronger stems, and better flowers will result. After staking all the flowers in the border, run the hoe over the soil between the clumps and pull out any weeds in the centre of the plants.

Early flowers, such as wallflowers, are over, and their place should be filled with some quick-growing annuals. Clarkia, Californian poppy and Virginian stock will germinate quickly. A few seedling asters or nasturtiums, petunias or verbenas could be bought and used to fill vacant places.

When roses are grown in a mixed border, take care not to allow other plants to crowd them. Many a charming rose bush is spoilt in this way. At least a clear foot should be allowed all round the bush.

Training Fruit Trees.

FRUIT trees, such as Morello cherry, plums, currants, grown against a wall or fence require training. Young growths appear at an alarming rate, and the fruits may quickly be hidden in a thicket of new growth. If the tender shoots are tied into position while they are pliable, there is less likelihood of breakage. The bunches of fruit are also exposed to the sun, ripening early and gaining a better colour, Cut away "breast wood"—that is, the shoots that stick out at right angles to the wall. Lay in the young growths full length. Special iron nails are obtainable for fastening wall trees. String can be used for tying shoots to railings or fences.

Fruit trees grown against walls are liable to get dry at the roots. A few pails of water poured on during hot weather are a great boon to the swelling fruits. It is a good practice to soak thoroughly all the shoots of wall trees and climbers with clean water after a hot day. This both assists growth and checks insect pests. Stir the surface soil round all the trees, but not deeper than two inches. If manure is available, give a top dressing. A handful of superphosphate of lime sprinkled on the soil round the tree will wash in with the rain and prove useful to stone fruits.

TALL-GROWING DELPHINIUMS NEED TO BE STAKED NOW BEFORE THEY BECOME TOP HEAVY.

Work Among the Roses.

ROSARIANS find plenty to do among their favourites just now. A sharp watch must be kept for the rose maggot, which, embedding itself in the tips of the young shoots, quickly eats the swelling rosebuds. The simplest remedy is to squeeze the affected shoots between the thumb and finger. It can safely be assumed that where two leaves adhere together a grub is doing mischief. Green fly should be destroyed by a timely spraying with paraffin emulsion or an insecticide. Keep down all weeds round the plants. Rose mildew is sometimes troublesome, particularly during a spell of wet weather. This can easily be cured by spraying with potassium sulphide solution, using 1oz. of sulphide to three gallons of water. It is best dissolved in a little hot water before the cold is added.

For the best results, other plants should not be allowed to grow too close. Roses need plenty of air. A carpet of sweet Alyssum or similar dwarf plants beneath rose trees will do little harm, providing the soil is enriched with fertilisers. An excellent stimulant for roses is a mixture of equal parts of sulphate of ammonia and superphosphate of lime sprinkled on the soil during showery weather, at the rate of 1oz. to a square yard.

Hybrid teas and teas give continuous crops of bloom until late autumn. When a hybrid tea rose is cut, the natural result is for the top bud on the stem to develop. If the stem is shortened back at the time of cutting, a stronger shoot will grow. This will result in a better second crop of flowers.

Hybrid perpetuals only give one good crop of bloom, and when this is over shoots spring from the base. If the old wood is cut back, as well as the thin weakly stems, it is obvious that better specimens will result next year. Climbing roses of the "Dorothy Perkins" type benefit from an application of liquid manure while the flower trusses are forming. Care should be taken to tie in all new shoots in order to prevent breakage by the wind.

Summer Bedding.

Colour Associations.

THE glory of spring flowers is over and our gardens must now change their dress for the summer. Tulips, daffodils and other bulbs can be lifted and the soil forked over in readiness for summer flowers. All tender plants can now be safely planted out of doors. In planting a garden, some consideration should be given to the colour of the house and the surroundings. An old red brick house which has mellowed with age may have the association of orange, salmon or coppery-crimson flowers. Nemesias, begonias and warm coloured snapdragons, would blend well, with occasional groups of white—asters, gypsophila, tobacco flowers and chrysanthemums. With white houses, use flowers of bright hues, such as blue delphiniums, Salvia patens, scarlet dahlias and cannas with bronze foliage. Grey stone buildings provide a setting for almost any colour scheme.

In arranging a bed of flowers in a grass lawn, a pitfall to avoid is confusion of varieties. One of the most beautiful effects I ever saw was obtained by a mixture of blue delphiniums with white antirrhinums. Scarlet lobelia (cardinalis) rising through a carpet of grey-leaved Cineraria maritima is equally effective. Another couple which associate well are tall orange red snapdragons in a carpet of white alyssum. Snapdragons are undoubtedly the most popular of bedding plants, because of their lasting qualities. If the seed pods are removed as the central flowers die, fresh shoots spring from the sides. Moreover, this flower enjoys brilliant sunshine.

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THE BUSY MAN'S PAGE

June Reminders.

SCARLET runner beans may be sown in well prepared positions, and these will be little behind the sowings made last month.

Set out celery plants.

On a cool border sow lettuces.

Thin out early turnips and make further sowings.

Thin carrots, parsnips and onions.

Leeks may now be planted out.

Plant cauliflowers, Brussels sprouts and all kinds of winter greens, doing the operation during a damp spell, if possible.

Keep the surface soil moving freely between rows of potatoes and earth up.

Train outdoor tomatoes and pinch out the numerous shoots which arise from the base of the leaf stalks.

Keep a sharp look-out for green fly and mildew on roses. For the former use an aphis brush, or spray with soft soap and water. For mildew sprinkle the affected foliage with flowers of sulphur.

Do not hesitate to remove a proportion of the smaller buds on the rose shoots; if this is done, those that are allowed to remain will develop much better.

Cut down the stalks of perennial plants when the flowers decay, and, in most cases, you will get a second crop of bloom.

Evergreen shrubs and hedges will now be making rampant growth, and these should be trimmed back. Shears do well for privet and small-leaved plants, but for laurels and aucubas secateurs should be employed, to avoid cutting the foliage.

Where the branches of fruit trees are within easy reach, thin out poor specimens of fruit, especially where there is any sign of overcrowding. In the case of fruit trees that have been newly planted, the thinning should be done somewhat drastically.

Keep a sharp look-out for weeds and have the hoe going constantly, both in the kitchen and flower garden. Watch gravel paths for the first signs of weed growth and, after a shower, uproot the plants while the gravel is moist.

A good deal of watering may have to be done, but to be effective this must be regular when once started. Instead of a mere sprinkling now and then, it is better to rely solely on the powers of the hoe to prevent evaporation. At this early part of the season it is only shallow-rooted plants, or those that have been recently removed, that will require water at all. Deep-rooted subjects are not likely to suffer from drought at the present time.

Flowers for Cutting.

A READER who asks for a few suitable flowers for cutting, to be raised from seed, will find the following selection useful:

PLANTING OUT SUMMER BEDDING PLANTS.

Calceolarias, schizanthus, nemesias, etc., can all be planted out now. Remove the crocks and slightly loosen the roots without disturbing the soil before planting.

columbine, especially the long-spurred varieties; giant thrift; Geum Mrs. Bradshaw; sweet rocket, fragrant; sweet william; and Orange King snapdragons. These can all be raised from seeds sown out of doors now.

Hints on Summer Bedding.

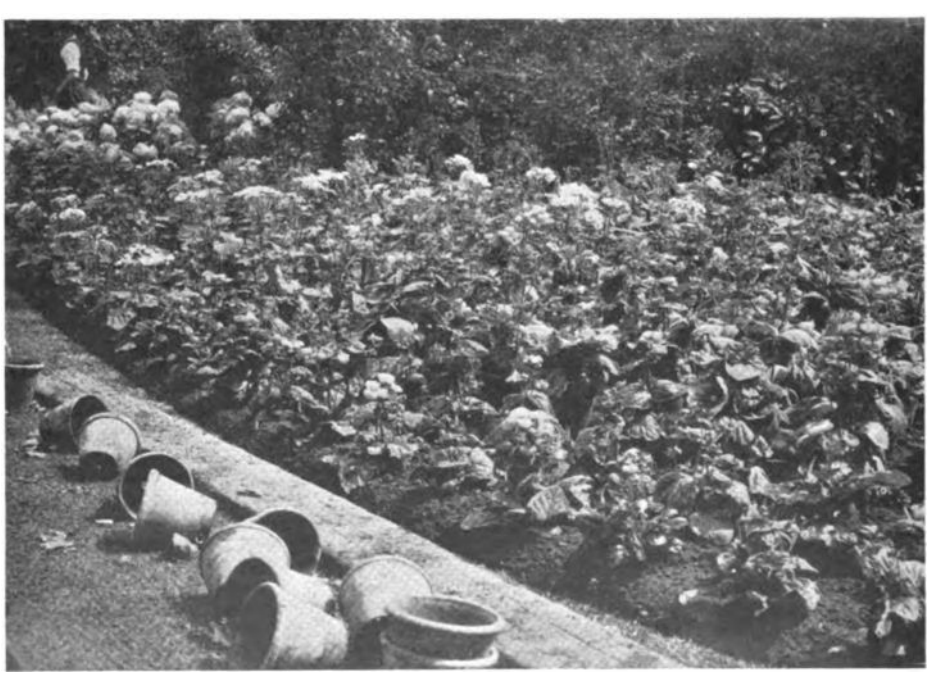
THE great variety of plants obtainable at this time of year suitable for planting out now affords the amateur an excellent opportunity to brighten up his or her garden for the summer and autumn. Preliminary to planting these, beds and borders should be cleaned and turned over with a digging fork, care being taken not to bring to the surface any manure which may have been dug in previously, and, if the soil is at all poor, a light dressing of one of the many fertilisers now obtainable or of bone meal may be lightly pricked in. Should the ground be at all dry, it is advisable to tread this over and level off with a rake, keeping the centre of the bed or the back of the border, as the case may be, higher than the front, and as it is desirable that the soil should be moist when planting takes place, the ground should be well soaked with water some time previously. Whether the plants you propose to plant are in boxes or in pots, these should also be watered some time beforehand so that they are neither bone dry nor sodden, and on no account should any of the plants be left lying about with their roots exposed for any length of time before being planted. Do not place plants out of pots in the ground without first removing the crocks and gently opening up the bottom of the plants, particularly if they are at all pot bound.

Before starting to plant, set the plants out in their positions, making sure that the outer ring or edging is completed before working inwards to the centre, and if due consideration is given to the size to which each plant will ultimately attain and sufficient space is allowed for this development and no more, the appearance of the plants when in flower will be much more pleasing than if these are badly spaced.

Much is written about colour schemes, but if you bear in mind that you are the person to be pleased, make as much use as possible of your particular favourite flowers, and stick to the quiet soft shades in preference to harsh, glaring colours, you will not go far wrong. Space does not permit enumeration of other than a few suitable plants for bedding, and the undermentioned are some taken at random from among the most easily grown.

Dwarf and Suitable for Carpeting and Edging.—Begonia semperflorens (pink, white and red flowered), Verbena venosa, Alyssum Little Dorrit, Phlox Drummondii, Dianthus chinensis, Tom Thumb antirrhinums, Verbena Miss Willmott and Cineraria maritima.

For Massing and General Use.—Pelargoniums, calceolarias, godetias, clarkias, salpglossis, antirrhinums, pentstemons, stocks (ten-week), coreopsis, China asters, Mignon dahlias, heliotropes, nicotiana, stock-flowered larkspurs, Aster Amellus types, zinnias, petunias, and violas and pansies.



WHEN PLANTING A BED IT IS ALWAYS ADVISABLE TO LAY OUT THE PLANTS FIRST.

The edging should be planted first and the remainder of the bed filled in later. As the edge of the lawn is apt to become worn by treading on it it is advisable to place a narrow plank of wood along the edge to keep it clean and tidy.

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THE GREAT CHELSEA SHOW

WITH another Chelsea Show behind us, another notable milestone has passed in the annals of British gardening and in the history of the Royal Horticultural Society. This year the Show eclipsed the displays of the last few years and according to many was the most magnificent collection of gardens and flowers that has even been brought together at Chelsea. Certainly on this occasion it was more of a real flower show and less of a garden display, as on the whole the outside gardens were fewer in number, while the indoor exhibits had increased. The season seems to have suited the majority of exhibitors, as seldom, if ever, have the exhibits of individual flowers been finer. The Show continues to increase in size and this year a greater area has been devoted not so much to the exhibits themselves, but to providing better facilities for viewing the display. The number of exhibits has increased, while those of garden sundries have overflowed from sundries avenue on to the main lawn. In addition, considerable space is devoted to exhibits by artists, while the educational exhibits from various research stations were a particular feature which we hope the visitors to the Show noted and appreciated. Their Majesties made their usual detailed survey of the Show on the day prior to the opening and displayed considerable interest in many of the exhibits. There is little doubt that Chelsea maintains its position as the premier flower show of the world and this year's exhibition should do much to stimulate the love of gardening and flowers.

MODEL GARDEN LAY-OUTS.

What in previous years had been classed—often wrongly—as "formal gardens" were this year divided into two classes—formal gardens and others.

The exhibit of Messrs. Vernon Brothers might be taken to show a complete town or suburban garden designed for those to whom simplicity makes appeal. A simple semi-circular terraced pergola, walling of stone, pillars of plaster, formed a background to a circular pool with a splendid original bronze two-figure group. Box hedges framed the picture and narrow flower borders before them provided colour.

Messrs. Pulhams presented a square rose garden, on a large scale for Chelsea. One corner was devoted to a terrace-pergola carried out in coursed stone and roofing tile. A rather large and open dripping well below the terrace would, perhaps, have supplied sufficient water without two other small square pools set diamond fashion. Polyantha roses and anchusa did duty at this season for the hybrid teas and delphiniums of our July gardens.

The famous Crawley house of Cheal had a garden on straightforward lines, with the usual raised finishing terrace, backed, in this case, with a variety of evergreens and a kaleidoscopic mass of azaleas. In lieu of the usual dripping well there was a circular tank with a simple fountain, and the waterside planting was in character. For the rest, polyantha roses were freely employed.

Messrs. R. Neale and Sons had a complete suburban garden lay-out with a sunk garden as its main feature. This last would have been better if sunk less deeply, but the whole lay-out, and particularly the use of box edging with walling, was helpful to the seeker after ideas.

Messrs. Macdonald, the grass specialists, showed their splendid turf in an, for them, unusual setting, for a central cross-shaped pool and a bank of flowering shrubs were, this year, introduced. Apart from the quality of the turf, the feature of the garden was its perfect finish, which some exhibitors would do well to take to heart.

Of gardens not altogether formal is character, Messrs. Carters' was the most spectacular with its central skeleton temple on a stone platform and its twin "Niagaras" of water, such as one only sees at shows.

THE SEMI-FORMAL GARDEN LAID OUT BY MESSRS. CARTER'S.

THE SMALL TERRACED FORMAL GARDEN DESIGNED BY MESSRS. CHEALS'.

Fine and well arranged plantings of rhododendrons were a feature.

Messrs. Wallace of Tunbridge Wells used informal water and contoured turf for their country cottage garden, the only touch of formality being a neat stone-built summer-house and its surrounding semi-formal terrace.

Messrs. W. H. Gaze and Son broke fresh ground at Chelsea with a large, but, alas! almost rectangular, pool, a Japanese tea-house on piles and the usual plank approach across the water. The great drawback to these gardens in Britain is the gnats; a minor drawback to this one, that not all the plants were in character.

A trout-stream weir and an "antique" summer-house called attention to Messrs. Bakers' exhibit, which, among other features, had a hog-backed bridge in stone over the stream. Rather too much seemed to have been attempted in the space at disposal, and we noted that the bridge was turfed.

Mr. Ernest Dixon had quite a pleasing rock garden laid out on rather conventional moorland lines, but the tiny sunk garden he included with it tended to "cheapen" it and render it less effective.

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The Horsecombe Quarries' exhibit showed a variety of stone walling and balustrading with vases, sundials, seats, tables and a dovecote, all in Horsecombe stone. Incidentally they accomplished a very nice little sunk garden.

A little sunk garden of some merit was shown by Messrs. A. Charlton and Sons. Small pieces of turf with a verge left to show above the surrounding paving looked "spotty" and restless, and we did not like the backs of the otherwise charming built-in stone seats. Messrs. Hodsons also had a tiny sunk garden, so tiny as almost to be a model.

Messrs. Cuthbert had a large informal exhibit with many good flowering shrubs, particularly azaleas, and a line of bush wistarias—very effective, but planted *in the turf!* Plants rather than lay-out seemed to be the object here.

A model bowling green and models of hard and grass tennis courts, all to the scale of 1 to 6, were shown by Messrs. Sutton and Sons in a very pleasing setting of greensward, paths and yews. The neutral-coloured hard court—a speciality of the firm—attracted favourable attention, and the quality of the turf was excellent.

Messrs. William Wood and Co. of Taplow set up a little paved garden, chiefly remarkable for its stepped rill in the Italian manner. More space is, however, necessary to carry out this idea effectively.

A SECTION OF MESSRS WHITELEGG'S ROCK GARDEN.
Awarded the Sherwood Cup for the best exhibit in the show.

OUTSIDE ROCK GARDENS.

The rock gardens at Chelsea challenge the impossible; for no art can quite anticipate the beauty that comes to a rock garden when, in three or four years, the plants have grown into congruity with the lines of the stone and reproduced for us something of the satisfying loveliness of "the standing hills, long to remain." Yet, every year, some, at least, of the gardens almost achieve the illusion, and we must give full credit to the patient artistry that aims at, and so nearly reaches, the impossible. Without grudging a little licence to the means employed, we need not object too strongly that the artificially dwarfed Japanese trees are not very suitable subjects for an English rock garden, for they give us, here at Chelsea, the effect that we can get—in time—with the naturally dwarf conifers when they have reached maturity.

The alpine illusion was created most perfectly by Messrs. Whitelegg, whose design was one of the best seen at Chelsea for many years. It reproduced, on the grand scale, a mountain path crossing a torrent and winding up over the hillside. The large rocks of beautifully weathered limestone, some of them mellowed by a golden patina of lichen, were so well placed that they were of sufficient beauty in themselves and in one place they were allowed to assert themselves with rare artistry, through a carpet of rough grass and lady's-mantle. Colour was given chiefly by a great drift of soft pink phlox streaming down among the grey boulders and a scarlet fleck of Verbena chamædryoides was so telling on the top of a grey pinnacle that the presence of this impertinent stranger from the river banks of South America could be easily condoned as a pleasant surprise in a typically alpine landscape. A little moraine in the foreground made a home for some choice small plants, Silene Hookeri, Ourisia coccinea and some lewisias.

Messrs. Hodsons of Nottingham made a garden next door of heavily stratified limestone in terraces, with a stream whose windings were skilfully emphasised by dwarf conifers, in a way that recalled their use by the Japanese gardeners. In spite of the vivid pinks and yellows, the effect was a little monotonous; but the design in itself was good and geologically faithful, and in a few years it would produce, with careful planting, a very quiet and restful garden not altogether out of keeping with the English landscape.

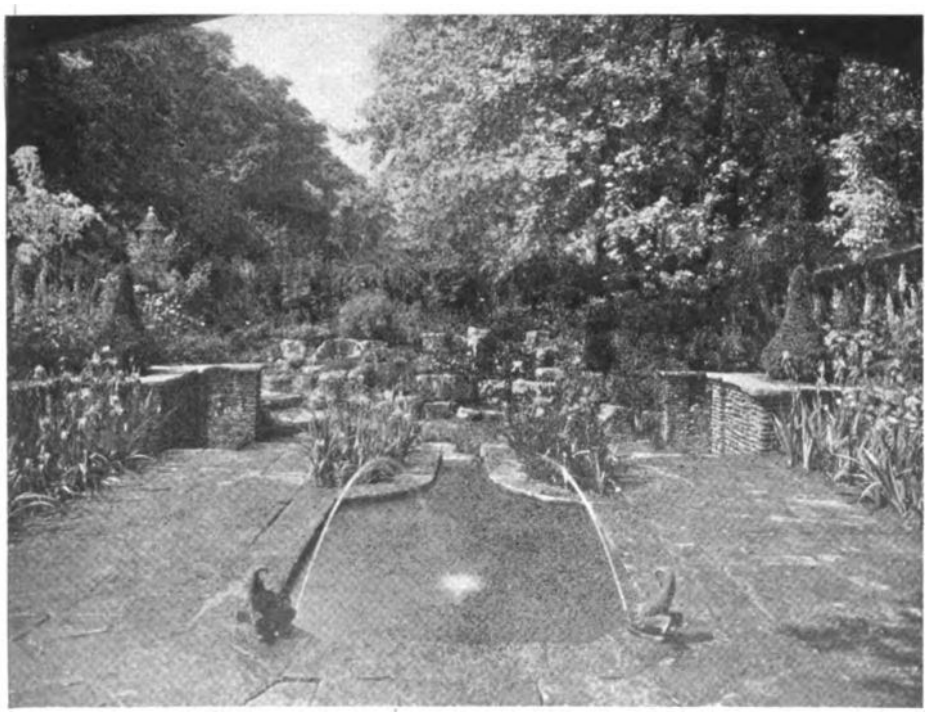
Messrs. W. H. Rogers made an unambitious mound dotted with the small conifers for which the firm is famous, and drifts of pinks and pansies and showing off a good group of Aquilegia glandulosa.

Messrs. Gavin Jones reproduced in a small compass a piece of typical and very beautiful alpine scenery in a carefully balanced design centring round a tall, sheer-walled bluff, with a stream tumbling out of a rocky gorge at one side of it into a deep, quiet pool. The planting was admirably restrained, mostly in cool creamy white and soft pink and grey, lit up by one flaming clump of the soldier scarlet Tulipa Sprengeri.

Messrs. Clarence Elliott had a small conical hill jewelled with dwarf plants, a gay and mildly fantastic paradisal mountain, the lower slopes iridescent with wahlenbergias, alpine pinks and potentillas; the superb, luminous blue Meconopsis betonicifolia and that rare annual, M. heterophylla, a curiously coloured (terra-cotta scarlet) American. It was essentially a rock garden laid out on business lines.

Under an oak tree, at the opposite end of the rock gardens, Mr. Clarence Elliott showed what could be done in sink gardening, of which he is the inventor.

Messrs. Herbert Brook made a quiet garden whose restful design was enhanced by the ancient mossing of the weathered boulders. A small stream trickled down a green cliff in the background and wandered along a



THE ATTRACTIVE PAVED GARDEN DESIGNED BY MESSRS. WOOD.

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grey beach in the foreground, studded with the pale blue Myosotis rupicola, shading back to a deep blue clump of gentianella and the wonderful sky blue of Meconopsis Prattii. Altogether a very satisfying and charming little garden.

Messrs. Pulham led their stream along the face of a grey cliff, fronted by an open stretch of turf, a good, practical design that deserved more thoughtful planting than the rather conventional azaleas and Lithospermum Heavenly Blue.

Messrs. Cutbush made no attempt to evoke the Alps and the suggestion of browsing goats round the corner, but made a slightly futuristic garden of angular bathstone with a conflagration of azaleas bursting over a fern covered stream and the curious metallic greens of Allium karataviense and funkias against reddish yellow rocks. A quite legitimate type of rock garden of a special kind.

TULIPS.

Tulip lovers will be sorry that the late date of Chelsea prevented the majority of bulb growers from exhibiting. At the same time, credit is reflected upon the few firms who showed these flowers, in that the exhibits were of generally high standard of quality, notwithstanding the late date and trying season.

Messrs. R. H. Bath, Limited, of Wisbech, put up a good show of about six dozen varieties in which we noticed Caledonia (orange scarlet), Triton (rose pink), W. T. Ware (deep yellow) and Princess Juliana (scarlet) in particularly good form.

Messrs. Dobbies of Edinburgh have the advantage of growing their Chelsea exhibit in Scotland, where the season is later; but this year snow and frost have played havoc with Scotch flowers. Notwithstanding these difficulties, there was little to indicate even to the practised eye that the season has provided difficulties of any sort. The following varieties of merit were noted: Vesta (white), scarcely fully opened; City of Haarlem, an excellent form; King George, a flower very near to Chant de Cygne; Harry Veitch, wine red; and Louis de la Valliere.

Messrs. Barr and Sons made a very bold and comprehensive display of flowers of first-rate quality. Noticeable among many others were bold groups of Farncombe Sanders, Zomerschoon Superba (a rich chocolate), Panorama and Prince of Orange—a variety which is deservedly becoming more popular every year.

Mr. H. G. Longford of Abingdon put up a 20ft. stand decorated with tulips and iris. Varieties we noticed in very good form were Prince of Orange, Zany, Vesta, and the ever popular Bouton d'Or.

Messrs. Miller of Wisbech put up a group which included Amber, Inglescombe Yellow and Triton in good form.

Tulips were also shown by Messrs. Bronwylfa Fruit Farm of St. Asaph and Messrs. Daniels of Norwich.

ROSES.

There were eight exhibits of pot-grown roses, and it was evident, from the predominance of the polyantha and rambler types, that the season was rather far advanced for the hybrid teas. Nevertheless, the latter class was fairly well represented, and, considering the warm atmosphere, the flowers stood the ordeal better than might have been expected. There was considerable diversity in the treatment of the exhibits, and while the larger groupings afforded greater opportunities in the direction of artistic effort, all of them reached a high level of decorative excellence. Irish and Scotch growers were conspicuous by their absence, but they seldom put in an appearance at the London shows

A PORTION OF MESSRS. BUNYARDS' EXCELLENT EXHIBIT OF IRISES.

THE BOLD DISPLAY OF TULIPS ARRANGED BY MESSRS. BARRS.

MESSRS. B. R. CANTS' ATTRACTIVE EXHIBIT OF ROSES.

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before the exhibition of the National Rose Society.

New roses formed the chief attraction of the group staged by Messrs. Ben. R. Cant, Colchester. Hilda is a pretty variety of the Betty Uprichard colour type, but the shades of pink on the outer and inner sides of the petals are quite distinct from the Irish production. The flowers are large and well shaped, being full and pointed in the bud stage, and the foliage provides a fine setting. Joan Cant is, perhaps, the outstanding rose novelty in the Show. It is an exact duplicate of the popular single H.T. Isobel, but in a semi-double form. Like its prototype, it comes into bloom very early in the season, continues flowering until late in the autumn, and is beautiful at every stage of its career. The habit is the same and the decorative foliage of the Irish rose is maintained in the new form, Cecil, a single rose of rich yellow colour, has also a free-flowering character from early summer on to November in normal seasons.

Messrs. Chaplin Brothers of Waltham Cross were successful in staging a representative group of polyantha, Wichuraiana and hybrid tea roses of uniformly good quality. The finest blooms in the latter class were Admiration, Shot Silk, Betty Hulton, John Harvey, Souvenir de Claudius Pernet, Bessie Chaplin and Pearl White.

One of the corners at the rock gardens end of No. 2 Tent was occupied by an extensive display of Polyantha roses from the nursery of Messrs. William Cutbush and Son, Barnet. It made a pretty-coloured picture. The favourite dwarf forms occupied the ground space and were surmounted by graceful standards and weepers. Prominence was given to a perpetual-flowering seedling of the dwarf polyantha type obtained by crossing George Sedger and William Allen Richardson, and the influence of the latter is reflected in the new shade of colour. Other outstanding varieties were Kersbergen, a lovely shade of crimson, Mary Casant and Frank Leddy.

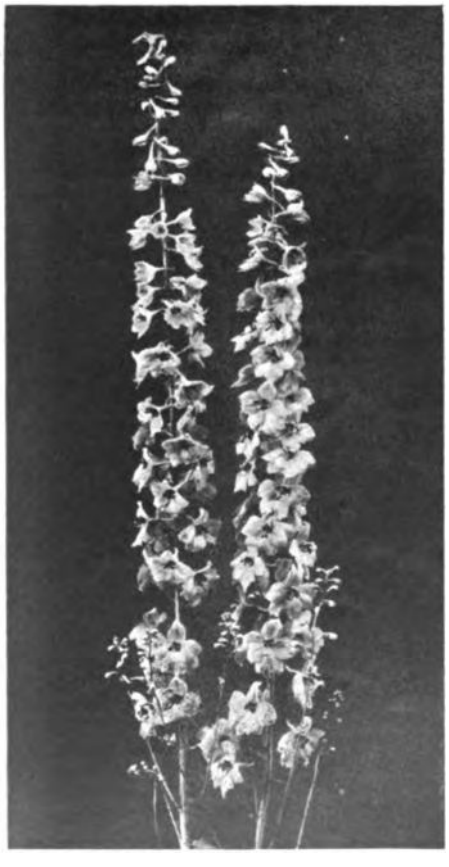
Hybrid tea blooms, exquisite in form and charming in colour, were to be found in the group provided by Messrs. E. Paul and Co., Cheshunt. The older favourites were represented by Ophelia, Mrs. Aaron Ward, Mme. Abel Chatenay and Mrs. Sharman Crawford; the more modern examples by Los Angeles, America and Mrs. Henry Morse; while Lady Sylvia, a highly coloured sport from Mme. Butterfly, was typical of the novelties.

Lady Sylvia was also prominent in the exhibit of Mr. George Prince, Oxford, who staged Locarno and Golden Salmon (polyantha) in a collection that was neither lacking in variety nor quality of bloom.

Dainty Bess never looked more fascinating than it did in the goodly company of new and popular roses grown by Mr. Elisha J. Hicks, Twyford. Angele Pernet was also shown in grand condition, and a trio of novelties, consisting of F. M. Vokes (deep cream, which has a tendency to whiten with age), Mary Hicks (a new crimson climber) and Pride of Hurst (salmon pink) all contributed to the gaiety of the colour scheme.

Mr. C. H. Pemberton, Romford, was responsible for a small and interesting collection which embraced many other polyantha types, including examples of Banksia Chatilion, Echo and Lord Reading.

Although the roses at the Braiswick Gardens, Colchester, were at their best ten days ago, Messrs. Frank Cant and Co. managed to put up a first-class exhibit that embodied rambler, polyantha and hybrid tea types in variety. The firm's outstanding blooms were Captain Harvey Cant, Mrs. Harvey Cant, Lord Lambourne, Mabel Morse, Salmon Queen, Locarno and Golden Salmon.



DELPHINIUM COQUETTE OF THE WREXHAM STRAIN, SHOWN BY MESSRS. HEWITTS.

IRISES.

Among several most interesting collections, the finest staged was that by Messrs. Bunyard and Co., whose group was in all probability the best and most pleasing ever staged at this spring show. The connoisseur of irises was attracted by several fine new seedlings, but the very cream of both newer and standard varieties were also in evidence. Among the seedlings the most noteworthy was Castor, a plant of moderate growth and bearing a flower of no more than medium size, but of splendid form and beautifully poised, the standard an unusual tone of bronze, the falls browner, reticulated pale violet and stippled with ivory; the neat beard golden. Another very striking seedling had the recurving falls and general shape of Iris Susiana. In colouring this remarkable flower seems to imitate Spanish mahogany, but the standard is buff, lined bronze. The "pink" shades were well represented by such sorts as Susan Bliss, Mrs. Marian Cran (perhaps the best so far of its colour), Aphrodite and the still useful Queen of May. The still rare René Denis, "pink" with bronze toning is, perhaps, overrated. Other good ones noted here—some of them more or less standard sorts—were Mme. Schwartz (palest lavender), Ambassadeur, Lent A. Williamson, and Perseus (a new one this and a great improvement upon Yeoman).

The firm of Amos Perry always has something good and new in irises, and the comparatively small quantity grouped among his hardy ferns were of the best. The giant Mestor, an almost self variety of purplish violet colouring; Duke of York, a rather rosy pallida; Mary Gibson, a study in bronze and old rose; Mrs. H. F. Bowles, gaily clad in old gold and red tones; Ruby Perry, soft rosy violet; Lady Charles Allom, real violet; Lord Lambourne, whose standard is rosy fawn, bronze shaded and falls madder crimson much reticulated with white at the

MRS. FOSTER CUNLIFFE, A NOVELTY RAISED BY MESSRS. BLACKMORE AND LANGDON.

Note the difference in habit between the two types.

haft; and Crimson Glow, rosy crimson, include some of the best of the bearded novelties seen only on this stand, which also included Mrs. Marion Cran and Lent A. Williamson. Besides the bearded sorts, this group contained a charming collection of the Californian species and their hybrids.

The Orpington Nurseries had a large group comprising fine clumps of the newest and newer varieties. The following were particularly noted here: Cygnet, ivory and amber, with reticulations of pinkish bronze; Evadne, in shades of rosy terra-cotta; Anna Farr, a very pretty plicata; Argynnis, bronzy crimson and orange dun—a fine flower; Ophelia, of coppery tone with rosy lavender on the centre of the falls and golden beard (most attractive); and Istria, after neutral colouring of Florentina, but of better form and, like Florentina, fragrant.

Mrs. W. R. Dykes showed some of the beautiful varieties raised by the late Mr. W. R. Dykes. The following really good ones were noted: Venetia, violet with a good orange beard; Amber, surely one of the very best yellows; Moonlight, sulphur overlaid with bronzy lavender; Sapphire, well named, dwarf and free; Lustre, a fine red violet; albicans virginale, a beautiful white of admirable form and almost unmarked; and that really good deep "pink," Aphrodite.

Messrs. John Waterer, Sons and Crisp, Limited, featured in a mixed plant group such good bearded sorts as Ambassadeur, Shekinah, Souv. de Mme. Gaudichau, Fürstin Longay (a good "deep rose"), Lord of June, Dalila (bronzy red and amber) and two giants in Prospero and Magnifica.

Messrs. Barr and Sons had the rather dwarf but very pleasing Toolen's Yellow (buffish citron), the terra-cotta Mount Penn, the brown-toned Prosper Laugier and

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Wyndham (almost clear rose with darker reticulations).

Messrs. Lowe and Gibson used choice bearded irises as foils to their beautiful border carnations. Thus menially employed we noted the showy Queen of the Dale, Corida (one of the best and freest lavenders for the garden), Troost (standard purplish rose, falls similar, but veined violet), Afterglow, Shekinah (a tall and stately yellow), Shalimar, Mount Penn, Tom-Tit (a miniature violet sort) and Montezuma (old gold).

Messrs. Maurice Prichard and Co. had Lent A. Williamson, odontissima Ewbank, Souv. de Mme, Gaudichau, the mid-violet Gold Crest and the bronze-toned crimson Mrs. Cowley.

A corner of Messrs. R. Wallace and Co.'s rhododendron and lily garden was devoted to irises, with Alcazar again in evidence, as well as Franklin Beynon, an extra good rose, and other well known sorts.

Spanish, and particularly the newer Dutch irises, were shown by many firms, including Messrs. Carters, Mr. A. Dawkins and Messrs. Toogood and Son.

A PORTION OF MESSRS. WATERERS' FINE EXHIBIT OF HERBACEOUS PLANTS.

SHRUBS.

After the cold weather of late April, it was hardly fair to expect the same wealth of flower on flowering trees and shrubs as in past years: in fact, it is surprising that the shrub exhibits were as good as they proved to be. First in point of excellence came the rhododendrons. Messrs. Wallace staged a really fine group of the more modern hardy hybrids, very well grown and full of flower. Probably pride of place would go to Britannia, a new Dutch hybrid of great substance and a rich scarlet with no hint of blue in the colour.

Messrs. Waterers' exhibit consisted of magnificent plants of their well known hybrids, such as Sappho, Pink Pearl and Mother o' Pearl. Among the novelties were a new hybrid (Rh. discolor × C. S. Sargent), a good rose and late in flowering from its discolor parentage, which is a late-flowering Chinese species. We were also glad to see several plants of Rh. chionoides, an old hybrid almost lost to cultivation and a very late flowering white. It suggests Rh. maximum × Rh. caucasicum album as its parents. Messrs. M. Koster also staged their well known hardy hybrids, such as Norah, a good truss of pale pink; and Miss Noreen Beamish, a fine rose shade. The Executors of Mr. Slocock also specialised in good hybrids, among them being the fine old yellow Broughtoni aureum and their own excellent yellow hybrid Goldsworth Yellow, still difficult to beat. They also showed Lord Roberts, one of the darkest of all reds with a black blotch.

Azaleas were staged by Messrs. Cuthbert and Messrs. L. J. Endtz. Among older favourites on the stand of the former were fine plants of two mollis × sinensis hybrids—Southgate, a good orange scarlet; and Boy, a pale yellow tipped with carmine. Probably the most notable plant on Messrs. Endtz' stand was Dante Gabrielle Rossetti, a curious shade of white with a cool greenish tinge. Among the dwarfed Japanese trees the Yokohama Nurseries showed some excellent pale shades of the free-flowering Kurume azaleas, among them a charming shell pink, named Azuma-Kagami, a very superior plant.

Messrs. Watson's of Kilkenny, Ireland, were again to the fore with their wide range of attractive flowering brooms. Among the best was the new novelty Lord Lambourne, a sport from C. Andreanus, and of somewhat paler colouring. It should prove popular.

Among the general collections of trees and shrubs Messrs. Hillier's exhibit was notable for variety. Everyone admired the Japanese forms of Prunus serrulata, among them a form of rosea called Shidara-Sakura, a good pendulous double. We were also pleased to see the old-fashioned double bird cherry, P. Avium fl. pl. The wistarias were also excellent. Most interesting were the pans of young plants, such as Olearia insignis and Osmanthus armatus, both pictures of good health.

Messrs. Cheal staged rhododendrons, azaleas and general flowering shrubs, among the last being Viburnum macrocephalum, that magnificent sterile white, and the little double white Philadelphus, Gloire de Neige. Mr. Notcutt staged a representative collection of his famous cytisus along with flowering shrubs. We noted among them C. sessifolius, a good yellow with tiny foliage; and C. scoparius Dragon Fly, yellow and deep crimson, a fine combination of rich colour. Messrs. Gill showed fine vases of shrubs, many of them on the tender side. In the centre was a wonderful vase of Embothrium coccineum, flanked by another equally large of Tricuspidaria lanceolata. On this stand was a very dark form of weigela called Eva Rathke. Mr. Reuthe had a fine exhibit of rare shrubs and rhododendrons.

Messrs. Whitelegg had a well staged exhibit of azaleas and rhododendrons overhung by white wistaria, a very fine form that should be more often seen in gardens.

MESSRS. WEBBS' COMPREHENSIVE DISPLAY OF GREENHOUSE FLOWERS.

LILIES.

This was not an extensive class, but what was lacking in numbers was made up by the quality and variety of Messrs. R. Wallace and Co.'s collection. It was a group apart from any other in the section, and was noteworthy for the beauty and distinctive forms of the flowers. Examples of Thunbergianum and umbellatum contributed to the excellence of the display, of which the following were prominent: Regale, Brownii, Orange Queen, Davidii, Backhouse hybrids, Golden Fleece, Martagon album, longiflorum giganteu and japonicum.

A few exhibitors included liliums in their general exhibit, and in this connection Messrs. Bunyard were represented by candidum and Regale, and Messrs. Lowe and Gibson by small groups of Hansoni and Regale.

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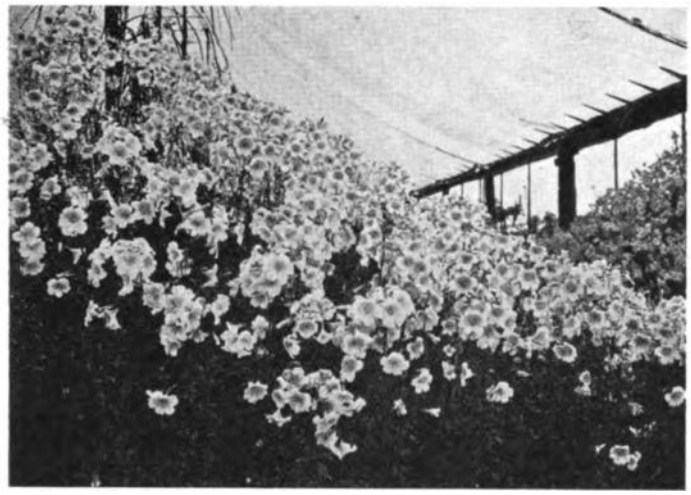
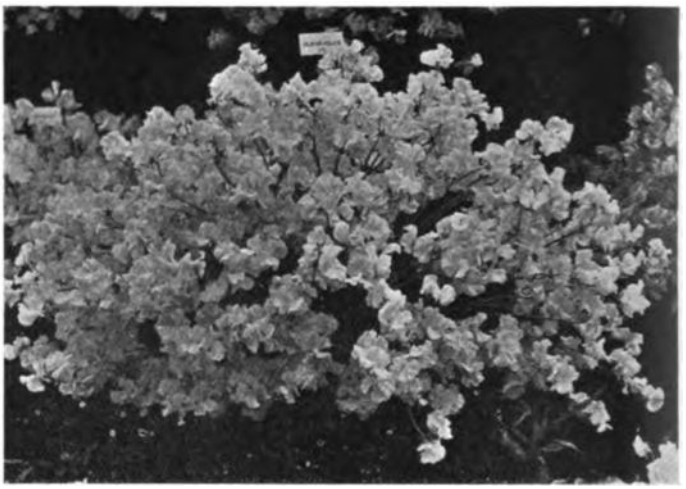


A MOUND OF SALPIGLOSSIS IN MESSRS. SUTTONS' SPLENDID DISPLAY.



A BOWL OF SWEET PEA GLENEAGLES IN MESSRS. DOBBIE'S VERY FINE EXHIBIT.

GREENHOUSE PLANTS.

In the first of the two very large tents Messrs. Sutton and Sons filled four spaces with the most varied and, undoubtedly, best collection of salpiglossis that has ever been seen. Their superb plants were a revelation to many amateurs who have achieved only moderate success with these lovely plants. The salpiglossis is not a plant for the happy-go-lucky gardener who is content to scatter seeds in his borders and hope for good results. The salpiglossis demands good attention and is well worthy of it. Many gardeners are well aware that really good results with salpiglossis can only be obtained by sowing the seeds in the autumn and attending to the plants during the winter. But Messrs. Sutton and Sons have gone rather farther than this, for we understand that the seeds were sown last August and the plants wintered in as cool conditions as possible, always provided there was no possibility of injury by frosts.

The results amply repaid the care and attention bestowed on the plants, and few who attended the Chelsea Show will forget the feast of floral beauty these handsome plants provided. There were thirty-five distinct varieties grouped in generous quantities, and the colours of all were most entrancing. Probably many, at first, most admired the rich beauty of the variety named Velvet Red, and its intense velvety red colouring is, indeed, worthy of admiration. But each of the many distinct varieties possessed great charm of colour combination and of delicate markings on its flowers.

An equally large space placed at the disposal of Messrs. Carter and Co. contained much floral beauty of another character. They had three large groups of greenhouse plants linked together by arches of beautiful sweet peas. In these groups there were masses of clarkias, schizanthus, nemesias, tall rehmannias with large foxglove-like flowers of lovely pink colouring, rose-coloured petunias, large-flowered calceolarias, profusely flowered plants of Cineraria stellata varieties, gloxinias of a splendid strain bearing many large flowers of rich velvety colours, tuberous-rooted begonias of enviable quality, bulbous-rooted irises and other plants all of value for the spring and early summer decoration of the greenhouse. These most fascinating and artistically arranged groups were enclosed by turf edgings of rich green grass, among which not a single weed could be seen, and a row of a very desirable ageratum which bears graceful sprays of a beautiful shade of mauve gave an attractive finish to the exhibit

Greenhouse plants which also illustrated first-rate strains and expert culture were well grouped by Messrs. Edward Webb and Sons in another part of the first tent. They had pillar-like plants of a salmon clarkia bearing hundreds of beautiful flowers. Salpiglossis and schizanthus and Cineraria stellata varieties were also present in large floriferous specimens. Towards the front there were plants of Primula obconica gigantea which impressed one by their vigour and the unusual size of the blooms. Nemesias of delightful colouring and the quaint beauty of the many sturdy plants of their dwarf cactus cineraria also compelled admiration. This firm's new giant hybrid schizanthus in all shades were particularly fine.

Mrs. Denny of Horwood House, Bucks, and Mrs. Sheppee of Holly Springs, Bracknell, both sent exceedingly good collections of the graceful Calceolaria integrifolia. The latter also had an admirable selection of hybrids bearing countless little flowers of great beauty, while Mrs. Denny associated statice profusely with her calceolarias in a pleasing way.

A pretty little group was arranged by the students from Studley College. In the centre there was a batch of an admirable pink-coloured Brompton stock and also an unusually brightly coloured strain of Rehmannia angulata.

The beauty and charm of fuchsias when well grown and in small pots was well illustrated by the Castle Nurseries, who had admirable plants of The Doctor, Achievement, Emile Zola, Mauve Beauty, Fascination and other good sorts; while Mr. R. J. Case and Mr. W. A. R. Clifton showed fine trusses of zonal pelargoniums.

Several well grown plants of the bottle brush tree in the group of Messrs. Stuart Low and Co. attracted a deal of attention. They showed to good effect, next to the brilliant red whorls of these flowers, good bushes of leptospermums, hippeastrums and Humea elegans.

A very handsome collection of hippeastrums from Lady

MESSRS. OLIVER AND HUNTER'S EXHIBIT OF MANY OF THE NEW CHINESE PRIMULAS SUITABLE FOR THE ROCK GARDEN.

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Aberconway's garden at Bodnant, North Wales, wasmuch admired. All the plants were raised at Bodnant, and they represented many delightful colours.

The double-flowered tuberous-rooted begonia seems to be the despair of many amateur gardeners, but these showy plants cannot possess many difficulties for Messrs. Blackmore and Langdon, who set up many really magnificent plants. Their flowers are always of immense size, but of perfect shape and of every possible shade of colour. Of the many distinct varieties we selected the following as being representative: Peace (cream coloured), Hilda Langdon (shell pink), Brian Langdon (deep rose pink), Mrs. J. Davidson (yellow), Mrs. Peter Blair (white), Lord Lambourne (rich orange), Grand Monarch (crimson) and Betty Hampton (rosy salmon). They suspended over these superb plants baskets of such graceful pendulous varieties as Mrs. Bilkey (orange), Coralline (pale coral), Lena (red), and Mollie (pale blush).

On entering the first tent from the Hospital end the visitor might well have thought tha hydrangeas were the principal feature of the Show, for there were two immense collections of these handsome flowering plants. Farther down the tent there was another large group, and a number of exhibitors associated hydrangeas with various other plants. It was rather fortunate that the three large exhibitors of hydrangeas had adopted quite different styles of arrangement, so that there could be no temptation to form comparisons. Baron Bruno Schröder sent a large collection from The Dell, Egham, and his fine plants were arranged in a low bank relieved by stone vases containing selected plants. At the same end of the tent Mr. H. J. Jones had an extensive group, which was set up very attractively. In the centre he had a mass of the rich pink variety Parzival, and at each of the four corners he placed groups of his admirable seedlings. Many of these are excellent both in habit and in colour of the flowers. The trusses are large and well formed. Some of the heads are twelve inches across. Although he has staged many fine collections of these flowers at previous Chelsea's he excelled himself on this occasion.

In another part of the tent Mr. Philip Ladds exhibited a large number of hydrangeas of the best type grown for the market. These were arranged in an imposing group by Mr. H. Jolis, who was also responsible for the handsome collective displays the British Florists' Federation made recently at the Royal Horticultural Society's Hall in Vincent Square. The general idea was a series of ornamental baskets filled with distinct varieties and placed at different levels. In the centre there was a magnificent basket of Parzival. Smaller, but still large baskets, contained fine plants of Mme. Mouliere (a large truss of white flowers which have a violet eye), Mme. A. Riverain (rich blue) and Peer Gynt (a beautiful shade of pink such as is also seen in some bedding geraniums. Other desirable varieties in these handsome displays of hydrangeas were Heiderosee (a very large pink truss), Blue Prince (of hazy blueness on a solid pink ground), Thos. Stevenson (an immense truss of rich pink) and Le Cygne (one of the best whites).

SWEET PEAS.

Probably no other floral subject contributed more to the marvellous colour picture than the exhibits of sweet peas. All the leading raisers were represented and the artistic groupings marked a decided advance on those of previous years. Several novelties of distinctive merit were staged for the first time, and were greatly admired for their beauty of colouring, size and form.

Messrs. Dobbie and Co., Edinburgh, exhibited a collection which for size and variety excelled all previous efforts at Chelsea. It consisted of 60 modern examples, and 11,500 spikes, most of them carrying four blooms, were brought into the picture. Prominence was given to six new introductions, five of which are being distributed in the coming autumn. Hero, a deep rosy cerise flower, is a lovely colour with size and substance to its credit. Sunkist is a cream ground Youth that is much more pleasing in shade than the American pea and a great improvement on Jean Ireland; Prince of Orange, a richer and deeper Royal Sovereign, possesses all the good qualities of an exhibition and garden pea, and is arresting in the richness and depth of colour as well as size of bloom; Flamingo, orange-scarlet, received an award at last year's Scottish trials, where it distinguished itself out of doors; and Gleneagles, the new lavender, provided a lovely basket. But the gem of the collection was Pinkie, which we expect will take pride of place in its colour class. It might be described as a pink self, richer and deeper than Hebe. The flowers are immense in size and beautifully waved, the stems are long and the individual blooms well placed, and the general effect suggests a valuable acquisition to the class of sweet peas that are suitable alike for indoor and garden decoration. Another beautiful thing appeared as a sport from Mary Rose. It is a refined flower of a charming salmon pink colour. The King and Queen spent a considerable time inspecting this exhibit, and Her Majesty expressed her appreciation of the new varieties to Mr. Cuthbertson.

Mr. Robert Bolton's stand was also attractive, as the varieties were of uniform excellence and included several first-class novelties. Of these Mrs. A. Searles was outstanding. This salmon cerise, which received awards from the English and Scottish Sweet Pea Societies last year, was raised by Mr. Damerun, and was bought by Mr. Bolton at the largest price ever paid for a seedling. Jessie is a grand pink sort, and Susan belongs to the Picture type and has a resemblance to Mrs. Hitchcock. There was also a seedling of suffused pink on a cream ground which did not appeal to me, as it seemed to lack distinction of colour, and one of the best peas on the stand was the old lavender R. F. Felton, which, unlike many of the older varieties, does not degenerate with age when a good strain is grown.

Messrs. Carters' exhibit contained twenty choice varieties well grown and effectively staged. The firm's novelties were Mrs. A. Standford (light pink), Enid and Raynor Park (lavender).

The most was made of a 36ft. stand by Messrs. Alexander Dickson and Sons, Belfast. Their new introductions were tastefully arranged in baskets, and consisted of Corona (carmine rose), Boy Blue and a seedling of an orange crimson colour that was conspicuous among a representative group of up-to-date varieties.

A quartet of A 1 novelties were exhibited by Mr. J. Stevenson. Nina, a clear rose bloom, rather deeper than Magnet; Glorious is an improved Charming and deeper in colour than Coralline; Marjory, carmine; and Freda, blush pink on white ground.

CARNATION MRS. A. J. COBB, STAGED BY MR. A. F. DUTTON.

CARNATIONS.

The ever-increasing popularity of the carnation was clearly evidenced by the excellent exhibits staged by the leading raisers of this flower.

Messrs. Engelmann had a particularly imposing group in the centre of one of the tents. It contained many hundreds of bloom among which were the best of these modern perpetual carnations. Circe (heliotrope with cerise stripes), Lady Hindlip (white, pencilled red) and Dorcas (rich crimson) were all in good form. Sunny, with its shaded orange blooms, was one of this firm's novelties. Large vases of the dark-hued Nigger and the vivid Red Laddie made bright patches of colour.

The exhibit of Messrs. Allwood Brothers was not only imposing but interesting as well, for it contained perpetual carnations, border carnations, perpetual border carnations, this firm's famous Allwoodii pinks and also a new race of pinks which were being shown for the first time. The well known border carnations, such as Viceroy, Salmon Clove and Orangeman were included. Bryan, Peggy and Harold, three of the best of the Allwoodii pinks, were also on show and Pat, a cerise pink, novelty of the latter type, was most attractive

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in colouring. The new race of pinks (Allwoodii alpinus), which has been raised by crossing Allwoodii with Dianthus alpinus, Dianthus deltoides, etc., is adapted for growing in rockeries, dry walls, etc., and owing to its perpetual-flowering habit this race of pink should prove a valuable addition to our gardens. Among the perpetual carnations Velvet was one of their most recent novelties.

A large group of perpetual carnations containing all the leading varieties was wall staged by Messrs. Stuart Low and Co. In a prominent position in the centre was a large basket of excellent blooms of Sir Philip Sassoon. This variety with deep velvety crimson blooms is one of the most fragrant of all carnations. Ruby Glow, another variety of rich colouring, also possessed a sweet scent. Sybil, one of their 1927 novelties, was on show. Red Laddie, Eileen Low, Mrs. Hamilton Fellows, Lord Lambourne and Lady Iverforth were all in good form.

Messrs. Keith Luxford's perpetual carnation exhibit included a number of old favourites, the majority of which were well known market varieties.

Mrs. A. J. Cobb, the bright crimson carnation which recently won the *Daily Mail* Cup for the most fragrant carnation was exhibited by its raiser, Mr. A. F. Dutton.

Messrs. Lowe and Gibson, whose fame as border carnation specialists is becoming widely known, staged a group which consisted mainly of pot-grown specimens of these hardy carnations. Some of the very finest varieties were included, and all the plants were strong, vigorous and healthy. Myrtle Pettigrew (old rose with scarlet bands), Mrs. E. Charrington (a white ground fancy) and Skirmisher (a yellow ground fancy) were particularly good in shape.

A collection containing many different varieties of the Douglas border clove carnations was exhibited by Mr. James Douglas, whose name has been connected for many years with border carnations. Some of the best of the Bookham varieties were on show, such as Bookham Flame and Bookham Belle. Flamingo, a striking orange-scarlet variety; Lieut. Shackleton, a cream ground suffused rosy pink; Princess Mary, a large apricot self; and Royal Clove, carmine-salmon, were well grown specimens.

Mr. Herbert had several attractive new varieties of his fine strain of pinks as well as some of the best of his older kinds. Novelty, a dark rose, and Princess Elizabeth, a soft rosy carmine, were two of the most outstanding. An attractive border pink called White Ladies, which is not only very fragrant but floriferous as well, was shown by Mr. Isaac House. Carnations were also exhibited by Mr. J. C. Beck.

ALPINES, INDOORS.

There were more exhibitors of alpine plants than ever before and none of the stands was dull or negligible.

Mr. F. G. Wood of Ashtead made a miniature rock pool bordered with brilliant mimulus hybrids and overhung with dwarf conifers. Alongside were the tiny Iris locustris; Dianthus callizonus earning its name for its fair girdle of speckled crimson; the softly purple Linaria origanifolia, the uncommon dwarf pink evening primrose Œnothera mexicana rosea and a fine pan of Rosa Rouletti.

Mr. W. E. Th. Ingwersen showed a collection of choice varieties, including Helichrysum bracteatum, a new everlasting from New Zealand, with large egg-shaped flowers of golden bronze, which is, fortunately, quite hardy; Potentilla Warrensii, a tiny plant with large yellow flowers; Trollius europæus albidus in creamy white; Halipterum althemioides, another new plant from the Antipodes carrying pure white everlasting flowers on slender stems; a good form of our rare native Viola lutea, which is much too seldom seen in rock gardens, and a remarkably beautiful series of Ramondia seedlings.

Messrs. Waterer showed the brownish crimson broom, Dorothy Walpole; Ononis rotundifolia, which looks like a tiny rose bush and produces bunches of pink pea flowers, a charming little plant for a dry wall; good forms of Primula japonica and Globularia incanescens.

Messrs. Wood and Son of Taplow, new exhibitors in this section, brought a very noteworthy collection, containing many new and rare plants, including Dianthus Fosteri, a tiny hybrid pink of intensely vivid magenta with a dull black eye and bronze foliage and a fine pure pink form of Primula farinosa.

Messrs. Clarence Elliott, Limited, showed, on a mossy rock slope, Oxalis enneaphylla and the form rosea, with its surprisingly large cups, deeply flushed with clear pink; the very rare native Potentilla alba, a minute shrublet with relatively large white flowers, and a fine clump of the lately reintroduced Gentiana pyrenaica.

Messrs. Hodsons of Nottingham showed that rare old pink Emile Paré, a perfectly formed jewel in creamy pink; Donizetti, another old border pink, standing alone in its peculiar colouring of dull crimson, with a darker eye and many good, purely alpine plants.

Messrs. Oliver and Hunter, specialists in rare primulas, showed P. flexilipes with long slender stems and bunches of pale sulphur yellow flowers swinging on delicate foot stalks; P. microdonta, another pale yellow, but tall, sturdy and statuesque; P. prionotes, a very strangely coloured flower, dusky purple without and painted inside with yellow farina; Farrer's form of Saxifraga primuloides, a fairy London Pride and that admirable shrub, Andromeda rosmarinifolia.

Messrs. Tucker showed large, healthy plants of Androsace pyrenaica, Smilacina racemosa, a rare plant with ample glossy green leaves and plumes of creamy flowers; the little vivid blue Mertensia echioides and many other good things well set off in a slope of grey shingle.

The Colesbourne Nurseries brought some remarkably rare and desirable plants, including a superbly beautiful deep blue meconopsis of uncertain parentage; Conandra ramondioides, with strangely crinkled fleshy leaves and loose heads of lilac potato flowers; Rheum Alexandræ, the Tibetan rhubarb, which makes lofty pagodas with pale primrose coloured tiles, and Polygonatum Hookeri, a pink Solomon's Seal.

Messrs. Gavin Jones showed Phyteuma comosum, just beginning to put out its purple horns of brown glass; Raoulia minutifolia, an attractive version in greenish silver of the better known R. australis, and Helichrysum frigidum, a silvery little bush with white everlasting flowers.

Dr. Macwatt brought some choice plants from his famous collection of primulas, including a very nearly blue auricula ("Blue Border") of great beauty; a very mealy P. capitata; the minute P. scotica; a good hybrid between P. marginata and P. auricula with many others.

Messrs. Cheal covered a flat stretch of shingle with delicately coloured flowers that made a picture of great charm and originality, the collection included Veronica filifolia; Geranium cinereum, forms of the alpine aster and alpine poppies.

Messrs. Bowell and Skarratt showed an extremely interesting and beautiful collection of terrestrial orchids, including Orchis militaris, in pink and crimson, and O. papilionacea with a broad and delicately veined labellum.

Messrs. Maxwell and Beale showed a very fine form of Tradescantia virginica alba with especially large, clear white flowers and a good group of Primula secundiflora.

Messrs. Scaplehorn showed the rare filmy fern Hymenophyllum Wilsoni; Haberlea virginalis, very much at home with Ramondia on a mossy rock face; Galax aphylla and Erodium guttatum.

Messrs. Wells showed Antirrhinum Asarina and good clumps of Primula sikkimensis.

Messrs. Prichard showed Androsace lanuginosa in pink and silver; Silene Hookeri, a wonderful little plant, almost overshadowed by its enormous, deeply cleft flowers of pure, soft pink; the very vivid form of Erinus alpinus "Dr. Henele," and other good things.

There were other exhibitors, but there is no more space left in which to describe their good plants.

HARDY PLANTS.

Of the plants which at the time of the Show were making our borders gay, the lupin and the pyrethrum were much in evidence, the Oriental poppy and the aquilegia poorly represented. On the other hand, the delphinium, flower of high summer, was displayed in some fine groups.

Messrs. Blackmore and Langdon's delphiniums were admirable in quality and beautifully set up. The outstanding novelty was Mrs. Foster Cunliffe, with huge flowers of helio-rose, pencilled blue, arranged on an immense and graceful spike. Other good ones in this group were Glory, almost flesh colour; Howard H. Crane, rosy violet, a veritable giant; Norah Ferguson; Millicent Blackmore; and the quaintly beautiful King Bladud.

Messrs. Bakers also had some really good plants of this beautiful flower, including Anne Baker, an immense single, pale violet and azure, with a large black "bee"—a tall spike and the flowers well placed; Jean, pale lavender mauve, tinged rose; Rev. E. Lascelles, still one of the most popular sorts and a very pleasing soft bluish mauve sport from it. Apart from the delphiniums, Messrs. Baker had some good astilbes, including the brilliant Granat, as well as Lupins Downer's Delight and Pink Pearl, and some fine pink seedlings.

Messrs. Hewitt and Co. made a table group entirely of cut delphiniums, using some admirable sorts, though the culture was hardly up to the standard of previous years. Some of the giants of the Wrexham strain were there—Monarch of Wales, Coquette, Violet Queen and Happy Thought; as well as the almost gentian blue Blue Bird; Great Strides, rosy violet and pale blue; and Mrs. Jessie Oldham, almost single, pale lavender, tinged heliotrope.

Messrs. G. Gibson and Co. of Leeming Bar had a particularly attractive globe-flower in Trollius Goldquelle. Other noteworthy plants were Gibson's Giant Orange Iceland poppy—remarkable both for size and substance; the Regal hybrid lupins: and Thalictrum aquilegifolium rubrum.

Messrs. Geo. Jackman, Limited, had the good double Pyrethrum Madeline, with a selection of lupins—Rosy Morn, Downer's Delight, Molly Fisher, etc.

Pyrethrums were well shown by Messrs. Kelway and Son. We particularly admired Flaming Star, a double red; Langport Scarlet; Lady Charnwood—both these singles, the latter bright rose; Lady Randolph Churchill, double blush; Princess Mary double rose; King Oscar, double crimson; and Lady Kildare, a beautiful double apricot. Peony Paola of lovely clear rose colouring was also noteworthy.

The quaintly beautiful Rheum Alexandræ was conspicuous in Mr. J. C. Allgrove's exhibit, which also displayed eremuri, pyrethrums and peonies. Of these last, the single bright crimson Sunbeam was noteworthy.

Messrs. Daniels Bros. included in a mixed exhibit a good strain of hybrid aquilegias;

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while Messrs. R. H. Bath, Limited, showed among their tulips a useful lot of lupins and pyrethrums. Pyrethrum F. M. Peacock is a beautiful single scarlet.

The good things on the stand of Messrs. Wilson and Agar included Lupin Happiness, deep maroon purple; H. Marshall, lavender and primrose; the inevitable Downer's Delight; and an unnamed one of smoky slate colouring with gold or orange; colouring hardly possible except in a lupin or a carnation. Verbascum vernale is a pleasing little plant.

On Mr. Alfred Dawkins' length of tabling Scilla campanulata was shown in variety, as well as the brilliant double ranunculus.

The Chalk Hill Nurseries had some of their well known specialities—giant mimulus and pansies, for instance—as well as a number of lupins. Glow-worm and Queen of the West are two attractive sorts, the former of slate and buff and the latter of pinkish lavender colouring.

Mr. G. H. Dalrymple of freesia and primula fame has evidently gone in strongly for lupins. We noted King of the Blues, deep violet maroon; C. M. Prichard, orange buff; Eureka, smoky lavender; and His Majesty, a capital clear pink. A few clumps of the well known pink forms of Primula pulverulenta were included in the exhibit.

Messrs. Amos Perry included with their ferns and irises a few really good tree peonies. Here are three good ones: Nago-shin-abokin, a very vivid rose with an underlying hint of blue; Kokuriju Nishiki, crimson maroon; and The Tycoon, silvery rose with a tinge of salmon. This firm also exhibited Oriental poppies in variety.

Maytham Gardens had on show the beautiful Pæonia anemoneflora var. rosea, the silvery Anthemis arborea and Lupins Ruby King and Sulphur Gem, the former with claret and white, and the latter with long sulphur spikes and, obviously, tree lupin "blood."

Messrs. Maurice Prichard and Son had two exhibits, one in the tents, one outside. Among a good lot of lupins we singled out Brenda Prichard in bronze and orange shades as "something different." Anthericum liliastrum giganteum is an old plant, but a good one; the pink and typical forms of Primula pulverulenta are so good we can hardly have too many of them: and pyrethrums—shown here in quantity—are eminently useful for cutting. Of these last, Beauty of Lakin, double rosy crimson; Snow White, the best white singles we have seen; Hamlet, a bright rose single: Pink Pearl, an incurving shell pink single with a white zone; Aileen May Robinson, salmon rose; and Comet, large crimson scarlet, were noted.

Messrs. B. Ladhams had an interesting exhibit, in which we noted Peony Dawn, Verbascum denaiflorum, Hemerocallis Apricot and the golden H. Shirley.

Messrs. A. J. and C. Allen showed their aptly named Gaillardia Tangerine a splendid new comer to the world of herbaceous flowers.

Messrs. Amos Perry had a specimen stand of Oriental poppies, of which the scarlet fimbriated King George showed to best advantage. Other good ones included the salmony orange Mrs. Perry and Goliath, rich glowing crimson.

The only exhibit of violas and that a very good one, came from Mr. Wm. Yandell of Maidenhead. A few good sorts noted included Springwell Bronze, John Adamson, soft golden yellow, quite rayless; David Beattie, nearly black; Moseley Ideal, soft yellow, edged smoky lavender; Peggy Ramsey, chintz; and the golden Moseley Perfection.

An exhibit from Colesbourne Gardens, Cheltenham, included Pæonia lobata Sunbeam; P. elatior, red tinged with magenta; Rodgersia sambucifolia; Cypripedium Calceolus; Dodecatheon Meadia; the harebell poppy, Meconopsis quintuplinervia; M. Prattii; and Podophyllum Emodi Colesbourne var., the leaves heavily blotched with chocolate.

On Messrs. Waterer, Sons and Crisp's various exhibits were noted Roscoea cautlioides, its sulphur flowers quaintly beautiful; Primula japonica and variety salmonea; Delphiniums nudicaule and variety aurantiaca; Blue Bird, Norah Ferguson, Rev. Lascelles, etc.; Oriental Poppy Mrs. Perry in good form; Lupins Opal, Happiness (violet), Wargrave Beauty (rosy lavender below soft yellow above), and Dresden China; as well as Geum Fire Opal and a collection of pyrethrums.

Mr. Fred. G. Wood had the hybrid Aquilegia Helenæ; A. formosa, with orange and green flowers; Primula Helodoxa and P. japonica in variety.

Mr. G. R. Downer's considerable bank of lupins was full of character and some excellent unnamed seedlings of a most brilliant salmon orange will be in keen request. Among the standard sorts there was, of course, Delight. Other noteworthy sorts included Nublo, a really good violet blue; Pilgrim, silver lavender and cream; Lighthouse, a good pale pink; Hermit, violet maroon, a telling colour; and Artist, pastel shades of blue and pink—clear pale lavender at a little distance.

Down by the rock gardens, Messrs. Reamsbottoms arranged a little model garden of their brilliant St. Brigid anemones.

CLEMATIS.

A splendid group of large-flowered clematis was staged by Messrs. Geo. Jackman and Son, Limited. These included the showy banded Nellie Moser; Comtesse de Bouchard, a better plant by far than it looks at a flower show; the double white The Bride; Duchess of Edinburgh; the red Ville de Lyon; President (Jackmanni purple); the immense soft pink Fairy Queen; Jackmanni rubra; Princess of Wales; St. Julien; Lasurstern; Queen Alexandra, palest mauve of exquisite form and broadly banded with white; Sensation, lilac; the double lavender Belle of Woking; Lord Nevill, crimped purple; King Edward VII, lilac, banded rose; Beauty of Worcester, the well known double purple; and others.

HARDY FERNS.

As usual at Chelsea, Messrs. Amos Perry put up a large and beautiful exhibit of hardy ferns. Some of the kinds were, of course, exotics, albeit hardy ones, notably the Struthiopteris and some of the "flowering ferns" of the genus osmunda, but for the most part these quaintly crimped or densely plumed specimens are merely natural forms or careful selections of our native species. Polystichium angulare, for instance, is a species very prone to sport, as seen in such forms as P. a. divisilobum plumosum densum dissectum, a splendid, if long-named, form seen at Chelsea.

PALMS AND SUCCULENTS.

Although there was no specific collection of palms, as on many former occasions, various fine specimens were to be seen associated with other pot plants, and the attractions of the Orchid Tent were undoubtedly increased by the row of kentias alternating with tree ferns which were placed along the centre of the tent. A most decorative palm, Phœnix Rœbelini, in splendid condition was seen with Messrs. and Peed and Son's wonderful caladiums.

Mr. Sydney Smith had a collection of succulent plants which displayed the fascinations of their uncommon forms. He had nearly all the possible genera with a large number of distinct species. His chief plants were Mamillaria Scheideana, M. coronaria, M. micromeris, Echinocactus Grusonii, E. pilosus, E. chrysanthus and Cephalocereus senilis, with many species of euphorbia, echinopsis, cotyledons and echeverias.

AN INTERESTING COLLECTION OF CACTI, STAGED BY MR. SYDNEY SMITH.

FRUIT AND VEGETABLES.

An amateur with a fine exhibit was the Hon. John Ward, Chilton, Hungerford, who staged a collection of choice melons, peaches, nectarines and grapes.

Fruit trees in pots from the nurseries of Messrs. T. Rivers and Sons, Limited, provided a distinctive and attractive show, in which nectarines, oranges and lemons were the particular feature.

Exhibits of fruit were confined to a collection of strawberries which reflected the greatest credit on the raisers, Messrs. Laxton Brothers, Bedford. The fruits were of a uniformly large size and beautifully coloured in shades ranging from bright scarlet to dark red, and while their character did not contribute to an artistic display, the arrangement of the table left nothing to be desired. The variety which attracted most attention was the firm's 1927 novelty Duchess of York, a maincrop strawberry with British Queen flavour. The fruits were ideal in

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size and colour. Robust, a maincrop sort, is another meritorious new strawberry, and those growers who are familiar with the popular Royal Sovereign will recognise in King George an advance on the older sort. Among other varieties included in this interesting exhibit were The Duke and Marechal Foch.

Considering the early season of the year, the exhibits of vegetables were entitled to rank among the successes of the Show; indeed, it is difficult to say whether the excellent quality of the products or the number and variety of the dishes commanded most admiration.

Of Messrs. Suttons' exhibit it may be truly said that the Reading firm succeeded in making a vegetable display beautiful. Even the common garden pea and the dwarf bean looked more attractive and less familiar when arranged in artistic form, and the once commonplace stand was transformed into an original and educative object-lesson.

New varieties and forms of vegetables were the chief characteristic of Messrs. James Carter and Co.'s exhibit. Here novel colourings were the fashion, for there were mottled radishes, yellow and white cucumbers and golden beans that were hardly recognisable in their latest and more radiant garb. Yellow and red currant tomatoes of tiny size added to the attractions of the group, and the cauliflowers were particularly fine for this time of the year.

A comprehensive collection of vegetables of excellent quality was exhibited by the Hon. Vicary Gibbs, Aldenham House. Peas, French beans and tomatoes were particularly good.

OUR PHOTOGRAPHIC COMPETITION

In view of the number of excellent photographs which have been received from readers, many of which are as meritorious from the gardening as from the photographic standpoint, it is impossible to publish as many as we should like. Indeed, it is with no small difficulty that we select those to which awards shall be made. Numbers deserve publication for more than one reason. We propose to retain, unless the senders signify their wishes to the contrary, a selection of the more attractive photographs and to publish them from time to time, independently of the weekly competition announcement, when awards will be made under exactly the same conditions as if the photographs were published in connection with the competition itself. In connection with the receipt and return of photographs we would direct readers' attention to Rules 6 and 7.

This is a photograph of my rock garden, taken two years after planting. It is made on a slope facing east, about a mile and a half from the foot of Lake Windermere. There is quite a variety of plants growing in the garden, including veronica, white broom, foxgloves, royal fern, Geranium lancastriense, G. sanguineum, Cistus florentinus, Veronica rupestris, Menziesia alba and Viola cornuta. There is a large and decorative patch of woolly thyme in the left corner, with Veronica Guthrieana and rock roses on the right.

The Guinea Photograph, sent by MRS. CHEYNE, *Newby Bridge, Ulverston.*

This is a novel idea of using a bird bath or any other suitable garden ornament. Although not strictly a garden picture, I think it is most charming and an added beauty to the garden. Ornaments placed at vantage points throughout the garden undoubtedly enhance the design and assist the appearance.—MRS. HAMILTON, *Henley Park, Henley-on-Thames.*

Award of 5s.

[*This is, we agree, a particularly happy illustration and fully worthy of an award.*—ED.

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Canterbury bells, especially the old-fashioned cup-and-saucer varieties, are among the favourite flowers of the garden. They can be used in many parts of the garden, but here the effect is a particularly charming one, since—as is shown—they have been planted in the mass round the base of a tree and allowed to grow at will. With the background of foxgloves there is an atmosphere of an old-world garden. The Canterbury bells thrive very well under the half shade of this tree. —MISS E. WINGFIELD, *Heavitree, Exeter.* Award of 5s.

There is little doubt that a double white cherry tree, well placed, adds considerable beauty to the surroundings of a garden. Placed at the side of the lawn, as it is here, and the bed underneath planted with spring flowers, pink daisies, wallflowers and pink tulips, it looks most effective.—LADY THORNEYCROFT, *Bembridge, Isle of Wight.* Award of 5s.

This illustrates rather an attractive way of using an ordinary stone pillar as a garden ornament as well as a sundial. It can be made quite an effective focus point in the garden lawn by placing it in a central paved position and planting around it with trailing plants such as cerastium, arabis or aubrietia. —MR. C. W. PYLE, *Harlow, Essex.* Award of 5s.

Three years ago I purchased fifty Inglescombe Yellow Darwin tulips and planted them out in beds running up to the front of the house. As a groundwork to the beds I planted white saxifrages. The bulbs have always been planted with a little sand and Wakeley's hop manure below each, and lifted annually after the foliage has turned yellow. They are stored for the summer and replanted in late October. This treatment seems to suit them, as this year the display is a particularly fine one, and only three rows were planted thickly. —MISS L. M. ORR, *St. George's Hill, Weybridge, Surrey.* Award of 5s.

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WORK IN THE FLOWER GARDEN

Summer Treatment of Cyclamen.

THERE is little doubt that the best results are secured by making an annual sowing of cyclamen, but this is not always convenient. With proper treatment during the resting period the old corms will flower very freely for many years. When the flowers are quite over, lessen the supply of water so that the growth may be induced to lessen gradually. It is not, however, advisable to withhold water entirely, even when the corms are quite dormant. The best plan is to put the pots in a well shaded frame and give water about once every ten days. In July, before there are any signs of new growth, shake out the corms and re-pot them in a compost of good loam and leaf soil, taking care to keep them sufficiently high to prevent the water settling in them. Keep the cyclamen in the frame until late September, when they may be removed to a light position in the greenhouse. If given careful treatment at the present time the plants will flower successfully during the winter months.

A Fine Hardy Shrub.

ONE of the most attractive brooms, is Cytisus albus, forming a delightful object in May, when the white blossoms appear in remarkable profusion on the long graceful branches. Though often grown among other shrubs, it is worthy of a prominent position by itself, for then its natural grace and beauty are fully displayed. If allowed to grow as it pleases it becomes somewhat straggling in a few years, but if the branches are cut back after flowering, the portions left will produce shoots for the following season's display, and the plants are kept in better condition thereby. A sandy soil and sunny position are regarded as ideal, but this broom will grow in heavy soils and in exposed positions, to which the plant in the illustration bears witness.—J. C. C.

The Musk Rose.

OF all rambling roses, the musk rose, Rosa moschata, is, perhaps, the most satisfactory. It is deliciously fragrant, and its white flowers, faintly tinged with pink, have a multitude of golden stamens, and are borne with extraordinary profusion in immense corymbs. Once established, it needs no pruning and, given a suitable support, will climb to a height of 30ft. or more. The beauty of the rose is, perhaps, seen to best advantage when rambling over a dark-foliaged evergreen, such as a yew. That the soil in the vicinity of a large tree will need improving before putting in the rambler goes almost without saying. A hole should be taken out to a considerable width and depth, and filled in with good loam enriched with well decayed manure—preferably cow dung. Should the natural soil be stiff and heavy, care should be taken that there is no danger of the roots becoming waterlogged, for it is possible for this to occur even near the roots of large trees. Drains near tree roots do not function long, so to be on the safe side in such a case plant the rose on a slight mound. Near large towns or in very bleak localities it is wiser to employ the hybrid musk rose The Garland, which, except that it is double, has all the good points of the species with greater powers of resistance against unfavourable conditions. The musk rose is usually in full flower in the south and midlands by the end of June. The Garland has a rather later flowering season.—MIDLANDER.

Growing Heliotrope in Tubs.

NOW there are so many brightly coloured flowers at our disposal, the sweet heliotrope is apt to be overlooked. It is an old-fashioned flower which is not met with as frequently as it should be, because few people know what can be made of it with careful culture.

Heliotrope is usually seen in small pots, with a few clusters of pretty, fragrant flowers; but it can be grown on until it fills a large tub. By this time the plant will be about 5ft. high and covered with trusses of bloom.

The culture must begin with a small plant, preferably a strong grower like H. corymbosum; although other varieties respond well to the same treatment. But no dwarfs or weak growers will answer the purpose, and H. corymbosum is a good grower and easy to obtain.

ONE OF THE MOST ATTRACTIVE BROOMS, CYTISUS ALBUS.
It can be grown in almost any position.

The plant selected must be young and in vigorous growth. As soon as the roots touch the sides of the pot, transplant into one a size larger, being careful to disturb the roots as little as possible. Continue this treatment until the plant can be put into a tub 2ft. in diameter. Any bloom must be carefully pinched out as it appears, and the strongest shoots trained upright to form the main stem. The side shoots are tied to a fan-shaped trellis, all not required are cut out.

It is best to begin this culture in the summer when the pot can stand out of doors. Give plenty of water and be careful not to let the sun heat the pot. For this reason wooden tubs are better than pots, and as soon as the heliotrope attains any size it is better planted into one.

The plant should be kept growing all summer, never allowed to flower, and occasionally given weak liquid manure. It should be a good size by autumn and must then be removed indoors to a warm, sunny position before the first frost, and grown on as before. During the first winter allow the wide side shoots to give a few clusters of flowers, but it is essential to success to keep the leaders to wood.

If the same culture is continued for five years, the heliotrope should be from 3ft. to 5ft. high, with a stem as thick as a man's finger and carrying as much bloom as anyone could wish. It will then only require watering and sufficient pruning to keep it in shape.—H. ALLAN.

Remember to Sow Wallflower Seed.

AMONG spring bedding plants the wallflowers occupy a high position, and deservedly so, when we remember their delightful fragrance, their free-flowering qualities, the ease with which they can be successfully cultivated, and their usefulness for beds, borders and the flower garden generally. It has been stated that July is a good month for sowing wallflower seeds; but if left till this date it is impossible to obtain fine plants by October. May or early in June is a much better time for sowing the seeds, and these should be in lines 1ft. apart. When large enough the seedlings are transplanted in firm soil from 9ins. to a foot apart, and directly they are established pinch out the centre of each plant, no more stopping being required. If the ground is hoed occasionally the plants will grow freely. Wallflowers with their wealth of blossom can be associated with other plants, but for beds I prefer them alone with, perhaps an edging of forget-me-nots or arabis. Like many other popular flowers, the number of named varieties is increasing, a fact which must be a problem to the amateur or beginner when making his selection. A few varieties that always give a good account of themselves include Fire King, a brilliant vivid orange, especially when viewed from a distance on a bright day. Height, 15ins.

A dwarf and compact plant is Orange Bedder; it is a difficult colour to describe, the flowers opening a rich orange and toning off to apricot yellow. Height, 12ins.

This spring I have grown these two varieties intermixed, and the effect is charming, while the slight difference in the height takes off the flat appearance of the beds.

Blood Red is always a favourite if a good reliable strain is obtained; but for two years my plants produced flowers striped with yellow, and now I rely on Giant Vulcan, a dwarf rich crimson variety. Cloth of Gold is a rich yellow and a very effective bedder; while another good yellow is Belvoir Castle.

There are other forms, but the above selection will suffice for most gardeners.

A warm sunny border planted with a few early-flowering wallflowers will be an asset about Christmas-time if the weather proves mild, when the following varieties often begin to bloom. Among the best will be found Phœnix, a rich chestnut brown; and Yellow Phœnix is an excellent companion to the type.

Cherianthus Allionii, or Siberian wallflower, is quite distinct from those already quoted, but it requires the same treatment and is useful for beds and borders. Moreover it has a more extended flowering period, therefore it should be planted where there will be no need to discard it for summer bedding. A patch on the rock garden is very effective, especially if planted where the glorious orange flowers are brought nearer to the eye. When in bloom this plant is from 9ins. to 12ins. in height.

Cherianthus or Erysimum linifolium, the mauve alpine wallflower, produces its heads of clear mauve flowers in May and June, and is an excellent subject for small beds and the rock garden, but wherever possible it should also be planted on a low retaining wall. Here it grows freely, and produces plenty of seeds, the seedlings eventually appearing in all directions.—T. W. B.

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HOW TO MAKE A LILY POOL (see page 380).

JUN 27 192

THE
GARDEN
THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2897 Saturday, June 11th, 1927 Price TWOPENCE

A BOWL OF GARDEN PINKS.

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THE GARDEN

VOL. XCI.—No. 2897. JUNE 11, 1927. PRICE TWOPENCE.

ALLOTMENTS MADE BEAUTIFUL

HOW often one hears the complaint that one would rather see a patch of grass or a field, than a group of allotments. This should not be. Yet the complaint is justified in many instances, for there are allotment sites that have come under our notice that have been anything but pleasing to the eye, even when well cropped. At their best, allotments look what they are; simply a mass of cultivated vegetables, and the majority of vegetables have not even attractive foliage. But why not a few flowers to brighten up these dull, monotonous patches. Apart from the valuable asset to the country of food production, there is no reason why groups of allotments should not be some of the most beautiful and coveted places wherever they are situated.

Now look at the accompanying photograph. This shows a corner of a group of allotments, which, in itself, is a beautiful garden of flowers. Why should not a similar array of colour be a regular feature on all such sites? One hears of cases of objection by ratepayers and others to certain groups of allotments. Here is an opportunity for allotment associations to take up the floral side of their interests and so put "another string in their bow," for the retention of their land.

We know that a movement for the inclusion of flowers on allotments is already on foot, but there is need for greater co-operation, not only among societies, but among the members. Why not have a rule to the effect that members should allocate a portion of the plot to flowers?

We see no reason why allotment grounds could not be so decked with flowers—without any appreciable reduction in the area reserved for the cultivation of vegetables—that the public could be admitted on certain days, as is done at certain private gardens, to see the wonderful display of flowers grown by allotment holders. Besides the prestige created in the public mind, this could be made a means of adding revenue to an association's exchequer.

This Week's Work

For Gardens in the South and Midlands.

Stake all tall-growing herbaceous perennials and keep the borders hoed regularly.

Earth up potatoes and sow peas, runner beans, lettuce and spinach.

Plant out celery, ridge cucumbers, Brussels sprouts, vegetable marrows and leeks.

Thin out turnips, carrots and lettuces.

Feed with weak liquid manure roses, tomatoes, chrysanthemums in pots and bush fruit.

Thin the fruit of apple trees.

Apply weed killer to paths.

Give perpetual carnations their final potting.

Temple Gardens Exhibition.

THE London Gardens Guild will hold its second large exhibition of flowers grown in London gardens in September next (3rd, 4th and 5th) in the Temple Gardens, which it uses by permission of the Benchers of the Inner Temple.

The exhibition is mainly for the amateur. A few trade exhibits will be there, but the bulk of the exhibition will be staged by amateurs belonging to Gardens Guild branches and affiliated societies. The schedule offers awards in the form of medals (no prizes are offered, either in money or kind) for individual exhibits of flowers, and also for corporate displays from various horticultural societies in and around London. The Exhibition is being organised with the help of the *Daily Express*, which assists the Guild movement also in connection with the Garden Championships. In addition to providing the medals, the *Daily Express* is also offering a silver challenge shield to the Society whose members secure the highest aggregate number of points.

Schedules of the Exhibition, which is open to all amateur gardeners within the Metropolitan Police area, will be sent on application to the Hon. Organising Secretary, 124, Walworth Road, S.E.17.

The Silver Cup for Peonies.

THE competition for the second of three cups presented by Mrs. Edward Harding for award for the best exhibit of three flowers of each of six varieties shown by an amateur, will take place in 1927 on June 21st, at the R.H.S. Fortnightly Show at Vincent Square.

The pinks illustrated on this week's front cover are a few of the varieties of Mr. C. Herbert's well known strain.

This Week's Work

For Gardens in Scotland and the North.

Plant vegetable marrows.

Give apple trees a light mulching of half decayed manure.

Thin out annuals with a liberal hand.

Dust hellebore powder on gooseberry bushes when the foliage is wet.

Begin transplanting leeks.

Sow swedes for winter use.

Renew window boxes.

Complete planting chrysanthemums, dahlias, antirrhinums, etc.

Spray aphis-infested rose and fruit trees.

Plant out seedling carnations.

Trim box edgings in showery weather.

Plant savoys and kale as ground becomes vacant.

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A TINY POOL FOR THE SMALL GARDEN

II.—HOW TO MAKE AND STOCK IT.

HAVING made up our minds as to the placing of the pool (see THE GARDEN for May 21st, page 322), we have now to consider the materials needed and the actual work of construction.

Let us take as an example the recessed dripping well illustrated at Fig. 2 in the previous article, and which is shown in vertical and horizontal sections (the latter at ground level) in Fig. 5. Having decided upon the line of the wall, the exact position of the tank in the wall and the finished ground-level on the lower side—say the level of the pavement—we may proceed to set upon the ground the area included by the "dot-dashed" line PQRST.

Let ST (Fig. 6) represent the line of the wall face at ground level, and U the point where it is decided to have the "drip." We next measure off 6ft. 7ins. from U towards S, and put in a peg (point V). Similarly we fix and peg the point W 6ft. 7ins. from U. At V and W we set up cross lines at right angles.

Measure off at each end behind the wall line 1ft. 7ins.; this will determine the points P and Q (Fig. 5). Points R and T will now easily be fixed from the dimensions given in Fig. 6. The arc S is found by describing a segment of a circle with a line attached to a peg driven in at a point 4ins. in front of the point U on the wall face. The radius of the segment should be 6ft. 5ins.

ONE OF THE TINY GROWING WATER LILIES, SUCH AS N. PYGMÆA LOOKS WELL IN A SMALL POOL.

Excavate the whole of the area PQRST to a depth of 3ft. 10ins. below the finished ground level. "Nick" the inner lines of the walls with a spade. A square about 12ins. each way taken out in the centre is a convenient position for the drainage sump; soil excavation to a further depth of 6ins. or 8ins. being necessary. The amateur pool-maker, however, will find it of considerable assistance if he moulds his concrete for this around some deepish box already in his possession, which will probably be oblong, not square.

Take the outside dimensions of this box and excavate for the concrete 1ft. wider and longer. Next slope the concrete bottom inside the wall lines very slightly towards the sump hole; a maximum fall of ½in. will be ample. The bottom, if quite firm and solid, is now ready for the concrete. If, however, the site has recently been made up or should be bottom prove to be unstable sand, all possible consolidation should be effected, and it will be well to lay down 6ins. of concrete instead of the 4ins. which normally suffices.

The sump is, of course, provided to enable the tank to be emptied periodically for cleaning purposes. This, after the first few weeks, will seldom be necessary, but as such a tank will hold somewhere about 800 gallons of water, the task, even though a portable pump be available, will not be a light one. It follows that, if the bottom of the tank is above the level of a near-by and accessible drain or ditch, it will be well worth while to provide an emptying drain. The bottom of the tank should then slope gently to a convenient point for bringing the pipes under the wall foundation and, instead of the sump, a proper stone valve—procurable from any builders' merchant—should be fitted.

We come now to consideration of the concrete for which the materials should all be to hand before the excavation is undertaken, otherwise rain storms are likely to bring in the sides of the excavation and to make work unpleasant, even if baling out does not become necessary. For the purpose in mind a good concrete is made of three parts by measure good clean brick rubble—*i.e.*, broken bricks free from mortar rubble—broken small enough to pass a 1½in. sieve, one part of clean, really sharp sand and one part of good Portland cement. If brick rubble be scarce, half the quantity only may be used, and the remaining one and a half parts be made up of granite chippings, hard stones broken to the gauge given, or even clean clinker ash.

The materials should first be thoroughly mixed while still in a dry condition, then water be added sparingly to the heap, and the heap turned and turned again, with sparing additions of water until the whole is of the consistency of rather wet mortar. If the brick rubble seems dry in the first place, it is well to water it thoroughly and let it drain before the initial dry mixing. It is better and easier to mix the materials in fairly small quantities—say three barrows of brick rubble and one barrow each of sand and cement—at a time.

First place a layer of cement 4ins. thick in the bottom of the sump hole, and ram until it is quite solid While this is drying a little concreting of the tank base may be commenced, keeping away from the sump hole. Lay down 4ins. of concrete all over, keeping the wall footings quite level and sloping what will be the tank base to follow as near as may be the contour of the shaped earth beneath. As soon as the cement to the sump bottom has set sufficiently—it should not be hard—the box already provided for a mould may be placed centrally and concrete be packed around it to form the sump walls, which will, of course, project some 4ins. above the earth floor of the tank. The concreting of the base may now be finished. And the work to date will have absorbed about 3½yds. of concrete. The base should be allowed to dry sufficiently to be walked upon without taking foot-marks before the walling is commenced.

The walls below water may be of concrete, but they will not look so well, and it will in that case be necessary to build up "boxes" with timber in which to mould the concrete. The amateur will do best to make the sides of the stone or brick of which the above-water walling is made. The plan allows us to "batter," that is, slope back, the walls which have to retain the surrounding earth at the rate of 8ins. in 7ft. If we tack to one side of the plumb rule a strip of wood so planed that it tapers evenly off to nothing at the base of the rule and is 2ins. away from it 1ft. 9ins. from the base, we can easily arrange this batter. Bed the first

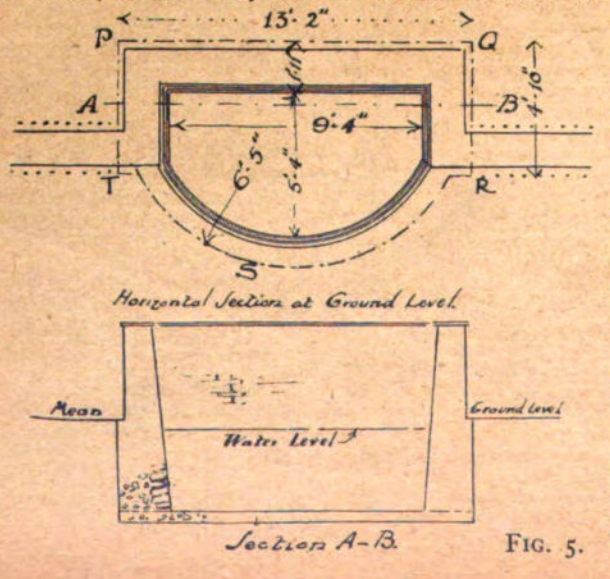

FIG. 5.

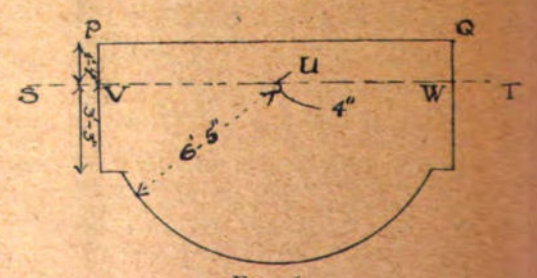

FIG. 6.

FIG. 7.

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course of stones on the wall lines, selecting, if possible, stones a little deeper at the front than the back, bedding them in cement mortar made to a strength of "two and one"—that is two parts of clean, sharp sand and one of cement—and setting them so that their faces fall back to the line of the batter. As each course is laid, pack in solid behind with cement concrete as already described. When we reach the level of the side-wall "footings," it will be well to put a block of concrete about 2ft. long of the width of the wall-footing proper (1ft. 11ins. as shown, Fig. 5) and quite 8ins. deep; this to prevent unsightly cracking at this point as the work "settles." An overflow pipe to a drain or soak-away must not be forgotten when the proper height is reached.

Once the work is carried above water-level, the retaining walls may be finished as desired, but it will, perhaps, be as well to bed the stones in cement, except for occasional places for planting, to back them with soil, and to rake back the joints when partly dry with the point of a trowel or a small iron bar. Any part of the wall which has to show both faces—that is stands above terrace-level—will need cementing on both faces, and the capping will, of course, be put on in cement.

The recess for the drip should start just below water-level; a lead head to mask the water pipe can be obtained or a roughly chiselled "lip" of stone may be set to project a couple of inches. A rotary jet may be fixed, if desired, to the spray. When tank-walling is finished, the concrete bottom should be faced or "rendered" with a thin (¼in.) layer of cement mortar ("two and one").

The following tools will be found to be essential: A 7in. or 7½in. bricklayer's trowel, bricklayer's hammer, plumb-rule and bob, spirit-level and straight-edge, and a good shovel. The use of a wheelbarrow and odd lids or boards for "hods" may be understood. For lining the pool and building the terrace wall within the area shown in Fig. 5 (that is excluding the flanking walls, of which we have no running dimensions) some 6 or 7 tons of coursed rubble walling stone will be required; or in brickwork and employing 3in. bricks, 800 bricks would be needed. In either case 19ft. 6ins. run of 16in. self-faced hard Yorkstone coping. For the concrete 6yds. (loads) of brick rubble, one load of sand and twelve bags of cement would be requisite, and a further two bags of cement and a few hundredweights of sand for the walling above water-level for building up the stonework face and for "rendering" the bottom. The quantities given are, of course, approximate, as the materials needed will vary somewhat with the character of the stone employed. In particular more concrete will be needed if bricks are used for the facing. Pools of similar area but without the walling behind will, naturally, take a similar amount of concrete, but less walling stone and jointing material.

The construction of the informal pool will follow similar lines, but the rocks below water-line will follow natural not "walling" lines, and the concrete for the sides will be better made of smaller materials—to pass a ¾in. riddle—so that it may be more plastic in use. Again, the sides, being dished and to some extent strengthened with stone, can be moulded up to shape from the, in this case, irregular bottom (Fig. 7). Any bogland must be included in the area to be concreted, and the rocky wall dividing it from the pool proper be built up against a bank of good turfy loam, peat and sphagnum moss over a foundation of rough stones or brick-bats. The little pool and double bog shown in Fig. 3 (page 322) would require about 2½yds. of concrete and from 1 to 2 tons of rockery stone for its construction.

The *planting* of tiny pools is restricted by the necessity of using kinds which do not overwhelm and dwarf so small a piece of water. Two really tiny water lilies are Nymphæa pygmæa (white) and its variety helveola with sulphur yellow flowers. Neither of these should have more than a foot of water above their crowns. Frœbeli, with deep crimson flowers, is small-leaved and free to blossom, and other moderate growers include all the Laydeckeri set. The deep rosy crimson N. Laydeckeri purpurata with deep orange stamens is especially effective. The fragrant varieties of the species odorata, some with white and others with sulphur yellow flowers, are also moderate in growth. For very, very small pools a good substitute for water lilies is our native water buttercup, Ranunculus aquatilis, with myriads of white flowers. The flowering rush, Butomus umbellatus (also native) is good potted up and grown in the formal pool. It has stately foliage and bears agapanthus-like umbels of pink flowers.

Other good aquatics are the floating Cape hawthorn, Aponogeton distachyon, which however, needs keeping in bounds; the bog bean, Menyanthes trifoliata, with much-fringed blush white blossoms; Limnanthemum peltatum (Villarsia nymphæoides) with floating foliage and golden yellow flowers—a plant for shallow water; the double arrow-head, Sagittaria variabilis fl.-pl.; the lesser mace-reed, Typha minima, also for shallow water; and the beautiful arum lily, Richardia africana.

There are a number of suitable plants for growing round the edges of an informal pool. Siberian irises, astilbes, primulas, and spiræas are well adapted for such a position. Astilbe Pink Pearl is one of the most attractive of its class, and Primulas Beesiana, Bulleyana and the various forms of japonica are all easy to grow. The globe flowers (trollius) are very attractive, while the funkias, with their glaucous green leaves, are effective both in flower and foliage.

For a formal pool the nymphæas are best potted up in good turfy loam and well decayed manure—preferably cow dung—with proper "drainage" just as if they were to remain above water. The pots (8in. size will do well for the smaller growers) may then be stood upon the pool bottom, or raised, if necessary on stands of brick or stone. By treating the other aquatics similarly it is easy to achieve the desired balance for effect and to keep the pool-bottom clean. In the case of an informal pool, all the kinds mentioned may be planted out in a layer of good loamy soil in the pool bottom, but the precaution should be taken of weighting down the roots by tying stones to them, otherwise the plants are likely to float to the surface before they can become established.

To keep the water of a pool—especially of a little pool—sweet and wholesome, and to prevent it from degenerating into a breeding place for midges, animal life should be introduced and made at home. In pools of the size we have been discussing it would be well to put in six or eight gold fish, procuring these from a source where they have not been "coddled" in warm rooms. A few water snails and newts may also be dropped in. Fish need food, and it may be well to feed the gold fish for a time until insect life upon and in the water becomes established. They also need shade, and such plants as Ranunculus aquatilis are invaluable for providing this, but a few rough pieces of stone on the pool floor should be included in addition. Before planting or stocking with fish the pool should be filled, emptied and refilled at least twice, leaving it full on each occasion for several days. Also the water should be partially changed—by running fresh water in—to a much greater extent for the first month or two than will be necessary or desirable afterwards. It should be said that the sooner the pool can be filled when the concreting is finished the harder and better the cement will set. In really hard frost it will be well to cover the unbroken areas of ice with bracken or other light material before it becomes too solid, otherwise its expansion may damage the concrete. R. V. G. W.

A TINY POOL WELL PLANTED AND IN CHARMING SURROUNDINGS.

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TAKE CUTTINGS OF CATMINT

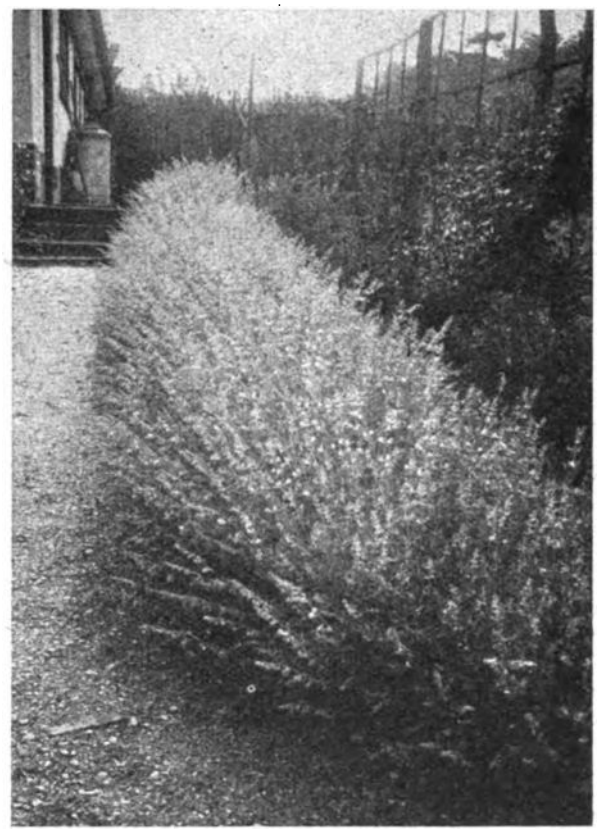
IT is peculiar how opinions on the merits of Nepeta Mussini appear to differ. For my garden there cannot be enough. I have two hedges of it 60ft. in length, one bordering a path leading to the back door, and another edging a small lawn facing the front of the house. Last season I raised nearly three hundred good plants from cuttings taken in July, which were planted out in the autumn in groups of three in the long herbaceous border, allowing 2ft. between the plants, between which I planted three rooted cuttings of a rosy pink antirrhinum which will flower at the same time as the nepeta. The effect when looking along the border should be very striking, for the long, lavender spikes — or misty blue if you like — form an effective foil for almost any pink flower. Next year the nepeta will require all the ground to itself, as it increases very rapidly, and will make bold groups of colour showing up well against the green background of the growing perennial shoots of asters, etc.

With me, in Berkshire, it commences to bloom about the middle to end of May, even in such a cold, backward season such as this. The first flowering spikes may disappoint those who are growing the plant for the first time, because the flowers are spaced at rather wide intervals on the stems, and more foliage will be in evidence than will be seen a fortnight later. Then it will be difficult to find any at all, the row presenting an unbroken wall of lavender blue spikes beloved of bees, which maintain an incessant hum from daybreak to sunset.

That is how the plant behaves in my heavy clay soil over chalk, remaining in bloom well into July, and will give quite a good showing of secondary bloom in September if the flowering spikes as they go out of bloom are cut ruthlessly down to within a few inches of the ground with hedging shears.

And yet I met a man the other day who told me that he had instructed his gardener to root out every piece from his garden! Naturally, I enquired his reason, and learned that it was because it was such nasty, straggling stuff. Well, there is some truth in the statement if the wealth of bloom is allowed to fall about in its own sweet way; but, if the old growths which die down in winter are allowed to remain, they will efficiently support the next season's flowers, or twiggy sticks may be inserted along the row, very much in the same manner as support is given to plants in the herbaceous border, except that nepeta only requires sticks measuring some twelve to eighteen inches in height. A better method of supporting the blooms is to nail a length of foot-wide, small mesh wire netting on short stakes driven into the ground, putting the support in place soon after the new growths push forth. The shoots will grow through the netting, which is quite hidden by the time that the plants are in full bloom.

In July, when the flowers are going over, the plants will commence to push forth an abundant supply of soft new growths, which make splendid cuttings if pinched off and inserted in sandy compost in a shaded cold frame. The growths should be about 3ins. long and should be dibbled into the frame or boxes of sandy compost, inserting the cuttings about 2ins. deep. The lower leaves may be removed if desired, and the shoot trimmed just below the bottom pair of leaves. So doing makes for greater success in the striking, but nepeta will strike readily if inserted just as the shoot is pinched from the plant. Keep the frame moist and shaded for the first week, dewing over at night, and the majority will have rooted in three weeks. The shoots may flag for the first few days, but will soon become erect if kept moist. The tips of the plants used for cuttings in this way are really flowering shoots, *i.e.*, if they have been left on the plant they would have produced flowers. As the cuttings send out roots these flowers will develop and should be pinched off, for pinching encourages the dormant, underground buds to push out into new growths, which rapidly produce a good bushy plant by early September.



AN EDGING OF NEPETA IN FULL FLOWER.

After flowering the soft new growths can be pinched off. These make excellent cuttings if inserted in sandy compost in a cold frame.

Where a large increase in stock is desired, it may be difficult to find the requisite number of soft shoots in July. These can readily be obtained if a number of plants are cut back to within a few inches of the soil. A month later there will be an abundance of shoots admirable for use as cuttings, very few of which will go to bloom while being propagated. The only objection to this form of cutting is that they are of a softer nature than those produced by the natural growths, and are apt to damp off if the frame is kept too close. If, however, the shoots are allowed to develop on the plant, these can be pinched off in September and inserted with every hope of success. Such late strikings make sturdy little plants in time for late autumn planting, and will flower very well in the following June and July.

When putting these plants into their permanent positions do not make the error of planting too close together. At least 2ft. of space should be allowed between the plants, and nothing should be planted behind or before them unless it is at least a foot away. That will suffice for the first season, when a single antirrhinum plant may be planted between the nepeta in the rows. In the second year nothing should be planted between, or it will be hopelessly swamped by the nepeta growths, and no plant should be inserted either behind or before the nepeta unless 2ft. away from it.

Inexperienced gardeners cannot realise the growth made by this perennial in its second year. During March the shoots are just pushing through the soil. Harmless, soft growths they then appear, with apparently plenty of space for a few flowering plants in between. At the beginning of May, the seemingly harmless shoots have spread themselves considerably, and in mid-June, when the plants are in full flower they form a veritable hedge. The accompanying illustration is of a hedge of Nepeta Mussini in my garden. It is in full flower, and shows the amount of growth which has been made by the second season. C. P.

PLANTS FOR PORCHES

IN the building of quite a number of modern houses there is a disposition to follow the practice of erecting porches, and in this respect it is carrying into effect the idea seen in many old country homes. These porches not only act as a shield in bad weather, but serve the purpose of shade in summer. One notices frequently how the lover of a garden takes the opportunity of growing climbing plants over and around these structures, that, in their season, are festooned with flowers and trailing shoots. Time and again one comes across the white sweetly scented jasmine; Clematis Jackmannii, with clusters of purple flowers; or Clematis Flammula, smothered in the early spring with its myriad white blossoms. Roses, too, are great favourites, and though ramblers are frequently planted, the space around a porch being limited, one finds better results when sorts noted for longer blooming are employed. I have come across not a few old-type roses so grown—William Allen Richardson and Gloire de Dijon, for example — and not long since I saw on an old porch a rose that is seldom met with to-day, very sturdy and one which used to be frequently recommended for cold and exposed situations, *viz.*, Amadis, a semi-double purplish crimson. For rich perfume, what can rival in its time of blooming, clusters of honeysuckle? In warm localities and sunny positions one remembers the beauty of the drooping racemes of wistaria, and the exuberant growth of passiflora. These can be planted in spring because they can always be procured in pots, as can also the creamy white-flowered Solanum jasminoides and the quick-growing Cobæa scandens, both of which are of service in enveloping a porch in a sunny position. Planting of these also can be done in spring, and it is scarcely necessary to say more than that, having regard to their permanency, 2ft. or more of good soil—loam and old manure—should be provided for the roots.

Annuals also serve a purpose in furnishing a porch with summer beauty. We may have convolvuluses in blue and purple, and crimson and white, or a wealth of yellow blossoms amid foliage of tenderest green, by sowing seeds of Tropæolum canariense; or we may ensure gayness for months by dropping in a few seeds of nasturtiums, which will yield flowers in brightest tints. F. W.

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SCENTED GLADIOLI

In this article are described a number of scented species of gladioli which are found wild in South Africa. Many of these have been introduced to this country, and in course of time our modern garden varieties may become scented when crossed with these charming species.

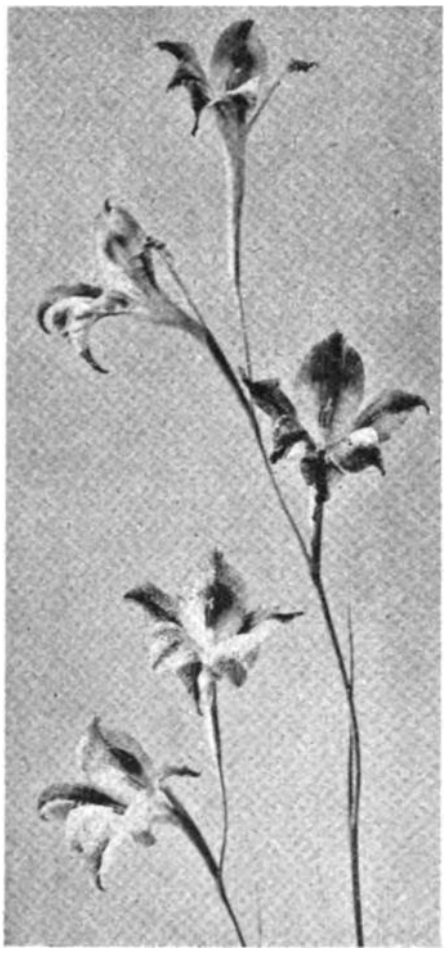
IS the scented gladiolus merely a dream of optimistic gardeners? Mr. Kelway tells us in the "Gladiolus Society's Annual" that Gladiolus tristis was introduced into Europe in 1745, and I rather suspect that it has been looked on as *the* scented gladiolus of South Africa.

Gladiolus tristis is a wonderful flower, and it must be conspicuous, for it is one of the very few that are known to the average South African. I think one could not very well overlook it, for as it blooms in my garden it stands over 5ft. high, with a spike of fifteen to twenty pale yellow blooms on a delicate stem bowing and waving in the breeze, and when it opens at sunset its delicious scent fills the evening air. It seeds freely and germinates well. I now have a bed of over two hundred of them.

G. grandis is, to my mind, a far more beautiful flower, with a far more elusive fragrance.

It is true that G. grandis can only boast two blooms on a spike, sometimes only one, but then they are as large as any of the gandavensis hybrids and far more delicate. The stems are about 3ft. high, and so fine that even the weight of the delicate blooms makes them bend over slightly. The colour of the flower is indescribable, sometimes brown, sometimes brownish-purple, with cream as a background, but the cream hardly shows at all, for the curious spots, stripes and mottlings of the darker shades.

Then there are two which seem to be very nearly related to G. grandis; these are tenellus and maculatus. The latter flowers on the lower mountain slopes in May. The blossoms are smaller than those of G. grandis and the flower opens in the daytime and is very sweetly scented. A couple of dozen of them in a vase will scent a large room. Like grandis, the flower is speckled with brown in irregular markings, generally a dark line down the centre of the petals.



THE SWEETLY-SCENTED GLADIOLUS MACULATUS

Then, in the very early spring comes another which seems nearly related, but with still smaller flowers, G. tenellus. The flowers are a rather lighter brown, and the whole plant is very dainty, but I do not think it is particularly fragrant.

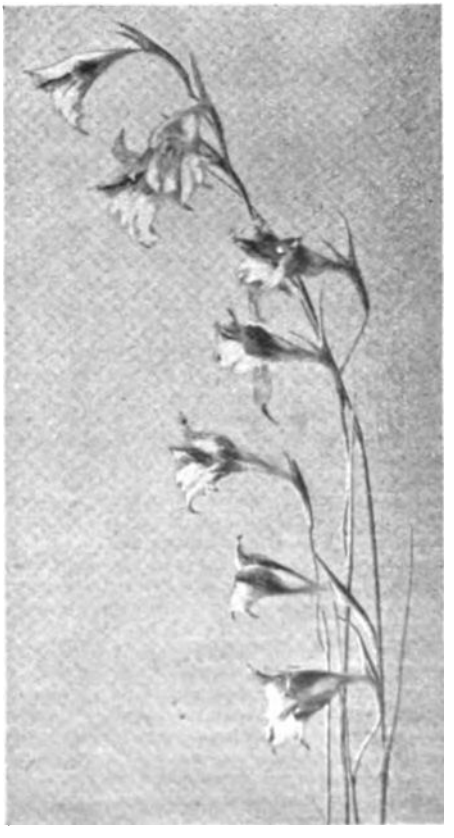
Always every month of the year some species of gladiolus can be found in bloom. Even the small collection in my garden gives me at least one species in flower the whole year round. It is very interesting to watch with what regularity they appear. For instance, G. brevifolius will send up its spike the first week in April with the utmost regularity. There is nothing to mark the season; it is the fag-end of a hot, dry summer; everything is exhausted and just existing until the rains come. But G. brevifolius sends up its apology for a leaf, and in a week's time there is the dainty spike of brilliant pink bells with the loveliest golden markings on the lower petals. Afterwards it makes a long leaf and then dies down to await the closing days of another long, dry summer. But G. brevifolius is not sweet-scented; its glories should not be chronicled here.

G. recurvus is one of the most variable of our mountain gladioli and one of the most attractive; its blossoms may be coloured blue, pink, mauve, or the loveliest clear yellow, but they are always marked with gold on the lower perianth segments; and another distinguishing feature is the spotted spathe valve. Otherwise it is hard to distinguish from G. gracilis, which seems much the same but just several shades lighter and daintier, and the scent in this latter is not so pronounced. I cannot imagine a lovelier subject for the rock garden than G. gracilis. I am sure it would do well in a warm corner; given a little protection in the winter it would need no other care. In fact, the higher slopes of the mountains strike one as being perfect models for the planning of a rock garden, and among the heaths and proteas and aristeas these dainty gladioli are at their best.

To bring to a close the list of scented gladioli with which I am personally acquainted, I would mention G. alatus. The colour is a queer terra cotta red splashed on the lower segments with brilliant green, sometimes yellow, and the scent is exactly that of early summer apples in England. The whole plant is a little stiff and clumsy, being only about a foot high, but the large flowers and the sweet scent make it well worth growing. There may be other scented gladioli but I have not met them yet, and it seems to me we shall have a race lighter and daintier even than the newest primulinus hybrids when the hybridists have realised their possibilities, and when they have conquered the problem of scent we shall have the perfect flower. I had it pointed out to me that it is the gladiolus species with the least conspicuous colouring which are scented, and perhaps in this race of plants one cannot have both colour and scent. It may be so—but the colouring of G. grandis and G. recurvus is quite brilliant enough for my taste.

South Africa. K. C. STANFORD.

THE FRAGRANT G. ALATUS, WITH FLOWERS OF A TERRA-COTTA RED.



THE DAINTY G. TENELLUS WITH LIGHT BROWN BLOSSOMS.

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THE BUSY MAN'S PAGE

Growing Hydrangeas in Pots.

Treatment When Flowering is Over.

AS soon as the plants of hydrangea in pots go out of flower, the faded heads of bloom should be removed, together with a little piece of wood. In the case of specimens that are branching freely, a few of the other shoots may be shortened to render the plants more shapely. If the hydrangeas are placed in a cold frame, watered carefully and syringed lightly overhead during the afternoons of bright days, large numbers of young growths will soon be formed. Each of these, when it is a few inches long, may be pulled away and used as a cutting. These root very easily indeed if planted in sandy soil in well drained 3in. pots, one cutting being allowed to each pot. Shade and a moderately close atmosphere should be provided. In the late summer the plants must be given their flowering pots, which should be 5in. or 6in. in size. At this stage it is a good plan to have the plants out of doors in the sunniest position possible, and plenty of water will be required to encourage a free growth. Keep the plants in a cold frame during the winter, at which season most of the leaves will be shed. In the spring, new ones will be formed and the young plants will develop fine large flower heads if they are given a little heat from the middle of February onwards. By the method indicated it is quite easy to grow fine flowering specimens of H. hortensis and its varieties well within a twelvemonth.

WHEN PLACED IN POTS HYDRANGEAS MAKE EXCELLENT DECORATION.

As the plants go out of flower preparation should be made for increasing the stock for next year.

Make a Late Sowing of Annuals.

FOR filling vacant space, due, perhaps, to the failure of earlier sowings, and for maintaining a succession, hardy annuals of various kinds may be sown in June. Some will bloom in about six weeks from the date of sowing—the Virginian stock, for example—and all will be early enough to provide a display for many weeks later in the season. Among the most useful are: Annual gypsophilas, viscarias, candytuft, coreopsis, godetias, linarias, phacelias, saponarias and mignonette. The latter and night-scented stock are particularly valuable for growing in borders near the house or close to paths, as then their fragrance will be fully enjoyed. The spaces between newly planted herbaceous plants may be sown with annuals to give a finished appearance to the border during the summer; or they may be sown near early-flowering plants which, for the remainder of the season will be non-effective. It is essential for the welfare of the weaker growing perennials, as well as for the annuals, to avoid overcrowding, and thinning should be done before the seedlings are weakened through lack of space.

Staking Herbaceous Plants.

ONLY in isolated cases are these plants properly staked. By properly staked is meant being so supported that each specimen will retain its natural form without the supports being too conspicuous. One stake, judiciously placed, will be more effective than three that are badly placed. Usually, a large clump can be supported by the aid of three stakes or two branching sticks similar to pea sticks. The three are inserted near the outside edge of the clump, a strand of raffia is passed from one stake to the other just high enough to bear up the greater bulk of the clump when it nears the flowering stage; if the clump is extra large, two strands of the raffia may be passed, cross-wise, through the centre. When the plants are flowering neither the stakes nor the tying material will be visible. When only one stake is used there is the danger of tying up the clump to it in such a form that it resembles a sheaf of corn or a faggot of wood tied tightly in the centre. Yet this need not be. The single stake should be inserted at the rear and a litt'e to one side of the clump, not in the centre, and the strand of raffia should be passed loosely round the clump and again brought to the stake and tied. If a few small branching sticks are inserted near the centre of a clump at an early stage they will prevent the stems falling to one side.

Increasing Rock Plants.

THOUGH the rockery is still attractive, many plants are going over and fresh growth is appearing, which should serve as a reminder that provision will soon have to be made for future requirements. An easy way of raising numerous rock plants is by cuttings of the young growths stripped off with a "heel" or cut below a joint. A suitable length for the cuttings is about 2ins., and after removing the lower leaves, they may be inserted in pots, boxes or in a bed of sandy soil in a cold frame kept close. Where a frame is not available a handlight may be used with equal success. If only a few cuttings are required they may be struck in small pots and placed in others of larger size with a sheet of glass laid on the top. Shade till roots have formed and then admit air gradually till the plants are strong enough to stand full exposure. Keep the soil just moist till roots have been emitted and give water as required afterwards. When more space is required, plant out or pot singly as may be convenient. In the former case keep the soil frequently hoed and see that the plants do not lack moisture, especially after planting has been completed. Good specimens will then be available for transference to flowering quarters in autumn. Aubrietias, iberis, alyssum, saponaria, nepeta, alpine phlox, helianthemum, cerastium and lithospermum, are popular species which may be increased in this way. Old plants of straggling growth should be cut back after flowering to promote growths suitable for cuttings. The propagation of various kinds may be undertaken throughout the summer as cuttings become available.

Surplus Plants.

THERE is often a number of plants left over when beds and borders have been filled and requirements have been met in respect of pot plants for greenhouse decoration Fuchsias, ivy-leaved and zonal pelargoniums, heliotropes, nemesias, antirrhinums, asters and petunias are some of the most accommodating and popular subjects for growing in window boxes and hanging baskets, and surplus plants of these, even though they be a little inferior to those selected for the beds and borders, will prove equally effective in due course, and add much to the exterior of the house, besides affording pleasure when viewed from the inside. A veranda offers an opportunity for the display of basket plants, for which, among others, ivy-leaved pelargoniums and petunias are adapted

On Weeding and Thinning.

LOSE no time in beginning to weed and thin crops of vegetables, hardy annuals, etc. Early thinning is always an advantage, in a double sense, for the crops benefit and the work can be done much more quickly than when left till a later stage.

Some vegetables, like carrots, onions and leeks, are best thinned while the soil is moist, but turnips, lettuce, beet, etc., may be thinned when the soil is quite dry. During dry weather the more frequently the hoe is plied the better for conserving the soil moisture and for getting rid of weeds. All crops respond to a good stirring of the surface soil.

If it is necessary to thin and transplant vegetables like leeks, cabbages, etc., during a spell of dry weather, give the plots a good soaking of water the previous evening. Newly planted stuff should also be given a good soaking and if the sun is strong, shading with leafy twigs and branches may be necessary until the plants take root.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Half-Hardy Vegetables for Present Sowing.

A FEW of our garden vegetables are too tender to be planted before May. Often we hear of kidney beans being "blighted" by frost, all because they have been sown too soon. At the present time French beans, runner beans and marrows can fairly safely be grown out of doors. Only in exceptional seasons do we get frosts late in May.

Runner Beans.—There is no better vegetable for all round cultivation than the scarlet runner bean. It is equally at home on the allotment and in the back garden. In Walworth—the geographical centre of London—I have grown them alongside an ugly wall with great success. Not only were they a feast of colour, but they furnished a plentiful supply of luscious beans for the table. Like all the legumes, the runner bean is a gross feeder and needs a liberal supply of manure to produce good beans. Beans and peas do not need so much nitrogenous manure, as their root nodules have the power to utilise the nitrogen of the air. But they do need plentiful supplies of potash and phosphates. A good fertiliser would be 3oz. of superphosphate of lime and 1oz. of potassium sulphate applied to every square yard. This should be in addition to a dressing of organic manure.

Beans in Rows.—Runner beans are best planted in rows. The easiest way to do this is to take out a trench a spade in width and depth, mix in manure at the bottom and cover to within 2ins. of the surface with soil. Sow the seeds in a double row, 6ins. apart, each way, and cover with 2ins. of fine soil.

Staking Beans.—It is advisable to stake the beans at once, as they soon become entwined together if left after they germinate. Bean poles—stakes about 8ft. long, are the best supports—but poles with wire or string stretched between will suffice. Dust the seedlings with lime and soot to keep away the slugs and other pests. During spells of dry weather syringe the plants well with water to keep away red spider—a pest which attacks the undersides of the leaves, causing them to turn yellow. Also, water freely, or the flowers will drop. Beans should be kept picked, as seeds which are allowed to remain check the further development of the plant. A pint of seed should sow a 35ft. row. Best of All, White Czar and Painted Lady, are good varieties to grow.

French Beans.—French Beans are not so prolific as runner beans, but are preferred by many on account of their tenderness. They are sown in drills 3ins. deep and 18ins. apart, allowing 9ins. between the plants in the rows, and give an occasional dressing of Kainit and superphosphate. Gather the beans when young, or they will not be tender.

Vegetable Marrows.—Sow seeds of vegetable marrow out of doors, under a sheet of glass. Three arranged triangle fashion are enough for a clump, and they are best sown where they are to grow. A barrowload of manure, in a big square hole, covered with 6ins. of rich soil, is the best marrow bed. Water copiously in the dry weather. Young plants of vegetable marrows which are ready for transplanting can be put out now into the open, if a sheet of glass can be put over them on cold nights. The site must have plenty of manure under it, and an old custom is to make the marrow bed on the top of a heap of manure, or where a hot-bed has stood. Large White, Large Green, Table Dainty and White Bush are reliable varieties.

Ridge Cucumbers.—These are a hardy variety of cucumber, quite suitable for cultivation out of doors. Rich soil, 1ft. deep, formed into a rounded ridge 3ft. wide, will do for cucumbers. Plant on the top of the ridge and protect young plants at night. Prolific Ridge and Long Prickly are useful varieties for outdoor culture.

Beetroot.—Beet, both globe and long varieties, are another tender vegetable, seeds of which can now be sown. Draw drills 2ins. deep and 15ins. apart, finally thinning the seedlings to 9ins. apart in the rows. Globe and Dell's Crimson are reliable kinds.

After the Bulbs.

SPRING-FLOWERING bulbs have been particularly fine this year. Long days of sunshine added substance and colour to the blooms. As soon as the leaves turn yellow, the bulbs can be lifted and dried off to make way for summer flowers. In a tiny garden, it is a problem how to do this effectively. In a bed such as that illustrated, the summer bedding plants could be planted between the bulbs, thus allowing them to ripen off without disturbance. Daffodils can be allowed to remain permanently in the ground, if desired, but tulips are best lifted and stored after the tops have withered.

SUMMER BEDDING PLANTS MAY BE PLANTED BETWEEN THE BULBS WHICH HAVE NOW WITHERED OFF.

Summer Stimulants.

PLANTS grow very rapidly during the warm summer days and, like growing children, they need extra nourishment to keep them strong and healthy. Liquid manure is especially valuable, because its action is quick, and it is easy to apply. Artificials of a soluble nature can be purchased ready for use, but if any form of animal manure is available, a very good stimulant can be made with little trouble. The usual quantities recommended are as follows: 2½lb. of cow dung to a gallon of water, or a pint of poultry droppings or sheep droppings to two and a half gallons of water. Soot water is also a useful stimulant.

For ease in making and using, nearly fill a rain barrel with water. Fill an old sack or cotton bag with the manure and suspend it in the water. Allow this to remain for a few days before use, and as the liquid is taken away, fill the barrel again, to keep a constant supply. Use the liquid in a sufficiently diluted state to be of a pale straw colour. It is best applied when the soil is wet. Border or pot chrysanthemums, dahlias and tomatoes benefit from applications at fortnightly intervals.

A Town Hobby.

Growing Succulents.

THE quaint and occasionally beautiful growths of various succulents have many admirers among town dwellers. They appeal specially to those who have very limited space in which to grow plants, for many of them can be grown in tiny thumb pots, of which several dozens could be accommodated in any small case.

The flowers of these curious plants are often very brilliant and showy, though the plants themselves are more quaint than graceful. Few can stand a very low temperature, probably on account of the moisture stored in them, which would naturally be more affected by frost than a dry woody structure. Most of them must be kept at a temperature not less than 40° during the winter, but as they are quite at home in a dry atmosphere in winter, a warm room is perfectly suitable for them. Much variety and beauty can be obtained from their cultivation. There are many species of cactus in cultivation. The mammillaria section are most suitable for limited space.

Spring and summer are the times when repotting may be done. Silver sand and brick dust should be used in preparing the compost, and most of the old soil, and any faulty roots, should be removed before the repotting is done. More water and a moist atmosphere are needed during summer, when growth is taking place.

Work Among the Vegetables.

PINCH out the tops from the broad beans that are now in flower. This prevents the appearance of black fly. Potatoes need earthing up, otherwise the exposure of the tubers to sunlight may make them turn green, which gives them a disagreeable flavour. A Canterbury hoe is the best tool to use and a few minutes spent in drawing up the soil against the stems will prevent much disappointment at the dinner table.

What to Do with Weeds.

THE disposal of weeds and grass clippings always presents a problem, particularly in the small garden. I make a practice of burying weeds as soon as they are collected, and also new mown grass clippings. In a larger garden one can have a sunk pit, into which the weeds, etc., are put, with a layer of soil over them now and again. The pit becomes a valuable source of manure to use when winter digging is done.

Climbing French Beans.

IT may not be known to everyone that the dwarf French bean can be obtained in climbing varieties. The beans are exactly the same in flavour as the dwarf kinds, but they carry a heavier crop. They give quite a good yield before scarlet runners are ready, and continue to produce pods over a long period. A good variety is the Climbing Canadian Wonder, which is like the dwarf bean of that name.

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NOTES ON THE FLOWER GARDEN

Grow Snow in Summer.

SNOW IN SUMMER (cerastium) is a plant which spreads very quickly in rich garden soil, but growers are agreed that the billows of white blossom produced in summer are delightfully decorative and decidedly attractive. Left untended, however, a small plant soon becomes a large clump, inclined to choke everything near it, and even the profusion of white flowers cannot atone for loss of other plants. Grown in a poor soil or where root moisture is not too abundant in summer, as, for example, on a dry wall or high up on a rockery, the plant is much less profuse, although equally floriferous; intending growers can remember this and act accordingly. In all cases cut the clump back almost to soil level when the flowers fade; it will, thereafter, produce a compact mass of foliage and bloom satisfactorily next year without being able to assume a dangerous size. The two points which make this delightful plant a pleasure and not an annoyance are, then, a poor site and clipping after flowering.—LANARKSHIRE.

How to Increase your Stock of Hardy Primulas.

Now is the time to divide the plants that have finished flowering.

THE time has arrived when it is necessary to divide such of the hardy primulas as have ceased flowering, together with primrose hybrids and polyanthuses. June is a good month for the work to be done, and there is nothing gained in postponing it, as young plants give finer flowers and are more satisfactory in the long run. Whatever may have been the position they occupied in spring, one thing is quite certain, and that is, their summer quarters must be one where they can enjoy both coolness and shade.

Primulas, like rosea grandiflora and involucrata are never better served than when they can be planted in as moist a position as the garden affords. Others, like Juliæ, that gem of miniature growth, with flowers of crimson purple, and the wine-coloured Wanda, both most serviceable for the rock garden, are most productive, a dozen-year old plants in my own garden of the latter having split up into five dozen plants. Surely a good investment when one bears in mind that it bloomed from the middle of February to the end of April out in the open, needing not the slightest protection. Polyanthuses, too, are so quick in growth as to necessitate yearly division if one is to keep up the quality of the flowers.

Methods of Division.

A good way, after lifting each clump, is to shake away the soil, and thrust between the roots a hand fork, working carefully between until severance is made, or one can often pull them apart with fingers and thumb. Every little bit with a vestige of a root will soon take hold if planted in good soil. They should be put out 6ins. apart in well dug ground in which has been incorporated leaf-mould or old leaves and road scrapings and a little decayed manure. Firm planting should be the rule. Position is most important. A shady spot on the north side of the garden or alongside a row of runner beans or tall peas, or any place known to be damp will suit them. A dry, sunny quarter is the worst, as invariably as the summer advances they become limp and are apt to dwindle away. Should the weather be dry at the time of planting out, one or two soakings of water will generally ensure their getting hold.—CLAREMONT.

Sow Perennial Gypsophilas Now.

Raising New Plants from Seed.

OWING to the long fleshy roots of perennial forms of gypsophila, increasing the plants by attempting to divide them is never very satisfactory, and, in fact, with several-year-old plants it is well-nigh impossible to obtain good results.

It is known by all who grow them that it is unwise to interfere with plants once they have become established and doing well. If more plants are wanted, they can be raised from seed which can be sown any time during May and June in pans or boxes of light soil in a cold frame, pricking off the seedlings into a nursery bed subsequently and, finally, into permanent quarters, which should be in a place where the sun can reach them, allowing 3ft. or 4ft. between them and other plants. If the soil is known to be deficient in lime, then at the time of planting some lime rubble or old mortar should be worked in, digging the spot they are to occupy 2ft. or even 3ft. deep, as they are "delvers." Once put in their final position, they should not be meddled with, as it is almost impossible to lift an established plant without breaking the roots. Another method of increasing a stock of gypsophilas is from cuttings, and the little shoots which appear on the sides of the stems will in August be sufficiently ripe for pulling off. This I find is better than cutting, as if they can be pulled at a joint and inserted around pots of soil made up of loam, leaf-mould and some sharp silver sand, kept close to the glass in a cold frame, but shaded from sun for a time, they will by the following spring be ready for planting out where they are wanted in the garden. I have seen so many failures with gypsophilas being removed after they have become established that it is well to emphasise the importance of giving them a place in the sunny part of the garden where no shifting will be required. "Leave well alone" is an old adage which is applicable to this popular hardy perennial.—W. L. L.

SNOW IN SUMMER MAKES A DAZZLING SHOW IF PLANTED ON DRY ROCKERY BANKS.

Here it looks particularly well flanking a house approach which was formerly a rough, unsightly, stony bank. It is an easy plant to cultivate and one that every amateur should grow.

Hardy Flowering Plants in Dry Soils.

The Benefit of Hoeing and Mulching.

SOME hardy-flowering plants make little progress when planted in soil that is dry and sandy, and in a hot season give results that are not satisfactory. We cannot choose soil, but have to make the best of what we have. We may, however, do much towards making plants more vigorous by a judicious use of the hoe—and I use the word judicious advisedly—as it is not suggested one should ply that most useful implement too near the roots, but to stir the soil in such a manner in the borders to admit air, enable rain to reach the roots and generally promote growth. When hoeing has been done, a mulch of old manure about the roots of hardy plants will be found advantageous, as it will keep them cool and in hot weather does much towards conserving moisture. It is particularly helpful in the case of phloxes, rudbeckias, peonies, campanulas, anthemises, starworts, helianthuses, achilleas and heleniums, all of which begin to show signs of failure in a time of protracted drought should the soil be poor and dry and no mulch be given. Some people have an objection to mulchings about a garden in summer, as it makes for unsightliness, but this can be got over by spreading a coating of soil over the manure if need be. It is better to mulch and have flowers worth cutting than not to do so and see the plants pine away. The present is a suitable time to give attention in the way suggested to hardy plants in soils known to be dry and poor.—W. F.

Summer Rose Pests.

IT is hardly possible to escape attacks of aphides or green flies in our close, confined gardens, but, fortunately, they succumb readily to soapy water, 2 oz. of any kind of soap per gallon. I, personally, prefer to apply this tepid and to use a disinfectant soft soap. Leaf-eating caterpillars, when they cannot be hand-picked, are poisoned by means of arsenate of lead, the application of which at 1 oz. per gallon effectively coats the foliage with an invisible film of poison. Nicotine is also very good for the purpose, perhaps even more effective when the pests roll up the leaves and hide inside. The homely paraffin emulsion must be relegated to the fruit border, although in the old days we thought it fine—but it smells. Chafers and bud-gnawing insects disappear when any spray is applied. Although readers may imagine a "chemist's shelf" as a necessary adjunct to the rose border, I hasten to remove that impression. The scientist first knows his pest, then gets the correct cure; but the application of one insecticide generally removes all pests, although it may not just be the best for all purposes. Indeed, I go farther and state that the tepid soap solution first mentioned, used occasionally to clean the foliage and clear away odd pests, ensures quite clean bushes with little expense and trouble. It, or a proprietary insecticide somewhat similar, applied now and again repays the grower over and over again.—L.

Chrysanthemum Pests.

UNDOUBTEDLY the most insidious pest of the chrysanthemum is the leaf-mining grub, which disfigures the foliage, produces partial defoliation at times and cripples the plants much more than many growers believe. Individual grubs may be killed by pinching the leaf between finger and thumb, but as soon as one or two pests are seen begin spraying the plants at intervals to keep away the parent flies which deposit the eggs. Plants under cover should be fumigated with "Auto-shreds" or other efficient "gas." Earwigs haunt some gardens and do much damage by gnawing at the

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succulent tips of shoots. A bad attack is, of course, a calamity, but if the plants are again sprayed and if traps (inverted pots with paper or moss, hollow flower-stalks, etc.) are made use of, the danger is quickly removed. Aphides and black fly are sure to go equally quickly if an insecticide of some kind is applied. I like the nicotine washes best in this case, but, let me admit, there are many fine washes of high efficiency. The old plan was to dust with tobacco powder, which can still be obtained in shilling tins. Dust it on in the early morning. I am a firm believer in the application of an insecticide at intervals as an insurance against trouble. Select some wash and apply it now and again for prevention; this is invariably better than cure.—H. H. A.

Wallflowers from Cuttings.

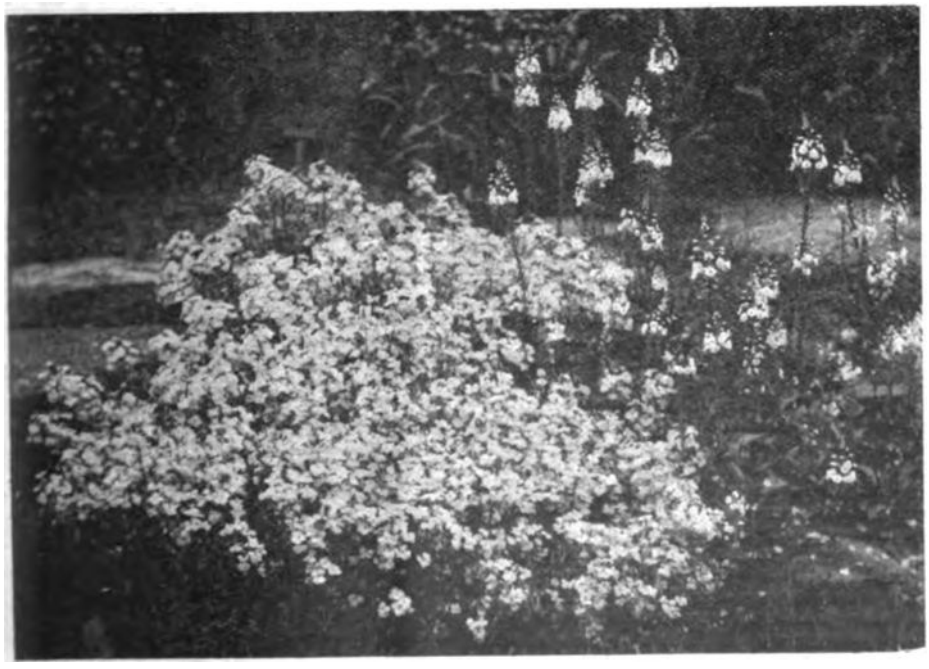
UNDER this heading will be found a charming series of wallflowers, suitable for clumps on the rock garden, or for producing a display in the ordinary flower border and in most cases they are increased by means of cuttings. One that always gives a good account of itself is Cheiranthus Harpur Crewe, a neat little old-world wallflower which of late years has more or less dropped out of cultivation. When its merits are known to the present generation of gardeners, I feel sure this delightful plant will be restored to its proper place. It attains a height of 12ins to 15ins., and its refined spikes of richest golden yellow double flowers are freely produced; while they are sweetly fragrant, reminding one of mignonette. It is easily grown, and there is no difficulty in keeping up a healthy stock. Flowering at the same time, *viz.*, in April and May, is a hybrid known as C. Newark Park, the single flowers being a fine coppery orange. In a clump 2ft. or 3ft. square it is most effective, and should be represented in every garden. With me it grows about 9ins. high. A closely allied hybrid is C. Marshalli, with orange-coloured flowers. C. Pamela Pershouse is a more recent hybrid between C. Allionii and C. alpinus. The flower characters are those of the former parent much improved, the colour being even a richer orange. It forms a bushy plant a foot high, quite hardy and perennial, but it pays to keep the stock young and vigorous by taking cuttings occasionally. This is a decided acquisition among early-flowering plants, and is suitable both for the rock garden and border. A lovely plant for the rock garden is C. alpinus, a Scandinavian species with clear light yellow flowers; while C. mutabilis, a native of Madeira, produces bronze and yellow flowers. In pleasing contrast to the above is C. Lemon Queen; this has been very effective in close proximity to its more showy brethren, but a few plants will be enough for most people. Nevertheless, some will like it on account of its peculiar shade of lemon yellow. A charming little plant which is best raised from seed is C. linifolius, sometimes quoted as Erysimum linifolius. It is excellent for old walls, and is a Spanish species with cool lilac flowers. The finest results are obtained by sowing the seeds where the plants are intended to bloom.

Directly the flowering period is over, the plants are neatly trimmed, and in the course of a few weeks a number of basal shoots will appear which are most suitable for cuttings, if they are procured when they are 2ins. or 3ins. in length.

These readily form roots if placed in sandy soil and kept shaded for a week or two from the direct rays of the sun. A cold frame or hand light will be found useful for rooting cuttings, but a sheltered corner of the garden where a little shade can be afforded is also suitable. If only a few plants are required, they can be arranged in small flower pots and plunged in ashes or soil; but for larger quantities it is better to dispense with the pots, and set the cuttings directly in the frame.

A light sprinkling of water is needed daily if the weather is fine, and when roots have formed the plants should be fully exposed. At the first opportunity they can be transferred to their flowering quarters.—B.

A COLONY OF THE BLUE-FLOWERED OMPHALODES CAPPODOCICA FLOURISHING IN A ROCKERY.



THE LEMON-YELLOW CHEIRANTHUS ALPINUS, A FINE WALLFLOWER FOR THE ROCK GARDEN.

A Free Flowering Navel-Wort.

THE omphalodes constitute a small genus of hardy and beautiful plants, all of which can be raised from seeds and the majority increased by division.

O. verna, the Blue-eyed Mary, is well known on account of its turquoise blue flowers, but I desire to call attention to another fine member of the family, *viz.*, O. cappadocica. In its native home it grows in shaded places, and in this country it has proved a success in a variety of positions and soils. No doubt the finest effect is produced in partial shade, since the beautiful deep blue flowers are more intense in colour than when exposed to full sunshine. The illustration depicts a colony of this charming plant growing in the rock garden at Castleford, Chepstow, a neighbouring elm tree affording that essential bit of shade when the sun is at its highest. The habit of the plant and its free flowering qualities can readily be seen, but a mere photograph cannot do justice to the beauty and colour of the flowers. These are produced in April and May, in graceful loose sprays about 6ins. high. O. cappadocica will thrive in any well drained loam, and where the soil is rather heavy it can be rendered suitable by adding leaf-mould and grit.

This plant can be increased by division during the early autumn, but it is readily raised from seeds which should be sown at the present time in pans or boxes of light soil. Cover the pans with paper or a sheet of glass until the seedlings appear, and when large enough transplant a few inches apart.—T. W. BRISCOE.

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MAKING A HARD TENNIS COURT

FROM the purely horticultural standpoint the hard tennis court has nothing to recommend it, and one can quite appreciate the points of view of the seedsman who specialises is grass seeds, the garden contractor who lays turf lawns, and the gardener who considers a hard court a disfigurement to the garden.

The degree of satisfaction derivable from a hard tennis court depends upon the quality of the court, or, in other words, upon its construction and maintenance, and whereas there appears to be a general, vague sort of assumption that he who makes and manages a grass lawn can also, and with every satisfaction, make and manage a lawn tennis court, there is a deal of difference between the two, and for the peace of mind of all concerned it is well that the vital points of difference shall be clearly understood.

If care is taken in the choice of a site for the court and consideration given to the construction and planting up of the surrounding banks, even a hard tennis court can be made most attractive. In the accompanying illustration is shown a hard tennis court in a reader's garden, around which has been built a splendid rockery bank. Surrounding the court is a stone and earth wall, 7ft. in height at the top and planted up with rock plants in variety, including arabis, aubrietias, thyme, alyssum, saponaria and cistus. The presence of the rockery and the blaze of colour presented by its varieties in spring and early summer has rendered this part of the garden most attractive.

A HARD TENNIS COURT IN A CORNER OF A READER'S GARDEN.

The rockery bank planted up with clumps of rock plants enhances the appearance of the court.

Too many have imagined that because a hard tennis court is constructed of rubble and porous material of various grades, it is of small importance what may be the character and condition of the earth-base upon which the court is built, but that is an error which has been responsible for many disappointing failures. The base is not one whit less important to the hard court than to a grass court or bowling-green.

The principal consideration is drainage, but solidity and firmness are also important matters; a loose, shifting sand or spongy, vegetable soil, even though free from troubles arising from stagnant water, may prove to be a source of perpetual anxiety, and it is quite possible that excessive dryness may be as detrimental as excessive moisture. Methods of opening up a retentive, soapy clay soil are too frequently described to require reiteration here, but there are spongy soils which require the solidifying assistance of shingle, ashes or gravel, and loose sands should have a liberal dressing of binding material in order to provide a base into which the bottom layer of foundation clinkers or stones will not easily sink.

The edges of a hard court are of much importance. Wood is quite unsuitable and, indeed, no long, narrow strips which are simply held in position by pegs or stakes driven in the ground can be permanently satisfactory. Brick margins, properly laid in cement, are the best, and, in the long run, most economical, and time should be allowed for the edging to 'set" thoroughly firm before further work proceeds.

Of all material for base work nothing is more satisfactory than coal or coke clinkers. These should be graded in three or four grades, the largest ranging from 3ins. to 4ins. diameter to about 6ins. or 7ins. Over these should come a layer ranging from about the size of hens' eggs to that of walnuts, and over this layer another consisting of dust-free pieces about the size of cherries and hazel nuts.

The proportionate thickness of these layers may be varied somewhat according to the nature of the ground beneath; the lighter and more porous the base the more of the larger clinkers to be used, while on a soil that is inclined to be constantly damp, the middle layer may, with advantage, be several inches thicker. Over the whole sufficient breeze or ashes should be spread to finish off with a smooth surface.

It would be bold to declare flatly that any one material at present in use is the finality of perfection for hard court construction, and while it is perfectly natural for makers to maintain that their materials and workmanship ensure the very best court obtainable, unbiassed opinion will acknowledge the existence of a number of quite good types or kinds, and will still venture to surmise that still further developments and improvements are near at hand.

The familiar brick-red courts have many points in their favour, among which porosity and elasticity are, perhaps, the most important, and of disadvantages the worst is colour, and in some cases there is also a certain amount of adhesion to balls, shoes and flannels.

A clay-coloured court made by Messrs. Bakers, Codsall, is less glaring and less tiring to the eyes than the brick-red, and for play it is highly satisfactory, the strongest criticism I have heard of this court being that it looks like playing on bare earth. The important point is that the player quickly realises the difference when the court is put to the test.

The grey court made by Messrs. W. Wood and Sons, Limited, Taplow, is an excellent court when aged. Its elasticity is good, it stands wear remarkably well, and involves little labour in maintenance; the two blemishes which it would be worth white to remove are the painful gleam and obnoxious odour of the quite new court.

Visitors to Chelsea would notice various types of modern hard courts, green in colour, requiring no attention or upkeep, and unaffected by frost or rain. Many firms specialise in these new types of courts and we advise the reader to obtain catalogues and select one after a perusal of these brochures.

Experiments have been afoot for some few years in the direction of securing a lasting green of restful tint with which the various materials in use may be coloured. The right green is, in fact, obtainable, but, unfortunately, it is costly. Concrete mixtures of various kinds have been tried, and such materials as asphalt, tar and ashes have figured in courts of a more or less experimental character. but it is no easy matter to overcome such difficulties as lack of elasticity, tendency to fatigue the player unduly, prevention of cracking and the satisfactory disposal of surface water.

Amateurs who have sought and secured materials closely resembling the surfacing of courts made by well known experts have frequently erred in important details. One vital point is that most, if not all, kinds require to be laid in layers, each layer screened to a particular size, for it is only a final, usually quite thin layer that is extremely small, and as a rule this final layer is treated by some more or less secret process to make it clean, moderately binding and as nearly dust-free as possible. All things considered, efforts to economise should extend no farther than construction of the brick margin and clinker foundation, the surfacing being contracted to one or other of the reliable experts, who should be asked to inspect and approve the foundations before finishing off the court.

Be advised, when about it, to make a proper, full-sized court; the small saving in cost of a "cramped" court will inevitably bring regrets and discontent.

The measurement of the court itself should be 78ft. by 36ft. By allowing a total length of 120ft. and a breadth of 60ft., a "run back" of 21ft. is provided at each end of the court, with a 12ft. margin on either side, not at all too much for the fast play which is customary on hard courts. Water should be laid on, and a hose with a widespread fine rose is required for soaking without dislodging the surface. The best "sweeper" is a breadth of hard carpet hemmed at the lower edge to take a flat iron bar to weight it down. Straps should be fixed to the top corners, and by drawing this behind him a lad may smooth the whole area in half an hour, and this should be a daily task. Rolling will be necessary with changing weather, but the roller should be a big, hollow, unweighted, double cylinder roller.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

ALTHOUGH a succession of dry sunny days was experienced during the last week in May, the temperature was kept low for the season of the year by the prevalence of north-east winds, the effect of which was more particularly felt at night and in early morning, when there was a decided nip in the air. In the opinion of certain weather experts, general summery conditions are out of the question until there is a steady rainfall and the wind has changed to a more favourable airt. This is a consummation greatly to be desired in the interests of gardeners, for much work has still to be done in gardens in the form of planting out summer-flowering subjects in bed and border.

Dahlias can now be transferred to their permanent quarters quite safely, and those readers who are in the unfortunate position of having to purchase their stock of chrysanthemums should do so without further delay, as there is a scarcity of plants and several nurserymen are already sold out and are under the necessity of buying in popular varieties for the purpose of fulfilling orders.

To the amateur whose ambition is to make the most of the limited space at his disposal, the growing of flowers and shrubs in tubs or boxes suggests numerous possibilities in outdoor decoration. It is a fascinating form of gardening, suitable alike for the town residence or the country dwelling, and there are few situations which would not be improved by the introduction of that simple method of floral culture. Tubs placed on either side of a front or back entrance make an effective display; outside stairs connected with house or garden may also be used to good purpose, but perhaps the maximum of usefulness is to be found in the back courts of tenement houses, where a few hardy flowering subjects provide a pretty bit of colour that helps to dispel the drab and depressing outlook. Wherever placed, the charm of these receptacles in summer will always be felt, and their influence on old and young cannot be otherwise than helpful in encouraging a love for the beautiful in nature.

Small margarine or lard tubs and boxes are quite suitable for the purposes mentioned, and these may be had from a grocery store or butter shop for a few coppers. To provide the necessary drainage, holes require to be bored in the bottom of each wooden receptacle; and a coat of green paint greatly improves the outward appearance. In cities or large towns a suitable compost is generally obtainable at any of the public parks, while the more fortunate householder who has the ingredients at his disposal may proceed on the lines of the following formula, *viz.*, fibrous loam 2 parts, flaky leaf-mould and well decayed manure 1 part each, to which may be added a handful of coarse sand to each tub. In making a choice of plants, the position to be occupied must be considered, for it would be courting disaster to place subjects of a tall-growing habit in an exposed situation.

I have frequently seen fine specimens of Campanula pyramidalis grown in tubs in a sunny sheltered position, and for an entrance hall or veranda they are quite suitable. Hydrangeas do well in tubs and provide a nice bit of colour over a long period, but for general usefulness there are no plants that can excel funkia and kochia, as they thrive in any situation. The former has variegated or green leaves of decorative merit; while the latter is a hardy annual with fern-like foliage which changes in colour from soft green in summer to red in autumn. Other favourites which usually succeed under this particular treatment are Canterbury bells and azaleas (for early summer display), larkspurs, geraniums, calceolarias, marguerites and the dwarf Dahlia Coltness Gem.

The Glasgow and West of Scotland Horticultural Society, having been deprived of the use of the Kelvin Hall for the third year in succession, have arranged to hold a two days show in St. Andrew's Halls, on September 7th and 8th. It was a case of Hobson's choice, and to suit the limited space a number of classes in each section had to be deleted for the time being. The schedule in its abridged form is quite attractive, and consists of 240 classes apart from the allotment holders' exhibits. ST. MUNGO.

WHAT OUR READERS SAY

AN OLD ESPALIER APPLE TREE.

SIR,—I am enclosing a photograph of a long espalier apple tree which is growing in the garden at Meriden Hall. This tree is 64ft. long and has a butt of 6½ft. It is over a hundred years old and still bears frequently. The fruit is an attractive green colour and is excellent when cooked.—J. BEDHALL, *Meriden*.

A FINE ESPALIER TREE SIXTY-FOUR FEET LONG AND OVER A HUNDRED YEARS OLD.

A DAFFODIL CLASSIFICATION.

SIR,—The Editorial for May 7th contains some interesting remarks on daffodil classification. I imagine that the prime obstacle in classifying is an unwillingness on the part of conscientious classifiers to deny to about two-thirds of all the existing named varieties of daffodil the right to be considered varieties at all. At present, for example, there are a score or more of improved King Alfreds or slightly more robust van Waveren's Giants when only one—the first in the field—is entitled to be considered a distinct variety. Another and still more knotty point is the right of a variety to be so considered which attains a handsome stature and distinct individuality under most favourable conditions, but when not accorded treatment wholly to its liking promptly assumes the appearance and proportions of one of the commoner varieties. I may mention as a typical offender in this respect Weardale Perfection, which only attains perfection when pampered with all the nurseryman's arts.

This raises another point. One of the essential reasons why a new daffodil classification is required is that at present the purchaser of daffodil bulbs has no knowledge as to the sort of treatment they require, but in the absence of generally painful experience takes the salesman's assurance that any daffodil will thrive anywhere, tempering this assumption with the common-sense proviso that the more he pays for a bulb the more likely it is, for some unknown reason, to "die on him."

How many know, for example, that King Alfred simply will not grow in wet, clayey soil, while the Tenby daffodil (N. obvallaris) revels in it? Curiously, I have examined the dealers' lists carefully and can find no instance of a new variety being recommended because of its suitability to some particular class of soil, climate or position.

These things would not be so difficult to discover if there existed a classification based not merely on arbitrary divisions—colour or length of trumpet—but on the species or old-established varieties (some of which are almost constant enough to attain specific rank) from which they derive. It may be suggested that the strains are too mixed, that the crossings and recrossings have been too greatly multiplied to allow of this. I am inclined to doubt it. You cannot name all the ancestors of, say, Sergeant Murphy, but you can see that the maximus strain predominates in it just as you can see in Mme. de Graaf distinct traces of moschatus.

I agree that in its earlier stages such a classification would be based on somewhat fragmentary data, but more data would be forthcoming as time proceeded. I doubt whether many of the existing varieties of daffodil are constant. What is wanted is that a certain number of selected varieties should be chosen now, that they should be

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planted in "natural" conditions and left to multiply. At the end of perhaps thirty years—or it might be sooner—a classification of their varied and numerous offspring (strictly offsets and not, of course, seedlings) could be made. Theoretically, then, their progress back to the ancestral types should produce all the intermediate varieties which, as your Editorial points out, have at one time or another been listed but are now lost. It may be that it would take, not thirty, but a hundred years for this retrogressive horticulture to produce interesting results. Even so, it is worth undertaking.—C. H. BRETHERTON, *Oxford.*

SPRAYS AND THEIR USES.

Bordeaux Mixture.

SIR,—I was interested in "H. B.'s" article on "Sprays and Their Uses," in the issue for May 21st. I should, if I may trespass on your space to such an extent, like to add my experience in the matter of using Bordeaux mixture and allied fungicides, more especially in the control of scab on apples and pears.

In the first place, I must emphasise the great importance of pre-blossom spraying of apples to control scab. Just as the flower buds are showing their pink petals is the best time to spray for the first time. This should be followed by a second application immediately the petals fall and, if necessary, again three weeks later. Perhaps the words "if necessary" will puzzle some amateurs, so I think a word or two dealing with the disease itself may not be out of place.

I do not intend to deal with the life history of the fungus, but will just say that it first shows itself on the leaves in spring, in the form of dark green or black patches on the leaves. It is mainly from these infected leaves that the fruit is attacked, so that if we can keep the disease in check early in the season, clean fruit may be expected.

Now, as to the use of the different fungicides. Bordeaux mixture is, perhaps, the best known and the most popular, but I have had much leaf scorch through using the normal 4—4—40 recipe. A great advance on normal Bordeaux mixture is what is now known as excess lime Bordeaux mixture. This wash, while as active a fungicide, does far less harm in the form of leaf-scorch than the normal mixture—in fact, I have not found any harmful effects from applying it. I have just sprayed an acre of apples with this mixture.

In preparing excess lime Bordeaux mixture the following materials are necessary: 12½lb. of quicklime (preferably white Buxton lime), 4lb. of copper sulphate and 50 gallons of water. To prepare the mixture, add just sufficient water to the quicklime to slake it and then make up to a milky fluid, which should then be strained into a wooden vessel containing the rest of the water and the copper sulphate. Before taking any of the liquid from the tub, stir thoroughly and always keep the fluid agitated while being used, as the lime and copper sulphate are not dissolved in the water but merely suspended, and will, if allowed to stand only half an hour, settle somewhat.

One other precaution about using this mixture: Only make up sufficient for one day, as this Bordeaux mixture when more than one day old is not safe to use.

The other fungicide commonly used is lime sulphur. This is a powerful wash and can do considerable damage in careless hands. Its great advantage is that it can be bought—and is, in fact, best bought—ready made. The strength of lime-sulphur to use for summer—or perhaps I had better say spring—spraying is 1 part in 30 parts of water, except for tender-leaved varieties, such as Cox's Orange Pippin, James Grieve and Newton Wonder, in which case 1 in 60 is plenty strong enough. A little leaf-scorching may occur after using lime sulphur, but, if carefully used, not enough to cause anxiety.

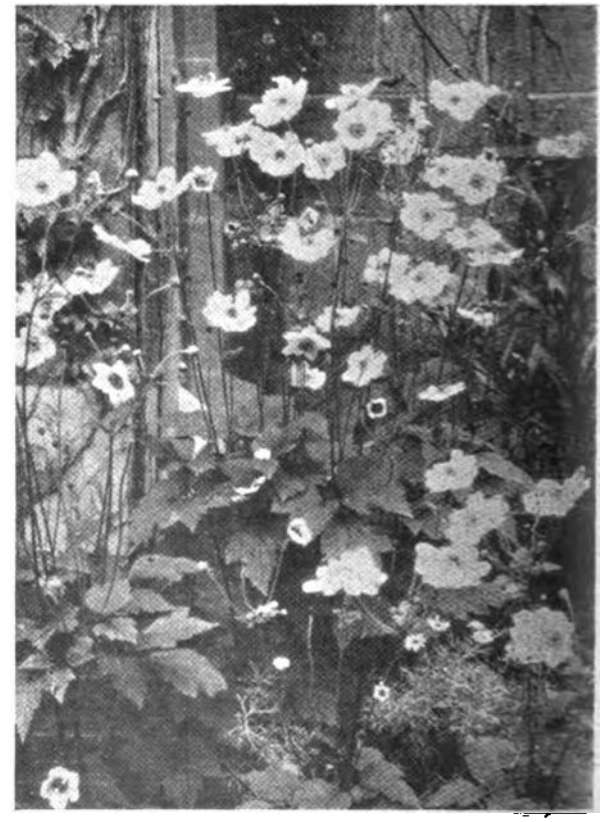
You will notice that I emphasise *spring* spraying above, and when writing that I had in mind a tree of Potts' Seedling which I sprayed experimentally with lime sulphur at a strength of 1 in 100 two years ago, in late June. The result was appalling. The tree dropped all its fruit and most of its leaves. I mention the last item simply to warn amateurs against indiscriminate use of washes at other times than those advised.—N. D. H.

OUR PHOTOGRAPHIC COMPETITION

Our weekly photographic competition is embarrassingly successful. In the present issue, in addition to the "award" photographs, we publish on other pages a number of interesting pictures which have been sent by competitors who clearly possess a sense of what will be interesting to their fellow gardeners as well as showing that they can use their cameras with judgment and skill. As announced last week, we shall continue to publish photographs on other pages, apart from the actual competition. Some afford opportunity to us to enlarge on our competitors' notes and suggestions, as they have done elsewhere in this issue. Readers who do not see their photographs immediately must not conclude that they have been unsuccessful, for we shall draw on our accumulated stock in awarding prizes week by week. But do not let it be supposed that we wish readers to cease taking and sending in photographs. Opportunity for taking them passes all too rapidly.

The Madonna lily is one of the most charming of garden flowers. In my garden, this clump is growing in a bed along with delphiniums, irises and pinks, and the combination is most attractive. The soil in which they are growing is a rich heavy loam and the bulbs were only planted some 2ins. to 3ins. deep. I carry out regular spraying with Bordeaux mixture if lily disease becomes apparent on the plants.

The guinea photograph, sent in by MRS. CRESWELL, *Ewhurst, Surrey.*



Japanese anemones are excellent for planting in a narrow border by the house wall. They prefer a shady and fairly moist situation and once they are established, the clumps require little or no attention, since they bloom well every year. H. THOMSON, *Newnham-on-Severn, Gloucestershire.* Award of 5s.

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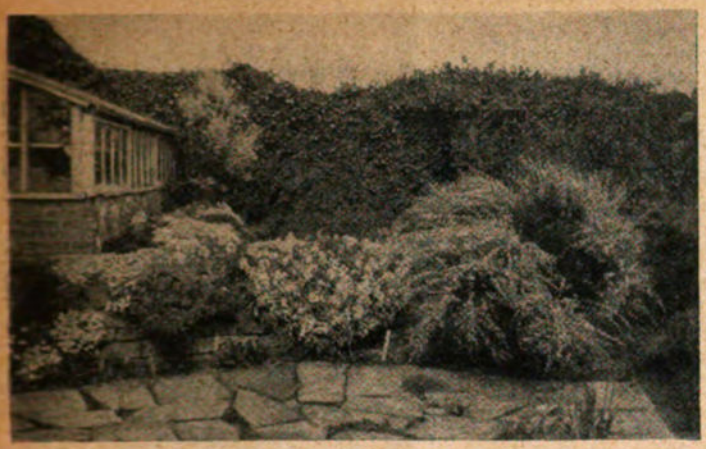
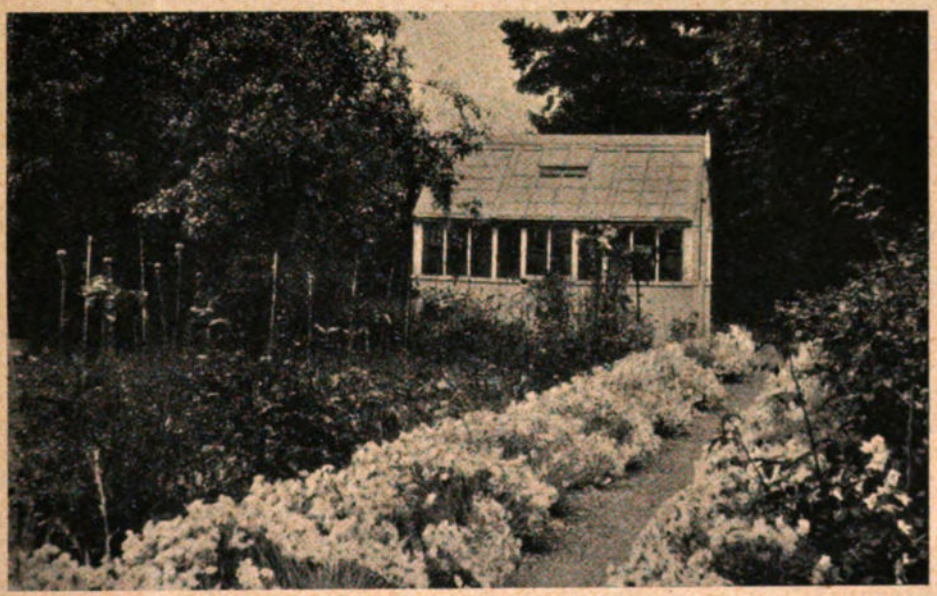


This photograph shows a winding rock wall covered with aubrietias, white and purple thyme, genista, alyssum, double arabis, dianthus, together with bushes of Cytisus præcox on the right and C. præcox albus in the corner. These plants make a blaze of colour from April until June. The climbing rose in the background is Rosaline Wrench and the crevices between the flags are planted with chionodoxas and crocuses for early flowering.—D. COULMAN, *Goole, Yorkshire.* Award of 5s.

This rockery, laid down and planted three years ago, divides the two small lawns, which are on different levels. A winding path runs between, and on reaching the two pyramid yews the path turns left and right. In the foreground is the top of a 3ft. dry wall, planted with helianthemums, pinks, lavender, London Pride, thrift, etc. On the upper and lower sides of the lawns are herbaceous borders. Each lawn is 36 feet long by 17 feet wide.—C. UNDERHILL, *Canterbury.* Award of 5s.



White pinks, such as the well known Mrs. Sinkins, make a most effective edging. Both in flower and foliage pinks are particularly attractive and, moreover, they are easily grown.—MISS M. WILLIAMS, *Cirencester.* Award of 5s.

CLEMATIS MONTANA DRAPING A HOUSE WALL.

For covering a house wall, there are few quicker growing climbers than Clematis montana. This year the show of blossom has been very fine and the festoons of pure white starry blossoms overhanging the windows have given an added attraction to the house front.—MISS E. FRASER, *Lydney, Gloucestershire.* Award of 5s.

This wistaria is growing on the front of a house just on the outskirts of London. The plant is about fifteen years old and for the last six or seven years has bloomed well every spring and given a second crop of bloom later in the year. This year it is, however, exceptionally fine. In addition to what is shown in the photograph, it spreads over the top of the first floor windows, where, as it is not so massive, the graceful habit of the plant is well seen.—MISS H. MACKHENZIE, *Acton.* Award of 5s.

WISTARIA OVERHANGING A TRELLIS PORCH.

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FRUIT AND KITCHEN GARDEN

A Destructive Raspberry Pest.

A COMMON and destructive pest on raspberries is the raspberry moth or raspberry bud caterpillar. All growers of this fruit should keep a look-out for the moths in June. These are from ½in. to ¾in. across when the wings are fully expanded, and they are light brown in colour, having several bright yellow spots on the front wings. In the sunshine the moths have a curious sparkling appearance, and, even though small, are really rather conspicuous. The moths lay batches of eggs and, in due course, tiny caterpillars appear. It is generally believed that these do only a small amount of damage during the first year and, with the coming of the autumn, the larvæ, which are bright red and with brown heads, descend to the soil, where they pass the winter. In the following spring the grubs come up from the earth and climb up the canes. They open their attack on the tips of the young shoots, eating their way down the centre through the pith of the stem. The result is disastrous, and it is rarely that an attacked cane recovers. When the caterpillars are fully fed they turn into ¼in. chrysalids in flat white cocoons which are ¼in. in diameter. These are generally to be found in the cavities at the bases of the buds, though at times they may be placed in other situations. The perfect insects emerge about three weeks after the forming of the chrysalids. In fighting the raspberry moth the following points should be borne in mind. As the caterpillars hibernate just under the soil, deep forking will disturb and carry many to a depth from which they cannot come up. Hoeing with a three-toothed hoe can also be carried out with advantage. Raking away the soil and earthing up again has also been advised. Hoeing in soot or lime, or the two mixed together, will kill the grubs or make the soil thoroughly distasteful to them. In bad cases cut canes back and remove any stakes that have been employed, putting in fresh ones. Attacked canes are much better removed at once, as no fruit can be expected from them. All infected growths should be burned at the earliest possible moment.—L. B.

Intermediate and Maincrop Carrots May Still be Sown.

THE intermediate varieties may still be sown in heavy soils. It is advisable to pay extra attention to such soils and reduce all lumps almost to a powder, not only on the surface, but for at least 9ins. down. After the spring potting of plants there is usually some good old potting compost available, and all such, passed through a fine-meshed sieve, would be splendid for mixing with the original soil. If a fair proportion be used in the open drills and also for covering the seeds, it will be possible to have firm soil immediately around the resultant seedlings, which is very important where the soil is hard and lumpy. The stump-rooted carrots are also well suited for growing in soils of this description, and the present is a very good time for the seed sowing. All carrots should be thinned out at an early stage of growth. Frequently one sees beds of young carrots with yellow and bronze leaves soon after the work of thinning has been done. If bronzed without the yellow tint it is very likely caused by iron in the soil. But the yellow foliage is caused by the grub of the carrot fly. When rather advanced in growth, before they are thinned, the holes made are large enough for the carrot pest to enter, and when once the tender roots are attacked a satisfactory cure is impossible. Thin out the plants while small and, if convenient, while the soil is moist. Whether rain comes or not, water the bed thoroughly immediately the thinning is completed, to wash down fine soil firmly around the roots retained. Afterwards use the Dutch hoe every week to ensure a fine dust mulch, and the plants will make good progress.—CHRISTCHURCH.

Beetroot to Sow Now.

ALTHOUGH the beetroot is much hardier than some people suppose, it is not always a wise plan to sow too early and early sowings ought always to be of the globe or turnip variety. A good strain, like Dobbie's Selected, Egyptian or Bath's Crimson, may safely be sown at the present time in a warm border; see that the soil is not too loose and sow in drills a foot to 15ins. apart. Thin out to 9ins. The tap-rooted varieties may also be sown now; this may be considered rather late to start by some readers, but I speak of average conditions. The soil selected for them must contain no fresh manure and yet it must be fairly rich, either from a heavily manured previous crop or from manuring and digging last autumn or winter. Sow in drills 15ins. apart and thin to 9ins. or 1ft., beat the soil moderately firm again, after sowing. Good varieties include Dobbie's Purple, Prizewinner, Goldie's Exhibition and others. I might add, too, that growers who have a retentive, stiff loam to deal with should grow nothing but the globe variety; if the deep rooting kinds are only moderately successful, try the stump-rooted Dell's Dwarf Crimson or Veitch's Intermediate. Again, there are the non-bleeding beets, like Bell's Deep Red, which have an obvious advantage over others, while other points are up to or over average. Before sowing beet, I always like to rake in 2oz. per square yard of a good mixture of artificials, which I find to be distinctly advantageous. After thinning, a further sprinkling may also be given.—CLYDESDALE.

How to Grow Summer Spinach.

THIS is a quick growing plant if it is rooting in a rich, moist soil. The plant is grown for its succulent leaves, but, unless, as stated, the soil is rich, they are small and borne on hard stems. Also, it is a plant that thrives in a little shade, such as that cast by two rows of peas. Spinach roots almost straight down; few roots spread and because of this the spinach crop, grown between rows of peas, does not rob the latter nor is the plant interfered with by the other crops. Dig the soil deeply, put in some well rotted manure, draw shallow drills, if the soil is dry fill them with water, sow the seeds thinly and cover them with dry soil; do not water afterwards. Thin out the resultant seedlings, while small, to 6ins. apart and, in dry weather, hoe frequently to create a dust-mulch. If extra large leaves are required, thin out the seedlings to 1ft. apart. The round seeded variety is the best for summer use. Sow small batches and frequently to keep up an unbroken supply. The New Zealand spinach is liked very much in some households. Its habit is trailing like that of the vegetable marrow. For each plant make the soil rich over a space 3ft. across and allow a distance of 9ft. from plant to plant. The leaves are very succulent and should be gathered from the base of each stem outwards towards the extreme point. Train the shoots in every direction so that each one will have ample room in which to grow. Confine the plant to the main stems; do not stop them with a view to having a number of side branches as the latter do not bear such large succulent leaves as the main ones.—HANTS.

MORE ABOUT THE CHELSEA SHOW

(*Continued from page* 376).

ORCHIDS.

The best group of orchids shown by an amateur came from Sir Jeremiah Colman, Bt., Gatton Park, Surrey, who had a specially fine series of Lycaste Skinneri, the rare L. locusta, with dark green flowers, a good specimen of Dendrobium acuminatum, the attractive D. Gatton Sunray, and well grown plants of Odontoglossum Wilckeanum Colmanii, with flowers of golden yellow colour.

From the Exors. of the late Mr. H. T. Pitt, Stamford Hill, came a selection of species and hybrids, the former represented best by Anguloa Clowesii, commonly known as the cradle orchid, and by the pretty Epidendrum Endresii. Hybrids were seen in richly coloured odontiodas and blotched odontoglossums.

Messrs. Stuart Low and Co., Jarvisbrook, Sussex, staged the new Odontioda Canberra in their group of various orchids. Another plant of interest was Odontocidium Edwardatum. Of the numerous hybrids, Rolfeare Charm, of apricot colour, and Cymbidium Erica var. Lord Lambourne came in for appreciation.

Messrs. Sanders, St. Albans, had an attractive group in one of the corner places. Among the many fine things were Phalænopsis Rimestadiana, a very good example of Bulbophyllum macrobulbon, as well as the scarce Cymbidium Huttonii, with pendulous spikes. Oncidioda Mauricei had a white lip, backed with deep rose sepals and petals.

Messrs. Charlesworth and Co., Hayward's Heath, had a large selection of hybrids, including Odontoglossum Imperator, of round formation, large and richly coloured. Masses of Lælio-Cattleya G. S. Ball imparted bright orange colour to this group. An interesting hybrid was Vuylstekeara Melba, while a special feature was the fine strain of home-raised Odontoglossum crispum.

Messrs. H. G. Alexander, Limited, Westonbirt, Tetbury, Glos., arranged an extensive exhibit in which Miltonia vexillaria var. Snowflake made a fine show. Other attractions were the Westonbirt variety of Cattleya Tityus, C. Enid var. Gloriosa, and the elegant Dendrobium Dalhousieanum.

Messrs. Black and Flory, Slough, staged the new and interesting Burrageara Windsor, of multigeneric origin. Also a promising batch of Miltonia vexillaria seedlings, as well as numerous cattleyas such as C. Cowaniæ alba, C. Tityus, C. Gildenii and C. Prince Shimadzu.

Messrs. J. and A. McBean, Cooksbridge, had many attractions in their exhibit, of special merit were Odontoglossum illustrissimum, the well known Masdevallia Harryana, the curious Cœlogyne Burfordiensis, with greenish yellow flowers; Cattleya citrina, with pendulous spikes of citron yellow blooms, and an extensive series of Odontiodas.

Messrs. Cowan and Co., Southgate, showed the pretty Dendrobium Devonianum, D. Victoriæ-reginæ, and the elegant Cœlogyne Mooreana in their group. The whole of the centre part was effectively filled with scarlet and red odontiodas.

Messrs. Cypher and Sons, Cheltenham, staged several fine forms of Cattleya Mossiæ in their group, also Lælio-Cattleya Dominiana with a spike of five richly coloured flowers, and the golden yellow Dendrobium chrysotoxum.

Messrs. Mansell and Hatcher, Rawdon, York, showed many very promising seedlings

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of Miltonia vexillaria, also the scarce Vanda Bensonii, Angulos Cloweaii, Zygopetalum crinitum, as well as a good selection of brightly coloured odontiodas and blotched odontoglossums.

AWARDS TO EXHIBITS.

Among the chief awards were the following :

CHALLENGE CUPS.

Gold Medal and Sherwood Cup for the most meritorious exhibit in the Show.—Mr. G. G. Whitelegg.

Gold Medal and Cain Cup for the best exhibit shown by an amateur.—Sir Jeremiah Colman, Bt.

GOLD MEDALS.

Gardens.—Messrs. Bakers, Limited.

Sweet Peas.—Messrs. R. Bolton and Son ; Messrs. Dobbie and Co., Limited.

Orchids.—Messrs. Charlesworth and Co.

Fruit and Vegetables.—The Hon. Vicary Gibbs ; Messrs. Sutton and Sons.

Mixed Groups.—Messrs. R. Wallace and Co., Limited, for mixed group of lilies and other bulbous plants, irises, herbaceous plants and rhododendrons.

Greenhouse Plants.—Messrs. James Carter and Co. for cinerarias, gloxinias, petunias, schizanthus, calceolarias, clarkias and other flowering plants from seed ; Messrs. Sutton and Sons for salpiglossis.

Carnations.—Messrs. C. Engelmann, Limited, for carnations ; Messrs. Allwood Brothers for carnations and pinks.

NEW AND RARE PLANTS.

FIRST CLASS CERTIFICATES.

Azalea John Jennings.—Apparently this is one of the many beautiful hybrids that were raised at Knap Hill. The flowers are a little larger than those of the Ghent azalea and are of a vivid ruby crimson tone. Shown by Mr. Lionel de Rothschild.

Cornus florida var. rubra.—The illustration in the *Botanical Magazine*, t. 8315, rather glorifies this large deciduous shrub, but, nevertheless, it is very beautiful. The large bracts are lined and stained with bright pink.

Daphne aurantiaca.—To many this was the best new plant in the Show. It makes a sturdy little evergreen bush with ovate dark green leaves, and pairs of bright yellow flowers are borne in the axils of the leaves. The flowers have a slight daphne fragrance.

AWARDS OF MERIT.

Aponogeton distachyon var. aldenhamense.—Except in point of size there does not appear to be much difference between this and the type. Shown by the Hon. Vicary Gibbs, Aldenham House, Elstree.

Aster alpinus Shirley.—A splendid dwarf border plant. Although not much more than 6ins. in height, the plants bear plenty of bright mauve flowers 3ins. in diameter. Shown by Messrs. B. Ladhams, Limited.

Azaleodendron Galloper Light.—A very showy deciduous variety. The rosy salmon flowers are rather larger than those of the Ghent azalea. Shown by Mr. Lionel de Rothschild.

Begonia Mrs. A. Baldwin-Bartock.—A very beautiful double-flowered tuberous-rooted begonia. The flowers are very large, perfectly formed, of rose pink colour.

B. Mrs. F. Bedford.—Another magnificent begonia. The large double flowers are of cream colour flushed at the back and on the edges with light pink. Both begonias were shown by Messrs. Blackmore and Langdon.

Cercis racemosa.—Like the better-known Judas tree, C. Siliquastrum, this small tree bears flowers on the old branches, but they are in little, semi-pendulous racemes and of flesh pink colour. It is a very attractive deciduous tree, becoming about 20ft. high. Shown by Mr. Lionel de Rothschild.

Clerodendron fragrans.—This very fragrant, warm greenhouse plant is by no means new. The pubescent leaves are very large and the flowers are crowded in a small bunch. Shown by Sir William Lawrence, Bt.

Cytisus Lord Lambourne.—A pretty little broom much the type of Cytisus Dallimorei. The flowers have primrose-coloured keels and standards and crimson wings. Shown by Messrs. C. Watson and Sons, Limited.

Dianthus Allwoodii Susan.—The flowers are very shapely and of blush pink colour with a broad deep crimson zone. Shown by Messrs. Allwood Brothers.

Hippeastrum pratense.—This gorgeous scarlet lily was shown as Habranthus pratensis. It was introduced from Chili in 1840, and is nearly, but not quite, hardy. The flowers are borne in an umbel on a spike about a foot high. Shown by Mr. R. C. Notcutt.

Hydrangea Hortensia D. B. Crane.—A handsome truss of substantial deep old rose flowers. Shown by Mr. H. J. Jones.

H. H. Mrs. Baardsi.—A large truss of bright pink flowers.

H. H. Deutschland.—A very large truss of pink flowers lightly shaded with blue mauve. This and the foregoing were shown by Messrs. J. L. Endtz and Co.

Lewisia rediviva Vancouver Variety.—An interesting little plant which, having a very stout, fleshy rootstock, has great powers of recuperation. The entire plant is not more than 3ins. high. It makes a tuft of narrow, fleshy leaves and has solitary pink cactus-like flowers almost 3ins. in diameter. Shown by Mr. C. van Tubergen.

Lupinus polyphyllus Countess of March.—This herbaceous variety has tall spikes which at first are white but soon become flushed with lilac. Shown by Mr. G. R. Downer.

Magnolia Nicholsiana.—A deciduous species from China. It becomes about 20ft. high and has ovate-oblong leaves with fine hairs on the stalks and along the midribs. The white flowers are saucer-shaped, about 4ins. across and have purple stamens. Shown by Lady Aberconway, Bodnant, North Wales.

Pæonia Hiatt C. Baker.—This is a tree peony which has small, round, orange-flushed flowers. Shown by the Almondsbury Gardens.

Pitcairnea aphelandræfolia.—A showy bromeliad introduced from Para in 1867. It has a dense tuft of dark green lanceolate leaves and racemes of bright scarlet flowers. Shown by Sir William Lawrence, Bt.

Carnation E. Lyall Swete.—This splendid border variety has large, well formed bright scarlet-crimson flowers. Shown by Mr. J. Douglas.

C. Evelyn.—This is a medium-sized perpetual-flowering carnation. The white-ground flowers are very heavily stippled with pink at the edge which shows occasionally as lines or flakes. Shown by Messrs. C. Engelmann, Limited.

C. G. K. Phillips.—A very fragrant perpetual-flowering variety. The large, shapely flowers are of rich crimson colour and are delightfully scented. Shown by Messrs. Hewitts, Limited.

Primula microdonta var. alpicola.—This handsome Chinese primrose has a scape about 2ft. in height and bearing a goodly number of long-stemmed lemon-yellow flowers. The flower-stems curve close to the calyx so that the blooms face outwards. Shown by Messrs. Oliver and Hunter.

Rhodohypoxis Baumii.—We cannot discover any authority for the generic name, which does not appear in the "Index Kewensis." It is a curious little plant—apparently a moisture-loving alpine—only a few inches high. There is a tuft of stemless, lanceolate leaves which have fine hairs along the edges. The solitary flowers are much like primroses which have no centres—the corolla segments meet curiously. In this plant they are white.

R. rubella.—This is a rose-coloured variety of the previous plant. Both were shown by Mrs. Garnet-Botfield, Albrighton.

Rose Kerbergen.—A beautiful dwarf polyantha variety. It has shapely trusses of little double rich crimson flowers. Shown by Messrs. William Cutbush and Son.

Tulip White Duchess.—A large cottage tulip which has the segments curiously notched. The solid white is relieved by green lines along the centre of the outsides of the segments. Shown by Messrs. Barr and Sons.

Viburnum macrocephalum.—This is a fair-sized deciduous species from China. The dark green ovate leaves are small in comparison with the large rounded trusses of pure white hydrangea-like flowers. Shown by Mr. Lionel de Rothschild.

Viola cornuta Jersey Gem.—A splendid little viola of dwarf, spreading habit and bearing plenty of large royal blue flowers. Shown by Messrs. Watkins and Simpson.

Weinmannia trichosperma.—Unfortunately, this uncommon evergreen shrub from Valdivia is not quite hardy. It bears flattened, pinnate leaves of fern-like appearance, and the pendulous little racemes of small flowers have pretty rose-tipped anthers. Shown by Mr. G. W. E. Loder, Ardingley.

Orchids.

FIRST-CLASS CERTIFICATES.

Lycaste Skinneri var. Mrs. Hamilton Smith, from Sir Jeremiah Colman, Bt. By far the finest form of this well known species.

Odontioda Corregio, from Mr. J. J. Bolton, Claygate, Surrey. A beautiful hybrid, rose-tinted with soft crimson blotching.

Miltonia Lucia var. Stamperland, from Mr. Robert Paterson. The flowers are distinct by reason of the well developed blotch on the lip.

Cattleya Prince Shimadzu superba, from Mrs. Robert Paterson. A charming variety of soft rose colour, the labellum richly coloured with purple and gold.

SUNDRIES.

GREENHOUSE AND HEATING APPARATUS.

In the main avenue at Chelsea, greenhouses, both large and small, and heating apparatus of every type were on show. Messrs. Skinner, Board and Co. had erected one of the "Wiretension" greenhouses which has a curved roof with flat glass, and in which woodwork and putty have been cut down to a minimum. A very useful small alpine plant house was shown by Messrs. Boulton and Paul ; and a well constructed small propagating house by Messrs. D. Swain. Messrs. Duncan Tucker erected a house which would serve equally well for a cool conservatory or a heated house for general purposes. Engines, pumps, boilers and heating apparatus

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were displayed by Messrs. C. P. Kinnell, who are specialists in this line. A number of other firms had exhibits of this kind, including Messrs. Hayward and Co., who had a very useful set of portable hand lights in varying sizes; and Messrs. Messenger and Co. who showed frames, greenhouses and boilers.

Tools and Spraying Machines.

Considerable interest is always aroused by the exhibits of gardening tools and spraying machines. All the most up to date patterns and the latest inventions were on show and numerous firms displayed comprehensive collections of tools, sundries and gardening requisites of every description. Messrs. T. Gunn had an excellent exhibit of useful garden implements. Forks, spades, cutting tools of all kinds, were exhibited by Messrs. R. Melhuish, Messrs. W. Wood and Messrs. J. Carter. The well known "Rain-King" lawn sprinklers in various sizes, suitable for hard tennis courts, as well as small grass lawns, were shown by the Cooper-Stewart Engineering Co. On the stand of Messrs. Joh. Hansen, practical demonstrations of the "Little Wonder" hedge clipping machine were given. This is a most efficient and labour-saving implement. The Four Oaks Spraying Machine Co., had a representative collection of the syringes and spraying machines which have been used throughout the horticultural world for many years. Bucket sprayers, pneumatic sprayers in various sizes, (all fitted with this firm's special unchokable nozzle) powder sprayers and lime-washing machines were on show. Some very serviceable and well made secateurs and pruning knives were exhibited by both the Wilkinson Sword Co. and Mr. C. Jardine. Some of the pneumatic spraying machines displayed by Messrs. Holder Harriden and the Eclipse Spraying Co., are particularly suitable for use in a greenhouse or small garden. Gardening tools for children were shown by Miss M. Nader, and Mr. B. J. Walker was demonstrating the new "Rolcut" secateurs, which have a different cutting motion from the ordinary type of secateur. The "Rolcut" makes a clean roller cut and does not bruise in any way. These secateurs not only make a clean cut without a bruised, jagged edge, but they are light to use and made of good quality material. Tools, hoses, a selection of tools, fertilisers, weed killers, etc., were shown by several firms, including Messrs. Smith and Ellis, Messrs. E. J. Woodman and Messrs. A. Smellie. The "Everon" tap union was one of the useful hose fittings shown by Messrs. A. Smellie. The Shoulder Hoe Co., were exhibiting their new patent hoe, and lawn accessories of every kind were shown by Messrs. H. Pattisson.

Garden Furniture.

A large number of exhibitors were displaying garden furniture. Seats, tables, chairs and benches made of teak were shown by several firms, those made by Messrs. Castle from old man-o'-war teak are particularly good in design and workmanship. Messrs. Abbott Brothers showed a collection of garden furniture together with birds' nesting-boxes and table trays. A summer-house of good design was exhibited by the Papworth Industries, and Messrs. A. Overend had rustic furniture and a rustic summer-house. Some very well made osier furniture and sets of tables and chairs made by disabled soldiers at the Lord Roberts' Memorial Workshops were to be seen, and the London Association for the Blind also had a number of somewhat similar articles. "Citadel" chairs shown by Messrs. W. Sinton were most comfortable. They are made of sea grass, which is pliable and yet does not creak. Strongly made oak plant tubs with hoops and fittings of antique brass were also seen on the stand of this firm. Cane chairs of the very best quality were displayed by the Dryad Works, and such well known firms as Messrs. A. W. Gamage and Messrs. Harrods had good selections of portable garden furniture, swing hammocks, as well as tents and shelters. Messrs. W. Wood and Messrs. Gaze also displayed a good selection of teak garden seats and chairs, and a garden shelter made of natural osier by the Rural Industries is well adapted for the week-end or seaside cottage garden. Other firms, too numerous to mention, had interesting exhibits of garden furniture.

Garden Ornaments.

Ornaments of lead, natural stone, terra cotta and various forms of artificial stone were exhibited. The Bromsgrove Guild had a number of ornaments of good design, and particularly attractive were some of the small lead figures which they were showing. A great variety of bird-baths, fountains, vases, stone seats in artificial stone were displayed by Messrs. Sanders and Co. Some of the stone baskets of fruit shown by Messrs. Pulham were much admired; and the large vases in grey and red terra cotta shown by Messrs. Wakeley Brothers were most inexpensive and yet effective. Other firms, such as Messrs. Hodsons, Messrs. A. Moorton, Messrs. Burton Holt, and Messrs. W. Wood, all exhibited a good selection of artistic ornaments for the garden.

Insecticides and Fertilisers.

It would be impossible to give a full account of the many different insecticides and fertilisers which were seen on all sides at the recent Chelsea Show. It is evident that there has been great progress in the science of these matters, for one can now obtain specialised plant foods, insecticides and fungicides to combat every common pest and disease in our gardens, as well as weed-killers, soil fumigants and stimulants for lawns on various soils. Messrs. Cooper, McDougall and Robertson had their famous Katakilla, which is such a valuable aid in the garden during the summer months. Tree-banding materials, "Weedicide," lawn sand and fungicides were also shown by them. Messrs. Robinson's Multiple Slug-killer and Anti-clover Fertiliser for lawns were other very useful materials on show. Fumigating compounds, including XL-All, and nicotine compounds were seen on the stand of Messrs. G. H. Richards. Quassia extract, lawn sand, "Weed-death," lime sulphur wash, and special material for destroying ants and woodlice, and the "Little Marvel" wasp traps were some of the interesting features shown by Messrs. Corry. "Tarbol," which has been proved to be most effective material for ridding the ground of soil pests, was exhibited by the fertiliser specialists, Messrs. J. Fison. "Tomorite" (a properly balanced food for tomatoes), fertilisers for chrysanthemums, roses and greenhouse plants, as well as pure ichthemic guano, were shown by Messrs. Prentice Brothers. The Acme Chemical Company, whose weed-killers, both poisonous and non-poisonous, are extensively used, showed "Fumerite" (a compound for destroying ground vermin), lawn sands, manures, and insecticides for all purposes. Messrs. Adco had an exhibit of synthetic farmyard manure made from garden rubbish by the "Adco" process.

A complete garden fertiliser which acts as a stimulant for fruit, flowers and vegetables, was displayed by Messrs. Price and Co. The Garden Supplies, Limited, were demonstrating the value of their "Climax" lawn sand; and on the stand of Messrs. Wakeley Brothers, among fertilisers, potting soils, ground garden lime and hop manure, was a material known as "Humull," which is composed of decayed vegetation rich in humus, and is an excellent top-dressing for lawns.

SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Lupins which do not Flower Well.

I should be very glad if you would advise me what to do for lupins which drop their blossoms before they are fully developed, so that only an inch or two of blossom or none at all is left on the spikes. Other lupins in the same bed do well.—O. C., Kensington, W.8.

Evidently the lupin plants on which the flower spikes fail are unhealthy at the roots. The condition of the flowers points to a grub attack, possibly wireworms. Take up a root and examine it. If grubs are found or fungus, treat the soil next autumn with "Vaporite," and one month later, with formalin solution at full strength.

Pruning Ceanothus Veitchii.

I have a fine bush (or small tree) of Ceanothus Veitchii, trained on a south wall. The bush is coming out into a perfect mass of flower and will be a fine show. I think I have read that it should be pruned as soon as the flowers are over, but have no idea as to how much. Should I cut back all outstanding shoots and if so, to what extent?—C. R., Reading.

As a bush in the open Ceanothus Veitchii requires no system of pruning, thus on a wall you need only shorten the growths to accommodate the plant to its position. This object would perhaps be best attained by shortening the growths to within 6ins. to 9ins. of the wall as soon as the blooms fade.

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PLANTS FOR DRY AND SHADY PLACES (see page 396).

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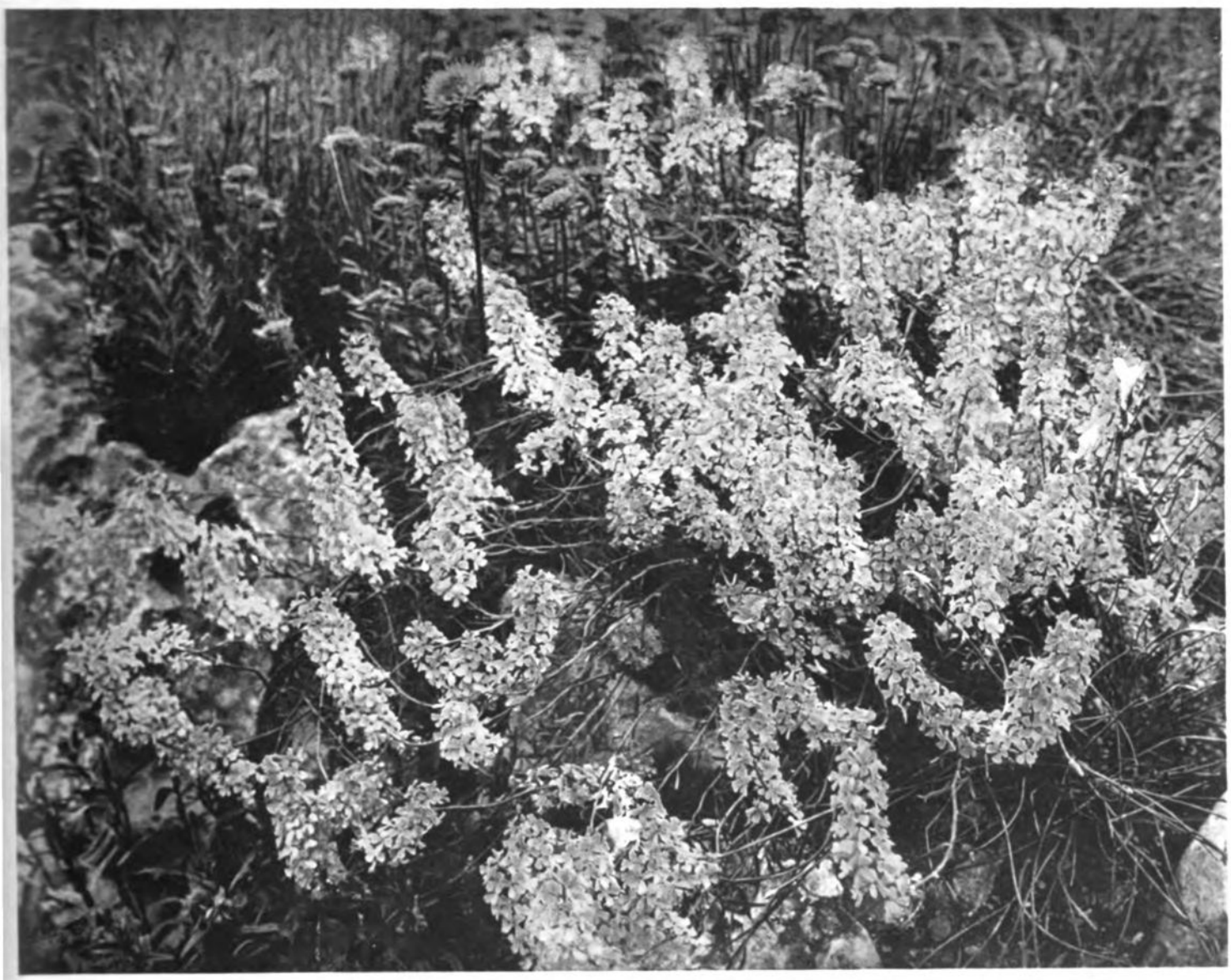
THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2898 Saturday, June 18th, 1927 Price TWOPENCE



A CLUMP OF ÆTHIONEMAS ON A ROCKERY.

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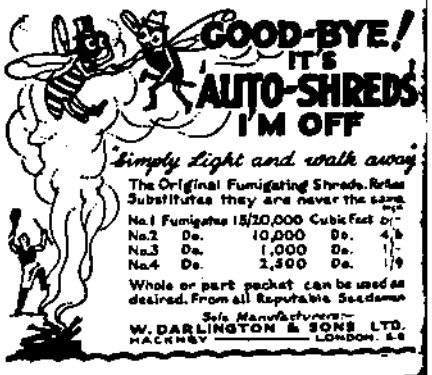

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THE USE OF GARDEN WASTE

NOWADAYS it is generally recognised that the best results in the cultivation of flowers and vegetables can only be obtained by the use of plenty of manure, both natural and artificial.

In the summer a pile of lawn mowings will constantly be accumulating and these should be spread over the soil among the plants to check the weeds and to keep the ground moist. Not a scrap of green stuff should be wasted, but should be thrown on the heap to be used as manure.

The borders should be trenched in the autumn. That is, the trench should be two spits deep and a thick layer of the manure and decayed vegetable rubbish forked into the bottom spit. This keeps the soil rich and damp throughout the summer months, when the plants send their roots deep into the ground to find moisture. Provided that all the green stuff is saved throughout the summer and autumn, and not burnt, enough vegetable manure will be obtained to enrich the soil during the following year.

A large part of the garden refuse cannot be used in this way. Stalks, prunings and weeds must be burnt; a few big bonfires yield a surprising amount of ash, and thus, supplemented by a little bone meal and soot, is used as the fertiliser. Ashes being rich in potash are extremely valuable to the gardener and should be scattered evenly on the top spit and lightly raked in. Soot, which should first be exposed to the air for some weeks in a tub or box, makes an excellent liquid manure: a bag full of soot is suspended in a can of water, and this liquid sprinkled on the ground.

Every autumn there will be considerable quantities of fallen leaves. These should be carefully swept up and stacked in a heap, together with lawn mowings and other soft garden refuse. This heap should be occasionally turned over, and a little "Adco" mixed with it to hasten the process of decomposition.

In this way the garden will be, so far as manure is concerned, practically self-supporting; every two or three years a load of cow manure is helpful, but this is not essential. The whole idea is to put back into the ground as much as you take out of it.

Æthionemas for the Rockery.

THOUGH, perhaps, the most beautiful of all the crucifers, the æthionemas are not as a rule, well represented in the average rock garden. This may be due to the fact that they are southerners and insatiable sun-lovers and therefore rather untrustworthy in wet winters. But give them a sloping bed of really poor, gritty or stony soil, place them between the chinks of a rock, or with their roots under a stone at the top of a dry wall, always with full exposure to the south, and most of the better known kinds will prove as permanent as one could desire. Limestone they all love, but it is not so essential as that prime necessity—free drainage and a rocky root-run.

Æ. Warley Rose is not only the best of its race, but one of the best and brightest rock plants in cultivation, covering its steely-blue foliage with abundant flowers in a vivid rose-carmine throughout April and May. It makes a neat little bush about a foot across and half as high. If Æ. Warley Hybrid may be described as the same thing in rather a paler colour, it is so good and so brilliant that it is not until you grow the two within eye-shot of one another, that one appreciates the real difference between them. Both of these are not only first-class æthionemas, but they are among the easiest and most reliable. Æ. grandiflorum of the lists is another little bushling of about 1ft., with abundant heads of flowers in a vivid rose and Æ. pulchellum covers its glaucous foliage with blooms of a soft chalky pink. Another excellent species is Æ. iberideum, which is as easy as arabis and one that makes lovely mats of silvery foliage which is almost hidden beneath a wealth of white, hay-scented flowers from March to May. All the æthionemas are very easily propagated by cuttings of short, half-ripened shoots struck in pots of sandy soil in a cold frame in the later summer. The only attention the growing plants may require is an occasional cutting hard back of straggling growths in early spring. Then as soon as the blooms are over (end of May) all the flowering shoots may be well shortened, this conducing to a more compact growth and, as often as not to a second crop of bloom in the late summer.

Walthamstow and District Gardens Guild.

IN conjunction with the London Gardens Guild, a competition is to be held by the Walthamstow and District Gardens Guild. There is a strong desire to form a society in this district to arrange shows and garden competitions and any readers who reside in this neighbourhood and who are interested should communicate with Mr. A. Charles Sarson, 33, Elphinstone Road, Walthamstow.

Aldenham House Gardens.

THE gardens of Aldenham House, Elstree, will be again open to the public, by kind permission of the Hon. Vicary Gibbs, on the Saturdays of July, August and September (other than Saturday, July 16th, the date of the Elstree Floral Fete, when admission will be gained on payment at the gates); also on August Bank Holiday (Monday, August 1st).

This Week's Work

For Gardens in the South and Midlands.

Trim all hedges and evergreens.

Remove the faded blooms on flowering shrubs, and place azaleas outside in a sheltered position.

Plant out cabbages, celery and winter greens, and earth up potatoes.

Stake and tie all tall-growing annuals, perennials and border carnations.

Transfer winter-flowering pelargoniums to a cold frame.

Keep down pests on fruit trees and roses.

Sow late peas and feed chrysanthemums and tomatoes in pots with weak liquid manure.

Thin out the berries in the bunches of grapes.

This Week's Work

For Gardens in Scotland and the North.

Mulch raspberry beds with decayed manure.

Pinch out the points of broad beans when 3ft. high.

Remove seed heads from rhododendrons and other shrubs.

Take out top bud of clarkias, godetias, and marigolds to promote bloom on side shoots.

Dust onion, carrot and turnip beds with soot and lime.

Sow cineraria seed in pots or boxes.

Remove root suckers from roses and fruit trees.

Transplant begonias in beds.

Shift primula seedlings when the pots are full of roots.

Make a small sowing of aquilegia out of doors.

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PLANTS FOR DRY AND SHADY PLACES

There is always a difficulty in finding plants which will succeed in a dry and shady situation in the garden. In the following article is given a selection of suitable subjects which the amateur can plant with success.

A DRY border that gets little or no sun presents one of the most difficult problems that a gardener is called upon to face, and it is not surprising that the temptation to follow the line of least resistance is often too great to be withstood and the unattractive bit of ground is allowed to become a dull and dismal tangle of stunted "evergreens"—which generally include Portugal laurels and aucubas—and dusty ivy. But given a little enterprise and more patience something may be done even with such a border, although it is vain to expect that it can ever be as gay and floriferous as one that gets a large share of sunshine and moisture.

The first thing to be done when such a border is taken in hand is to consider whether anything can be done to modify the dryness. If there are tall trees at the back, a deep trench should be taken out and any roots projecting into the border cut through. In the case of a wide border, a sunk wall of concrete, bricks or stone can be built in the trench to prevent any further encroachment by the roots, or, as was recommended by a correspondent of THE GARDEN last year, strips of galvanised iron may be substituted for the wall with a great reduction of cost, but it must be well "weathered" before use, as freshly galvanised iron is apt to have an injurious effect on plant life. Should there be a privet hedge instead of trees at the back of the border, its roots may be similarly dealt with, but it will be wiser to replace it by something less of a vampire, such as a hedge of Lonicera nitida or myrobalan plum, although not much bloom can be expected from either under such conditions.

A dry border should be as deeply dug as possible, the subsoil well broken up and farmyard manure, half-decayed vegetable refuse and, if possible, some chopped-up loamy turf worked in if the soil is light. If on the heavy side, strawy stable manure may be substituted for the farmyard stuff and this supplemented by leaf-mould and road sweepings, always provided that the latter can be obtained from untarred roads.

There are very few climbing plants that will flower in a dry and shady border, but quite a good effect can be obtained by growing the large-leaved ivy (regneriana), Rubus biflorus (the whitewashed bramble), the variegated Japanese honeysuckle, the jasmines, nudiflorus and officinale—both these will flower moderately well in shade—and the common hop and its variety aureus on poles. The Japanese hop, usually treated as an annual in this country although really a perennial, is also useful in such a situation. There is a bronze-leaved form of it which is rather effective and certainly unhackneyed, as it is seldom grown. Among plants suitable for the back row of the border—they may be placed between and in front of the poles with climbers—the best are foxglove white and spotted, the blue and white Aconitums Napellus bicolor and N. Sparks' variety, Thalictrum aquilegifolium, Helianthus rigidus (the prairie sunflower) Inula Helenium (elecampane) with its showy yellow blossoms, and the Verbascums phœnicium and nigrum, all of which may be relied upon to flower, if not very profusely.

THALICTRUM AQUILEGIFOLIUM IS A FINE PLANT FOR THE BACK ROW OF A SHADY BORDER.

MANY OF THE YELLOW FLOWERED COMPOSITES SUCH AS INULA CAN BE USED TO ADVANTAGE IN A DRY BORDER.

For the main part of the border we can have honesty (Lunaria biennis), purple and white, the large yellow toadflax (Linaria dalmatica), Œnothera Lamarckiana (the biennial evening primrose), Achillea Ptarmica, and valerian in its crimson, pink and white varieties. The periwinkles, too, are invaluable for such a situation, and should be grown freely. Besides the familiar Vinca major and V. minor, blue and white, there are a pretty double blue form of the latter, a variety of V. major with gold-mottled leaves sometimes known as elegantissima, and the dainty pink-flowered V. rosea, the last named, however, being of rather doubtful hardiness in cold districts. The Rose of Sharon (Hypericum calycinum) will produce its handsome golden yellow blooms with an amiable indifference to shade or drought, and three of the euphorbias, Wulfeni, pilosa and polychroma, and two of the campanulas, latiloba and alliariæfolia, may be tried with a fair prospect of success.

There are several shrubs that are exceedingly useful in a dry, sunless border, these including Berberis (Mahonia) Aquifolium with its shining purple-brown leaves, butcher's broom (Ruscus aculeatus), not very interesting but compact of habit and exceptionally good-tempered, the yellow-foliaged Cassinia fulvida (golden heath) and Euonymus japonicus in its variegated forms, E. aureus and E. albo-marginatus, the two last being specially desirable by reason of their showy leafage. It may be added that the writer has found that Daphne Mezereum, crimson and white, will flower fairly well in such a border, although it is not generally regarded as an appropriate shrub for a situation that is shady as well as dry.

Perhaps the most suitable of all edgings for the border is one of the small-leaved ivies pegged down and kept clipped, but it is rather dull and the variegated form of Euonymus radicans Silver Gem is much more cheerful and nearly as neat. Sweet woodruff, London pride (Saxifraga umbrosa), creeping jenny (Lysimachia Nummularia) and Corydalis lutea will all flower more or less without sun, while another plant that makes a pretty edging is the Welsh poppy (Meconopsis cambrica). This is usually thought to need sunshine, but in the writer's garden there is a colony of the orange variety

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established in a gravel path under a high hedge which effectually shuts out the sun save for an hour or two during the early morning at midsummer, and the plants flower and even ripen seed abundantly.

A near relation of the meconopsis and also bearing orange-coloured flowers is Papaver pilosum, which will succeed tolerably well without sun, as will also Corydalis lutea, a most amiable little plant that is happy anywhere. The ordinary run of Michaelmas daisies are not satisfactory in a dry and shady place, but the old Aster diffusus horizontalis (Farewell Summer) and A. Linosyris, (Goldilocks) are exceptions. Polygonatum multiflorum (the best variety of Solomon's Seal) will produce its white bells quite profusely even if it is rather stunted in stature; and the same may be said of Anemone japonica, which will bloom, but without reaching its normal height.

FOXGLOVES IN VARIETY SUCCEED IN A DRY AND SHADY POSITION.

Very few annuals will thrive under such conditions. The white-flowered, grey-foliaged Omphalodes linifolia; Calendula officinale (pot marigold), single and double; the blue woodruff (Asperula azurea setosa); and the pretty yellow and white Limnanthes Douglasii, will give the best results. The canary creeper, Tropæolum canariense, will flower freely in shade if it can be supplied with enough moisture. This is best managed by putting a layer of little bits of crock or small stones at the bottom of a 6in. flower-pot, sinking it close to the roots of the creeper and filling it up with water twice a day, or oftener in hot weather.

At the onset of hot weather a dry border should be forked over, thoroughly watered, lightly mulched with strawy stable manure or lawn mowings and the watering repeated. Thus treated it will remain moist for a considerable time.

R. E. H.

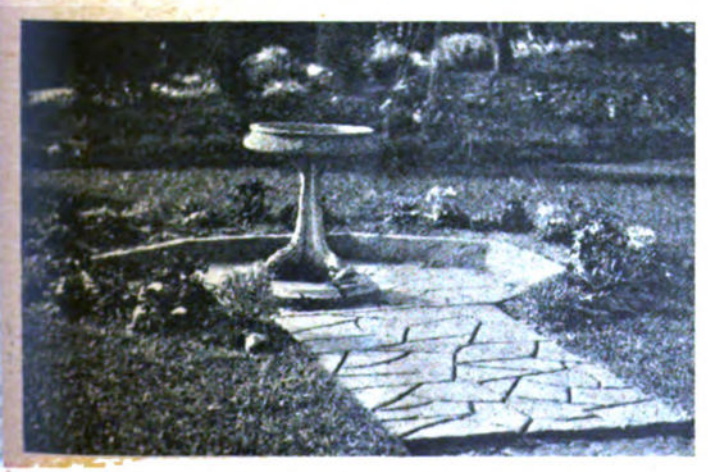
HOW TO MAKE A LAWN ATTRACTIVE

Making a Crazy Path and Planting up a Birds' Bath Surround

I WAS very interested in 'Hamish's" notes on page XXII of THE GARDEN, dated March 26th, 1927, because I made a similar pathway to that described, about eighteen months ago. My pathway was cut through a lawn, the clean-cut edges of which obviated the use of boards for the keeping of the cement mixture in place. Unlike "Hamish," I mixed no colouring matter with my cement, for I required a grey path, which, in time, would become weathered by percolations of water, until it assumed the appearance of old stone. A cement mixture of four bucketfuls of sand to one of cement would give an almost white path when thoroughly dry, and the surface would be proof against all weathers, *i.e.*, the colour would remain white, unless brushed over with a stiff brush when the mixture was nearly dry to remove the scum. Particularly is this so when the constructor makes his paths in the manner advocated by "Hamish," with an abundance of drainage material. In a gravel or other path, this drainage is most necessary, but in a cement path where one wishes a weathered effect to take the place of the rather monotonous grey colour of the cement, the drainage defeats the very object which it is desired to attain. If the water is allowed to drain away beneath the cement, it never becomes stagnant, and cannot ooze through the cement coating to form the green slime which later gives the path such a charming effect. All that is necessary in the preparation of the path is to ram the soil thoroughly when in a moderately dry condition, laying the cement direct on this. If the slabs are shaped up with a trowel, allowing some 2ins. between the slabs, small plants can be inserted in the soil between these blocks.

A much better finish is given to the path if, instead of filling in the interstices with a different coloured cement, soil is brushed into the spaces between the moulded "stones."

A very charming surround for the birds' bath or sundial placed on a lawn, can be constructed in the same manner as the cement path. The sunk portion is first of all cut out of the grass, taking this out to include only the sunk portion, and not the border surround seen in the photograph, which is cut later on when the cement is iron-hard. This gives a clean cut edge for cementing purposes and avoids the use of boards, which are not always present when required. A number of holes some 3ins. deep should be made in these little earth walls while the soil is moist, which can be effected by means of a dibber, or cutting out with a fern trowel. These holes are for the purpose of providing a "key" to hold the cement in position. The cement is made in the proportion of one bucketful of cement to four of sand and mixed with water until it is like stiff mortar. The mixture is then applied to the earth walls and smoothed out with a wooden float until an even surface of cement, some 2ins. thick, has adhered. The flooring of cement can then be laid, either in one flat sheet, marking out into a crazy pattern by means of boards when half-set (as advised by "Hamish"), or the separate "stones" may be moulded, or shaped, by means of the trowel as the mixture is laid. I would recommend the second method, as by this means a much more irregular and broken-stone appearance can be obtained; pieces of wood make rather straight lines, which betray the fact that the path is merely camouflaged, and not the real thing. The path seen in the illustrations was produced by the board method, but others which I have since made by the second method are much more pleasing. P.



SHOWING THE METHOD OF LAYING THE CRAZY PAVING.
Polyantha primroses have been planted round the birds bath.

THE SUNK GARDEN COMPLETED.
The flowers in this border surround are mauve violettas and pink antirrhinums.

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CREATING NEW IRISES

When irises are in full flower many amateurs might like to try the fascinating experiment of raising new varieties, in the hope that a new sort of outstanding merit will be obtained. Full details are given in this article as to how to proceed.

UNDOUBTEDLY one of the most fascinating branches of the art of gardening is that devoted to the raising of new plants; something different and better than we already have. This branch is often considered by amateurs to be difficult—work essentially reserved for the specialist. Such, however, is not the case. Any amateur having time and patience can enter the field and his chance of success is equal to that of the professional raiser. In order to produce a new variety, it is only necessary to perform the simple task of taking pollen from one variety and dusting this on to the stigma of another. There are, however, certain factors of which due notice must be taken, as, for example, plants which may be fertilised by insects will have to be protected from insect visits by fixing up a little tent of muslin to enclose the flower, and in dealing with flowers which fertilise themselves it will be necessary to remove the pollen sacks (anthers) to prevent this. Not infrequently, the anthers discharge the pollen before the flowers open, as in sweet peas and campanulas, and in this case the somewhat delicate operation of removing the anthers from young buds must be undertaken. As regards the stigmas, these must be in a proper condition to receive the pollen, and this usually means when they are somewhat viscid. All these and other minor points which need not be mentioned are really matters of commonsense and are easily dealt with after a little practice. The amateur should not choose a plant which produces an abundance of seed, as the poppy or verbascum, because it will be quite impossible to deal with thousands of seedlings in the average garden. The real difficulty of this work lies in the fact that only a very small percentage of the resulting seedlings will be found to be any advance on existing plants—it is largely "a game of chance," but as colour, habit and other qualities in a plant are matters of personal taste, it is probable that the amateur may raise many plants which please him. The work is as fascinating as a good serial story. First transferring the pollen—then a period of uncertainty, with daily visits to the flower to see if the capsule is swelling—the watching of the capsule and gathering of the seed—the sowing of the seed—a further anxious period, waiting to see if the seed will germinate—the care and transplanting of the young plants—then the pause for the final chapter—the buds are showing, the flowers will soon appear! At this moment one must suppress the springs of hope, as it is not unlikely that disappointment may be complete. There is a strong element of chance in this work, making it possible for an amateur to produce in his first attempt a plant of outstanding merit, perhaps one for which professional raisers have long striven.

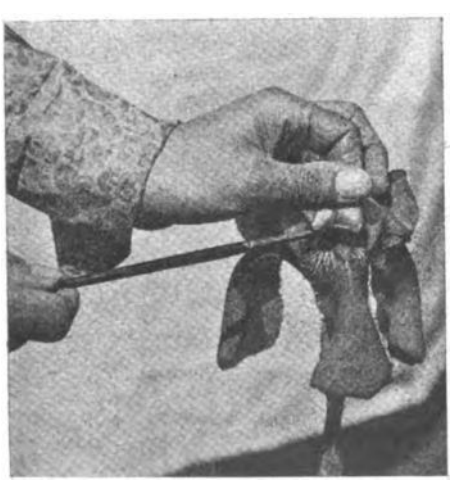
A SPIKE SHOWING MATURE SEED CAPSULES.

I would particularly recommend irises as a most accommodating race of plants, suitable in every way for those who decide to attempt to raise something new. They are rarely fertilised by insects or self-fertilised, so that no nets are required, and, although it is advisable, it is not imperative to remove the anthers. Irises do not produce a large amount of seed, and there is generally sufficient room in the average garden to accommodate the seedlings. I will therefore describe the operations necessary to raise new irises. Indiscriminate crossing is not likely to yield good results, and one should have a definite aim, so that parents which appear most likely to satisfy that aim may be chosen. For example, one might wish to produce very early or late flowering varieties, very tall or strong varieties, or a particular colour, or to engage on work which has not received much attention by other raisers, such as the production of sweetly scented varieties. An instance of a particular aim would be the production of a really good, tall, late-flowering white iris. To do this, one might select the well known Pallida dalmatica as the parent necessary to provide the factors of height and lateness, and the factor of being white must be introduced from any suitable white iris which happens to be in bloom at the time. Having decided upon the aim for which you must strive, pluck and examine an iris flower and compare it with the diagram which gives the names of its parts. Take hold of the crests with the finger and thumb and pull them back gently, when the viscid surface of the stigma will be exposed, and this is where the pollen must be placed. Just underneath this limb the anther will be seen. When collecting pollen, remove the anthers with a pair of forceps. The pollen may be transferred to the stigma of the selected seed parent by means of a soft brush, as illustrated, or simply by holding an anther in the forceps and passing it gently across the stigma.

This operation is known as hand-fertilisation, "making a cross," etc., and each flower so treated should be marked with a label bearing a number. Enter the number in a book, and against this put the name of the seed parent and pollen parent, *e.g.*, No. 45, Pallida dalmatica × White Knight, the name entered first being the seed parent. If the cross has been successful, the flower will soon fade and the ovary begin to swell. Should there be several good seed pods on a tall spike, it is as well to support this with a stick, or it may be beaten down by wind and rain.

The seed pods begin to ripen just about the time when most of us are taking a seaside holiday, and so it is best to enclose the pods in small muslin bags before going away, when, should the capsule open, the precious seed will not fall to the ground. When the capsules show signs of opening, cut the spike and store in a dry shed. Should the weather be wet when the capsules are gathered, they may be dried off in a warm place, such as the domestic airing cupboard or on top of the kitchen mantelpiece. In wet autumns I have frequently matured the seed on the top shelf of an airing cupboard.

The ripe seed may be sown outdoors in early October, but it is more satisfactory to sow it in pans, when conditions can be controlled. Fill about one quarter of the pan with crocks to ensure a good drainage, then put a little leaf-mould or fibre over the crocks to prevent the soil from washing through, and fill up with a mixture consisting of about one quarter sharp sand and three-quarters good fibrous loam to which a small portion



TRANSFERRING POLLEN WITH A BRUSH.
The position of the stigma is indicated.

A PAN OF IRIS SEEDLINGS READY FOR TRANSPLANTING.

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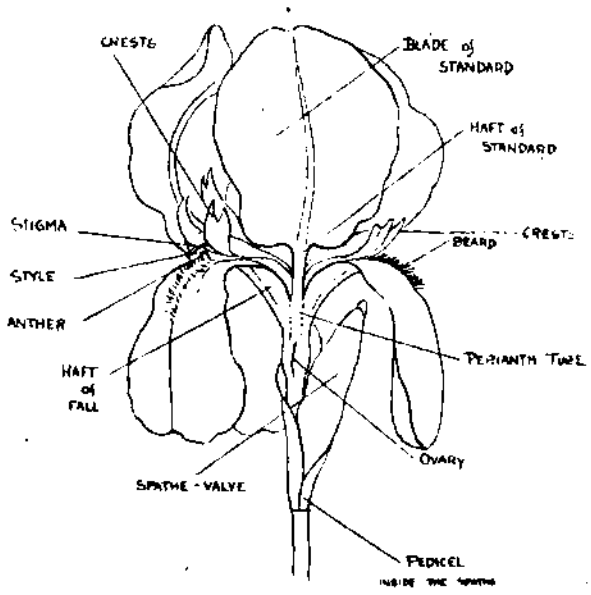
of old mortar rubble or lime has been added. The seeds should be sown quite ½in. deep, as they have a tendency to work towards the surface during winter rain and frost. A good sound label bearing the number of the cross should now be put in, and it will be found useful to mark on this the number of seeds sown. Plunge the pans in the open ground in a position where they are well exposed to frost and cover with a piece of wire netting to prevent birds from dusting in the fine soil and disturbing the seed. About mid-February, preferably after a sharp frost, remove the pans to a cold greenhouse or frame and destroy any slugs, which often winter underneath. The pans should be carefully weeded, and if the soil has shrunk away from the edges, fill the cracks with fine soil. From this time they must never be allowed to get dry; the amount of drainage will prevent a water-logged condition. If once the seed gets dry, it will refuse to germinate that year. When the seedlings begin to show, keep a sharp look-out for small slugs, as they are very destructive. As soon as the plants are about 3ins. high, they may be transplanted into the open ground, provided that the soil is moist and the weather not too hot. A reference to the label may show that only about half the seeds which were sown in the pan have germinated, and a further proportion will germinate next year.

This is the normal behaviour of iris seed, and several cases have been recorded where seed germinated after five to seven years. It will, therefore, be necessary to remove the young plants, so as to leave the soil containing the dormant seed in the pan. To do this, take a wooden label and thrust down the side of the pan near a seedling, then, holding the seedling, gently ease it out. Plant out your seedlings at once, then tidy up the soil in the pan and plunge again in the open, keep free from weeds. Under favourable conditions, about half of the seedlings planted in the open in April will flower the following year. If the hand-fertilisation of selected flowers is continued, the raiser will have a number of new plants coming into bloom yearly, and once he has experienced the thrill of watching the opening buds he will need no further incentive to continue. Even gardening can provide excitement. G. N. BUNYARD.



By permission of the Iris Society

This outline drawing indicates the various parts of the iris flower.

HERBACEOUS SPIRÆAS AND ASTILBES

These perennials are invaluable decorative plants for placing in any moist corner of the garden. When established they require little or no attention for a number of years.

FOR any cool rich soil or the margin of the water the herbaceous spiræas are invaluable plants. This is not only because they are very hardy, robust and easy doers and extremely showy, but because so many of the handsomest kinds come into bloom towards the later summer, when the garden in general is beginning to lose colour. As a rule, these meadowsweets are sun-lovers, but most of them will do very well in partial shade. Their chief requirements are good living and abundant moisture. Once established they will take care of themselves for many years, only asking for removal of dead stems every winter and a good top-dressing of well rotted animal or vegetable manure.

From no selection of herbaceous spiræas should be omitted the lovely S. palmata, whose broad palmate leaves and wide, flat flower-heads in a vivid rosy carmine and rising to some 2ft., afford a combination of foliage beauty and colour which has no rivals in spiræas of its own stature. S. palmata also gives us a very lovely variety with snow white blossoms, and then there is that delightful diminutive, S. digitata, which, whether it be a form of palmata or not, might be described as a very dwarf replica of that fine spiræa, with all the latter's brilliance of colour. Somewhat of the same type as S. palmata, but attaining more than double its height, is S. venusta (lobata), the Queen of the Prairie, whose magnificent inflorescences are of such a striking hue of raspberry red that they will even eclipse in splendour those of palmata itself. Still taller, towering to 7–10ft., and terminating in bold crowns of rosy white is the splendid S. gigantea.

In the woodland or wild garden, especially when associated with ferns, the flossy milk white plumes of the old S. Aruncus are always attractive, and a more easily grown plant I do not know than this. It also makes a telling background for the dazzling spires of that most gorgeous species, Astilbe Davidii, whose virulent hues are safer with white and green than any other combination. Yet another first-rate white spiræa is our own dropwort, S. Filipendula, of which the double-flowered form is an admirable plant and one, by the way, which will do in much drier soils than most of the genus appreciate.

One astilbe has been referred to, and it is difficult to write of spiræas without trespassing into the realms of the sister genus, so closely are the two races united. But I will not do more here than draw the reader's attention to that race of magnificent hybrids which has been created by the crossing of such spiræas as the old S. japonica, S. sinensis, Astilbe Davidii, A. Thunbergii and others. A selection of these hybrids planted in good soil will make a display of colour throughout July and August which is unrivalled at that and perhaps any other season. These colours range from purest white to cream and salmon rose, from pink to the richest carmine, and when I say that the elegant plumes, are often over 2ft. in length and half as wide across at their base, one can perhaps imagine the effect produced by a few well grown plants.

All of these spiræas grow so freely and are so easily propagated by division or the removal of rooted offsets that a single plant will soon yield any quantity of material for increase. This can be done at any time after the foliage has died down in autumn.

A. T. JOHNSON.

A FEW PLANTS OF SOME OF THE HYBRID ASTILBES WILL MAKE A FINE SPLASH OF COLOUR IN THE BORDER IN JULY AND AUGUST.

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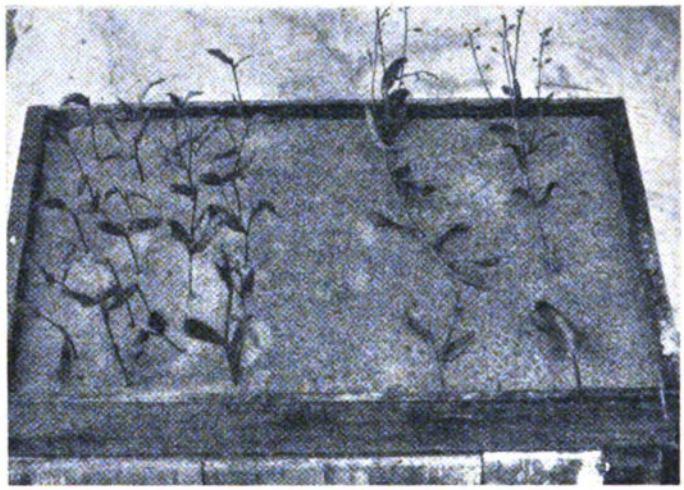
THE BUSY MAN'S PAGE

Propagating Forget-Me-Nots.

Cuttings may be taken now.

WHILE the usual method to obtain a stock of this plant is by sowing seeds in June or July out of doors, or collecting self-sown seedlings, they are very easily increased from cuttings. The cuttings selected should be of fairly firm growths, taken from old plants that have finished flowering, and their length be from 2ins. to 4ins., cutting them beneath a joint or leaf. Trim off a few of the lower leaves also; they often emit roots where the leaves are taken off if the cuttings be of the right type, firm and short-jointed. To receive the cuttings make up a bed of sifted sand of from 2ins. to 3ins. deep in a frame or box. Before putting in the cuttings give the sand a thorough soaking of water and allow it to drain off. See that the sand is level, going over it with a levelling board to ensure this. Make it thoroughly firm, almost hard. Dibble the cuttings into the sand from 1in. to 2ins. apart each way, watering them with a fine-rosed can afterwards to settle them in the sand; then place the sash (or light) over them, keeping them rather close for a week or two until they have calloused and can stand a little ventilation. Always shade them from sunshine until they can stand being fully open. Where only a few dozen plants or so are required, a box or boxes of about 7in. or 8in. in depth will do quite well, following the same method as outlined for the frame and placing sheets of glass over them. Boxes have advantages over frames, as they are much easier to shift about if made of convenient size. They may be placed at the foot of a wall or hedge where they may not require the attention of shading.

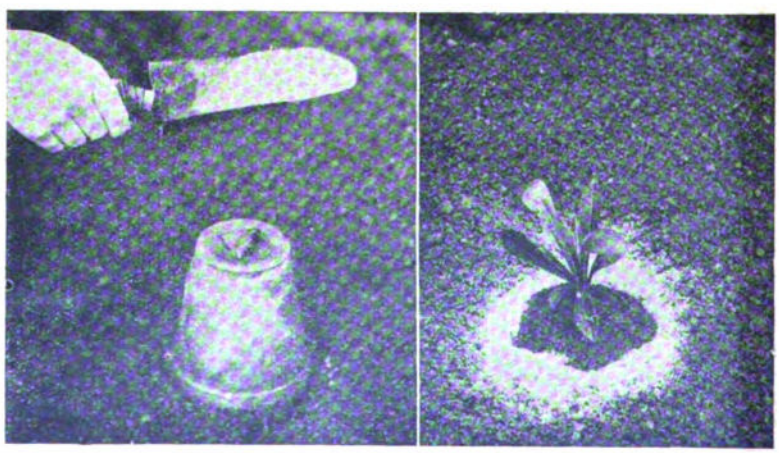
When the plants are rooted and hardened off they may be planted out on a border in nursery lines previous to their final shift out in autumn for beds or borders. Rooting plants from cuttings is the surest means of retaining stock of any particular shade of colour, such as pinks and whites as well as plants of an attractive graceful habit.



CUTTINGS OF FORGET-ME-NOTS INSERTED IN A BOX OF SANDY SOIL.

Slug Cures.

SLUG infested soils are benefited by a good dressing of soil fumigant, like 'Vaporite," "Sterole," and others similar, a few weeks in advance of cropping, the material being lightly dug in with the garden fork. Liquids like cresol, "Clubicide," formalin, ammonia, etc., may also be applied, in this case without digging; the best time to use the liquid is in mild, moist weather in March or early in April. Among growing crops one has got to be very careful, but a few proprietary powders are available; at any rate, one must recognise that these and the more ancient soot, lime, lime and alum, alum alone and barley awns are all alike of little effective use unless repeatedly applied. Still, one must confess that all spring slug cures need repetition, even those new ones that are so effective and so harmless to vegetation. The R.H.S. cure entails the preparation of lime water into each gallon of which is poured a quart of hot water containing ¼lb. aluminium sulphate (commercial quality, about 5d. per lb., not alum). This is quite harmless to seedlings and all plants. Kainit or potash salts, 1½lb., commercial bluestone 1 oz., at 1 oz. per square yard is the Leeds University cure, and a good one; apply at night when slugs are about, over plants and soil. Bran, half a gallon, mixed dry with two teaspoonfuls of Paris Green is good, too, little heaps being laid alongside tasty plants.



PROTECTING PLANTS AGAINST SLUGS.

A dodge for ringing around small plants with lime or soot, especially applicable to the young shoots of beans and peas. The pictures explain themselves.

Biennials and Perennials from Seed, Mid-Summer Treatment.

BIENNIALS are plants which, being raised from seeds in one year, flower and ripen seeds the following year. As some are hardy and ripen their seeds by the month of August, these seeds may be sown forthwith. Others, which ripen their seeds in early autumn, are best harvested and their seeds sown in frames the following spring. Seedlings of such raised last spring under the protection of a frame are sturdy specimens by this time, but if they are neglected about midsummer they will be poor stock and bear only puny flowers next year. It is very important that all these sturdy seedlings be well cared for now. It will, with few exceptions, be inconvenient to plant them in their flowering quarters at present so we should prepare a nursery bed and work the soil in it thoroughly and deeply, adding rotted manure if the soil is poor and then transplant the seedlings about 5ins. apart each way. In dry weather plants in these beds must be watered as carefully as pot plants in a greenhouse, because they do not possess many roots and all of them are very tender, quickly succumbing to drought if it is prolonged. In September all may be finally transplanted, some in tuft form, some with side shoots well developed and all with good balls of soil adhering to their roots.

Perennials must be similarly treated. They are plants that live more than two years, but many of them flower well the second year, a few in the same year in which they are raised if the seeds are sown under glass early in the spring. We may instance the starworts — the Michaelmas daisies — but it is bad policy to attempt to flower seedlings in the same year in which they are raised. Raised in comparatively cool conditions in cold frames the plants make good progress if they are generously treated. These and all seedlings of perennials — delphiniums especially — should be kept growing by affording them ample soil in which to root, because they possess so many roots while quite young, then they will be fine specimens by the month of September when generally the final transplanting may take place. At the present time use the Dutch hoe freely between the rows of plants, not only to keep down weeds, but also to create a dust-mulch, which is very beneficial to the plants during dry weather.

Summer Saladings.

IF the weather is warm and dry, it is well to make successional sowings of salads, because they do not last long in a nice crisp condition. Watering helps materially to prolong their season of crispness.

Lettuces are best sown in drills during July and August, so as to obviate the need for transplanting, which is always a difficult job during hot, dry weather. In any case, lettuces which are grown on in drills without transplanting are generally of a finer quality than those which suffer the check to growth which even the most careful planting out cannot avoid.

When sown in drills, the seedlings can be thinned out after the manner of turnips or a few of the best of the thinnings may be transplanted, if necessary, to augment the supply.

The Australian or golden cress is best for summer. It furnishes a continuous supply, as it can be cut repeatedly. It is one of the most useful of summer saladings when grown in a rich soil. Mustard and plain cress are best for winter use. Sowings of radishes in frames and out of doors may now also be made to meet the season's requirements.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Care of the Town Garden.

JUNE, with its long days of sunshine, is the month of growth. It is also the off-season in the average garden. Spring flowers have finished with a glorious burst of orange wallflowers and gay irises. Annuals sown in the open and many of the roses will not be at their best until the end of the month. Both vegetables and flowers are making ready for the July harvest, but, nevertheless, there is much to do in the garden, and it may be truly said that for the amateur there is no real off-season. There is always something to be done in preparation for the coming months. It does not take a lot of time to keep a garden trim if each piece of work is done at the proper time.

It is important to run the hoe through the clumps of perennial flowers and annuals in the flower border. A few hours with a hoe on a sunny day will save ten times the amount of effort that would be required to kill the same area of weeds if they are allowed to grow until they must be hand-weeded.

Having gone over the whole garden with a hoe, get out the fertiliser tin and give a little dusting round all plants which are in a state of half-growth. By and by the beneficial rain will wash this into the surface soil, and the garden will assume an atmosphere of prosperity. For the small garden the prepared fertilisers are convenient to use, and with these the amount per square yard is usually stated. A golden rule with all concentrated fertilisers is "a little and often," and remember that nitrates, either nitrate of soda or sulphate of ammonia, should not be used too freely in a shady garden. Phosphatic manures, such as bone-meal or superphosphate of lime and potassium sulphate, are the best to use in the shady garden. A suitable dressing would be 3 oz. of superphosphate of lime and 1 oz. of sulphate of potash to each square yard.

Having cleaned the garden of weeds and added fertiliser, the next consideration is to tie and fix stakes to those plants that require support. Clematis and Wichuraiana roses require constant tying to prevent the young shoots from being broken. Where these rise from the base too thickly, thin out the weaker specimens and tie in the remainder.

There is little pruning to be done in the garden except those shrubs that have finished flowering, such as broom and forsythia. I saw a specimen of forsythia the other day with little thin, wiry stems, and its owner was puzzled as to why it did not flower. Inside a ball of matted growth I could see thick, sturdy shoots beginning to show themselves, and I advised immediate pruning so that these young thick growths would grow during the coming summer and make flowering shoots for next season. Fortunately, many of our shrubs do not require much pruning, unless they outgrow their allotted position.

Removing Dead Flowers.

It is important to remember that a few dead flowers on such plants as violas, geum and sweet peas soon check the otherwise free-flowering habit of these plants. It is of first importance to remove these as soon as they are faded. Where lilacs, azaleas and rhododendrons are grown they should also have the dead flowers removed to avoid seed production so that better growth will result for next season's flowers.

Care of the Lawn.

Beyond cutting the grass there is little to do on the lawn except to keep a watch for spreading weeds, such as daisies and dandelions. When quite young these are easily removed with a sharp knife or trowel. Five or ten minutes spent on a small lawn will save untold trouble from weeds.

I am asked to give a few plants that could be grown in a window-box on the side of a road which receives a few hours' direct sunshine each day. The following could be planted now: Petunias (various colours), ivy-leaved geraniums, verbenas and fuchsias. In a small window-box a better effect is obtained by using one, or at the most two kinds of plants. Where two or more kinds are used it is important to remember the colour of the flowers and other surroundings, and to avoid combinations of colour which are not harmonious.

Border Edges.

IF your lawn runs right up to the flower borders, an edging, formal or natural, is not necessary. Different plants can be grown in the border, and even the height of those nearest the grass can vary considerably to break the otherwise flat appearance. But where the border is against a stone walk, uniform green edging of some kind sets off the flowers to advantage. Thrift is one of the best of edgings for this purpose. It is perennially green, grows thickly, but not too tall for the purpose, and can easily be kept within desired limits. When the flowers appear they are of a soft pink, which is most attractive and seldom clashes with any other colours which are in the border. The fact that thrift is seen in gardens in town and suburb, at the seaside, and in the heart of the country, is sufficient proof of its adaptability to conditions of all sorts.

Pillar Roses.

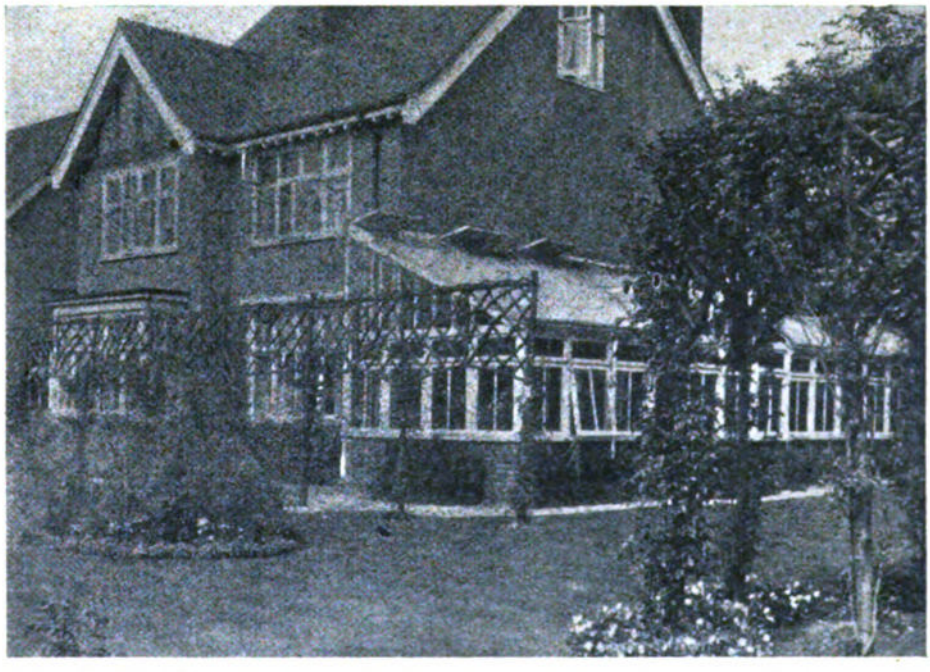
AT the foot of the pillar where roses climb, it is desirable to allow a small space which is not covered by grass or by stone paving. This tiny break in the lawn or pathway can be used to grow a few violas or similar dwarf flowers. Liquid manure can be applied both for the benefit of the roses and also of the violas, and even a surface mulch can be put among these flowers without appearing unsightly, as it would do if it were laid on to a part of the lawn. Retaining a small bed of this kind at the base of the roses also allows air to reach the roots, and so assists the growth of new shoots.

Nearly all plants benefit from liquid manure during the summer, as this is the time when growth is taking place very rapidly. Roses are specially appreciative of assistance in this way, and small and frequent doses should be applied throughout the next two or three months.

Roof Gardens.

ROOF gardens vary considerably as to the amount of sunshine they receive. Frequently, even though the roof at first may receive plenty of sunlight, it is thought desirable to erect high trellis to screen off surrounding chimney tops, and the roof becomes shaded in consequence. In place of carnations and such sun-loving flowers, we have then to select plants that will thrive in the shade. In most cases this also means that more watering must be done, for the shade loving plants are generally also moisture loving, and shallow pans and boxes, such as form the basis of roof gardens, need constant attention if the soil is to remain moist. Violas, calceolarias and tobacco flowers are suitable plants for shady roof gardens, where a plentiful supply of water can be given.

It is a fatal mistake, where sun is lacking, to make up a very rich compost for the plants. Bonemeal is an excellent and slow acting fertiliser, which should be used in preference to leaf mould and animal manures. Shady gardens need lime to counteract the tendency to acidity in the soil.



IN THIS ATTRACTIVE TOWN GARDEN VIOLAS ARE PLANTED IN THE SMALL BEDS WHICH SURROUND THE BASE OF EACH PILLAR ROSE.

The Town Gardening Handbook. — This volume, the official handbook of the London Gardens Guild, is obtainable from all booksellers and newsagents. The price is, cloth covers 2s. 6d., paper covers 1s. 6d. It is the one book for all amateurs who garden in town and suburb.

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WORK IN THE FLOWER GARDEN

Garden Operations for June.

PLANTS put out in beds or borders should have been given a good soaking of water at the time, should the soil be dry, the same being repeated at intervals if hot weather and drying winds prevail. The very common practice of giving plants driblets of water daily is by no means an advisable rule to follow, as it merely causes the formation of a few surface roots, which ultimately die. The free thinning out of annuals in proportion to their height should not be neglected. Chrysanthemums and herbaceous plants that require support should be staked. It is important to keep weeds in check among all flowers, by frequent use of the Dutch hoe, and it is of great assistance in promoting healthy plant growth by admitting light and air to the soil and drawing moisture nearer the surface, and greatly adds to a neat and tidy appearance of the garden. A sharp look-out should be kept for green and black fly, and all sucking insects and caterpillars. Do not allow these pests time to establish families on your roses and fruit bushes; give timely spraying with a approved insecticide, using washing soda or ammonium polysulphide for mildew on gooseberries.

During the month seeds of violas, pansies, forget-me-nots and polyanthus may be sown in a moist shaded spot, and a few seeds of double wallflower and Forget-me-not Ruth Fischer, in a box, to be potted up for greenhouse work in winter and spring. Many plants for the rockery may be raised from seed sown now in boxes, such as Alyssum saxatile, æthionema, aubrietia, dianthus, dwarf campanulas, iberis, linum, etc.

In the vegetable quarter, carrots, parsnips, turnips and lettuce should be thinned out, and another sowing made of the latter two for succession. Celery should be planted out on a well manured trench and heavily drenched with water. Cabbage, cauliflower and sprouts should be planted out now; and broccoli, sprouting curled kale and savoys later in the month for spring use.

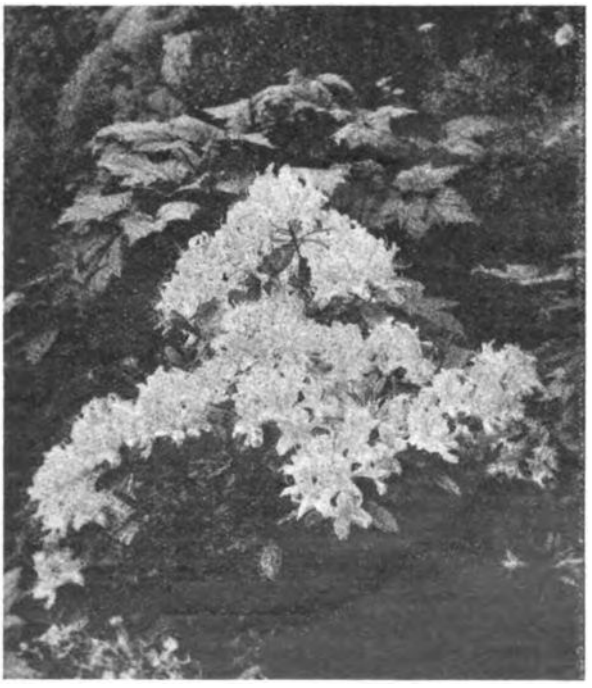
Potatoes that require earthing up should be attended to, previously giving the ground a dressing of a good potato manure, which is usually so compounded as to meet the requirements of the tubers. Soot and wood ashes give good results in place of the manure.

Ground that is to be planted with leeks should now be dug, if this has not already been done. It pays to give the crop liberal and generous treatment in the way of manure, also adding plenty of decayed leaves and bone-meal. Endeavour to make a rich and free root-run for the thick fleshy roots, with plenty of depth. In early districts, ground that has been cleared of early potatoes is sometimes utilised for this crop.

Stake late peas, and keep a watchful eye on all cabbage and other brassica crops for caterpillars, and spray in the evenings with a solution of salt and water should they appear. Dissolve from 1 oz. to 2 oz. of salt in a gallon of water and apply frequently until the pest disappears. —W. G.

A Beautiful Dwarf Rhododendron.

RHODODENDRON AZALEOIDES has long been in cultivation, it being raised over a century ago; but, in spite of this and its unique attractions, it does not appear to be well known in gardens. This is the more surprising when one realises that it is easily obtained and is by no means expensive. Rh. azaleoides is supposed to be a hybrid between an evergreen and a deciduous species, so that it is semi-evergreen in habit. It is a dwarf shrub, only reaching some 3–4ft., but my own specimen, now ten years old, is scarcely 2ft. Notwithstanding this, the flowers and trusses are extraordinarily large, as the illustration shows, and the blooms, which are deliciously scented, are pure white flushed with lilac. Not only does this little rhododendron—so eminently adapted for the small gardener—flower with the greatest abundance, but it does so in July, that is, long after those of most of its kind are over. Rh. azaleoides (syn. Rh. fragrans) does very well in any ordinary lime-free loam which is well drained, and not too stiff but it is always glad of a top-dressing of half-decayed leaves occasionally. There is one more commendable feature about this engaging little shrub, and that is that it is much more easily raised from cuttings than most of its race. Half-ripened shoots of young wood taken with a sharp knife just at the junction with the old and inserted in pots of sand and a little fine leaf-mould will strike readily in a closed frame. This should be done in August or earlier if suitable cuttings are forthcoming.—A. T. J.



RHODODENDRON AZALEOIDES WITH ITS LARGE FLOWER TRUSSES OF PURE WHITE FLUSHED WITH LILAC

Saxifraga moschata.

THE inrush of novelties and the universal thirst for "something new" are responsible for the possibility of our overlooking one of the best of all mossy saxifrages,

THE FREE-FLOWERING S. MOSCHATA IS NEAT AND COMPACT IN GROWTH AND ONE OF THE BEST OF MOSSY SAXIFRAGES.

S. moschata, or "muscoides" of most trade lists. None who knows the real worth of this alpine jewel will ever be without it, but as one of the older ones there may be many who are apt to pass it by. I like S. moschata in all its forms because it is such a good doer, always retaining its neat, compact shape, always mounding over the rocks in a closely woven, clinging carpet of verdure, and it never gets "kicked about" by birds or wind. Then S. moschata blooms regularly every season with the greatest abundance, and its innumerable little flowers on quite short stalks, with which it bristles like pins in a pin-cushion, never fail to attract the most enthusiastic admiration.

S. moschata, which can be planted from pots at any time, likes a fairly cool site with a root run in free, gritty or stony soil through which a little fine leaf-mould has been mixed. It delights to mound over a low rock, as I have suggested, but is really not at all particular, often doing very well on the flat. There are many varieties of this admirable little plant. S. m. atro-purpurea is deservedly a favourite owing to the brilliance of its little blossoms. Fairy, Wild Rose and pygmæa are of the same low and firm cushiony habit, and there are many others. And it is to these in particular, rather than to the looser and larger forms of the S. Rhei type, to which I refer when urging the claims of this most charming and useful mossy saxifrage.—A.

Evergreen Candytufts.

THE perennial or evergreen candytufts (iberis) are among the most useful plants in the garden. The dwarf bushes which they form are green all the year, while the production of flowers over a long season, from the spring until well into the summer, is on a handsome scale. If left undisturbed for two or three years, the perennial candytufts assume a low shrubby habit, in which form they have a quaintness which is distinctively attractive. These plants are admirable for edgings, for spring bedding in

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association with bulbs, and they also are useful along the margin of a herbaceous border and in the rock garden. All the perennial candytufts flourish in almost any situation, providing this is not too densely shaded. They are not particular, although they flower with the greatest freedom when the ground is on the light side. The perennial candytufts are easily propagated from seeds, cuttings and by division. Seeds may be grown out of doors from March to July; cuttings may be inserted at any time during the summer; while the autumn is a good time to lift and divide old plants. It is worth noting that established plants of the perennial candytufts will often continue in flower throughout the greater part of the year, especially when the winter is mild. The best known of the perennial candytufts is Iberis sempervirens, which has snow white flowers and grows to the height of about a foot; Garrexiana has somewhat larger heads of flowers than the type; Little Gem is a dwarf compact form; Snow Queen is an exceptionally free flowering variety; superba has very large flowers; flore pleno is a double form. Two other species which are worth growing are I. corifolia, which grows a foot or more in height, and I. gibraltarica, a very charming plant producing flowers in winter and spring which are often tinged with a lilac pink shade.

Viola gracilis Clarence Elliott.

THIS little viola has already obtained a high position as a good, free-flowering variety of that valuable species, V. gracilis, from which we have gained a few good plants for the rock garden or front of the border. V. g. Clarence Elliott is not likely to be superseded in a hurry, as it is so floriferous, while its well formed flowers are white and create a good effect wherever planted. That it will flower from April until August is no mean commendation and by dint of a little care in taking off the withered blooms its period of beauty may be still further prolonged. Then it has the true tufted habit which is so highly prized and will soon grow into good tufts for division if this is desired. It is also quite hardy and perennial and will thrive in almost any soil.—S. ARNOTT.

Primula Forrestii.

THIS has been one of the most interesting primulas in bloom during the month of May, and it may be compared to a glorified cowslip, although, perhaps, the flower stalks are not quite so long. It is a native of the high Alps of Yunnan, from whence it was introduced by Forrest some years ago. I am afraid it has not lived up to its reputation in being a good grower under all conditions. However, a certain amount of success can be obtained and like most other members of this delightful family, frequent propagation by seeds is advisable. These are best sown directly they are ripe and the seedlings should pass the winter in a cold frame, free from excessive damp, then they are transferred to their flowering quarters about April.

It should be grown in pockets and in high and dry crevices, where it is well drained, and although it is said to enjoy plenty of sunshine, I have found a position facing east to suit it admirably. Here examples have lived for several years, producing their spikes of golden yellow flowers, which pass into rich orange, these being in clusters and about the size of a shilling. No protection has been given and another plant, a chance seedling, has been growing freely for several years on a well drained slope of the rock garden. This primula has a delightful scent, both flowers, stem and leaves, but it is not very pronounced in the two latter. The leaves are crinkled and oblong heart-shaped, the whole plant being quite attractive even when not in blossom. When planting it should be remembered that P. Forrestii is a lime-loving species, and that excessive damp is its greatest enemy. The former can be supplied in the form of old mortar rubble mixed with the soil, and in most rock gardens suitable spots can be found where efficient drainage can be secured. In P. rufa we have a close ally of P. Forrestii, and so far I have not noticed any difference in its cultural requirements.—T. W. B.

A WELL CARED FOR SMALL GARDEN.

Here the roses on the arches have had their new growths regularly tied in so that they are always neat in appearance.

Summer Treatment of Chrysanthemums in Pots.

FROM the present time until the end of August, plants that are well treated will grow rapidly. After the end of August, few flower buds are formed, active growth of branch lessens considerably and the wood and leaves already formed begin to ripen quickly. This is the proper condition of a well managed plant. Of course, a certain amount of ripening goes on throughout the summer months and to further such conditions of growth we must see that the plants, now, are well arranged in a sheltered, but sunny position outside. They must not be overcrowded. The rows of plants should be, if convenient, due north and south, so that they will get the maximum amount of sunshine. The tallest growing varieties should be at the north end of each row and the dwarf ones at the southern end. The rows should be, approximately, 4ft. apart and the plants in the rows 18ins. asunder. The final potting of specimen plants and those grown for the production of exhibition blooms, should be completed as soon as possible. The final potting of those intended for late flowering should be completed by the end of June. Frequently, the inexperienced cultivator will pinch, or stop, these late-flowering plants well on in the month of July, thinking that by doing so they will reap a particularly late harvest of bloom. It is a mistake to stop the plants very late, as the resultant flowers often fail to develop well, coming one-sided, often bearing a few straggling flower petals only. Do not stop the plants after June. Resultant crown and terminal buds after this date will develop in a proper way.

The staking of the plants should be done now so that the ends of the stakes can be driven into the new soil in the pots, thus avoiding injury to the roots. When newly potted plants require water, apply sufficient to moisten the whole of the soil in each pot thoroughly and then allow the soil to get fairly dry again before applying more water. It is a mistake to keep the new compost in a sodden state. Later on, when the soil is full of roots, water will be needed much more frequently.

Keep the stems loosely tied against strong winds; watch the points of growth and free them from green and black aphides by the judicious use of tobacco powder and syringing. Watch for the frog hopper grub and kill it in its froth—the white juices of the plant; also, scatter fresh soot on the ground weekly near the plants to drive away the fly of the leaf-mining maggot. An occasional light spraying of the leaves with clear soot water will be beneficial in this direction, too.—G.

A BEAUTIFUL ARRAY OF SUMMER FLOWERS.

To obtain an attractive border such as this one, delphiniums, campanulas, and other tall perennials should be staked securely at once.

The Herbaceous Border.

PLANTS in the border are now making rapid progress and staking demands attention. In doing this aim at preserving the natural appearance of the plants. Those of branching habit are best supported with bushy pea sticks trimmed to suitable lengths, while plants like delphiniums should have each stem secured to a strong bamboo cane or straight stake. The removal of dead blossoms from plants that have finished flowering—heuchera, doronicum, etc.—should receive attention early. Water when necessary. Hoeing should be a regular operation among all plants, and a mulch of manure will be of great assistance to growth in light sandy soils, and elsewhere to those that are expected to give a second crop of blossom, to which class delphiniums and pyrethrums belong.—J. C.

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THE SUMMER TREATMENT OF GREENHOUSE PLANTS

Through intervention of other matters and pressing work to be done among plants coming into bloom in the garden, there is sometimes a temptation to pay less regard to those in the greenhouse, the frames and elsewhere, which, if rightly treated and well looked after now, will ensure beautiful blossoms in the dull days of the year.

WHETHER the gardener be a professional or an amateur with limited time and space for gardening, with possibly one greenhouse, the same rule operates for both.

It is, that, whatever the season may be, thought and consideration must be given not only to subjects under culture that engage special attention for the time being, but plans must be in hand for preparation of ground, for successive crops and the upbringing of plants for future display. In a word, the work of the gardener is never quite finished. There is no finality in gardening; you never come to an end of it, or of its possibilities, except in the sense that the end of to-day's work is the beginning of to-morrow's.

Plants for Autumn and Winter Blooming may be divided into two distinct classes, *viz.*, (1) those of a hard-wooded, and (2) those of a soft-wooded character. In the first named we have azaleas, camellias, heaths, boronias, mostly lovers of peat, in which they are nearly always grown, and that substance being of a close, retentive nature, there is always a danger lest they should be starved for want of sufficient moisture. From now onwards for a few months many of them will be deposited in frames out of doors, and it is here where the mischief is not infrequently brought about. Nominally these structures are called cold frames. In reality they are nothing of the kind, as, in many instances, frames are quartered in a garden in a south position where they can get every gleam of sunlight and, whether the lights are kept on or not, the very position is reverse to that of coolness.

Importance is often placed on ripening of wood, and with some plants this is very essential, but with hard-wooded subjects it may be achieved at the expense of starvation. There is such a thing as over-doing "the sunny position," and overlooking the need for coolness at the roots, and, in the case of the plants mentioned, a thorough soaking of water when it is needful to water them. Besides this, it is a wise thing so to arrange matters that frames for reception of *any kind* of plants which are being prepared for winter blooming, shall have coolness for part of the day, as well as sun, and thus, in some degree, at least, merit the term "cold frame." The north side of the garden, where the sun leaves it for part of the day, is the place where plants in preparation should be located. There will be times, of course, when the lights can be taken off altogether, to the advantage of the plants. They should be stood on beds of ashes; those from the greenhouse fire-hole, if others cannot be had, sufficing; the idea being to conserve moisture about the roots. Each plant should stand clear of its neighbour and opportunity ought to be taken to syringe them when the sun if off, several times a week.

Plants of a Soft-wooded Character.—These consist of such things as primulas, cinerarias, zonal pelargoniums, cyclamens, which are grown in a lighter and more friable compost. They, too, are best served when placed out of the way of the sun for a few hours every day. It is when exposed to heat all the time that they become weak and debilitated, lose their robustness and so are badly equipped for flowering. Steady growth in their case is very essential and this can only be achieved and maintained when plants are grown under temperate conditions and when care is given to shade so that they can recuperate. Especially should attention be given to the location of the frame in a time of drought, and to regularity in watering. Plants of the second character will also benefit by being given weak applications of liquid manure occasionally. During the summer it will be found that buds of primulas and zonals often make their appearance, but these should be picked off, the idea being to build up the plants, promote growth and so have them in the pink of perfection by the time it is necessary to house them in September. The grower of chrysanthemums, while appreciating sun from morning to night to enable wood to ripen, must be prepared to afford water—which may mean twice a day in the hottest weather, and he, too, will take the precaution to stand the pots on ashes and so save a little labour. For the plants in smaller pots mentioned, whose vitality can soon be depleted by abnormal heat, let us see that in their case they will be able to enjoy that coolness which is so essential to them. W. F.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

APROPOS of Suttons' exhibit at Chelsea and the beautifully coloured reproduction of salpiglossis on the cover of THE GARDEN, I am surprised to learn both from nurserymen and amateur gardeners, that this attractive half-hardy annual does not transplant well and is difficult to grow in Scotland. Each and all expressed regret that such should be the case, as they recognised its decorative value in bed and border. Personally, I have had no experience in raising salpiglossis from seed, but I have been in the habit of obtaining a few dozen plants annually from Glencarse Nursery and strange as it may appear, they have flowered successfully in Ayrshire with no more care or attention than what is usually given to any other half-hardy subject. They respond readily to genial conditions and for that reason they should not be transplanted before the first or second week of June. A bed of salpiglossis carpeted by sweet alyssum gives relief to the dark coloured specimens of the former and makes an exquisite picture in August.

A little space should be d voted in every garden to the raising of the more popular plants for summer salads, as the home-grown examples are always fresher and crisper than the ordinary vegetables purchased in shops. Tomatoes and lettuces are the principal constituents of the salad bowl, but although the former are only grown out of doors in favoured situations in Scotland and even then the fruit seldom attains the quality of the crops raised under glass, there is no reason why the amateur with a small bit of ground at his disposal, should not provide his own lettuce and also radish, mustard and cress to add nee ed variety to a salad in hot weather. A large quantity of either is not desirable. The object should be to sow the seed in small quantities at intervals and thus provide a continuous supply throughout the summer. Lettuce that are undisturbed mature quicker than the transplanted thinnings, but the check which accompanies the change of situation may be minimised by shifting the seedlings during an early stage of growth. This is where many amateurs err. When transplanted in an advanced condition, the tall leaves collapse readily and when exposed to the heat of the sun they frequently wither beyond recovery. An endeavour should, therefore, be made to shift lettuce in dull or showery weather when the soil is moist and, if at all possible, give them a place between the rows of tall growing peas, where they will obtain partial shade. Moisture is essential to rapid growth, and frequent soakings are needed in dry weather, for if the soil becomes dry at the roots the plants will run to seed prematurely. The cabbage type blanch naturally, but nearly all the cos varieties require to be tied near the top with raffia.

The art of weeding should be studied by every gardener. In his monumental work, Mr. John Weathers specifies 106 kinds of weeds which are to be found in different soils and of that number thirty-three are constantly forcing their way into cultivated garden ground. With five exceptions these belong to a type that may take years to eradicate once they are allowed to get anything like a firm foothold, and the lesson to be learned from the constant struggle thus going on in the soil is that the weeds must be destroyed and their places filled with more desirable tenants. When thoroughly done, hand weeding is the most effective method of clearing flower and vegetable beds and while it is one of the most exacting jobs that one can undertake in summer, an occasional hour spent in the evening at this time of the year will save a lot of time and labour in future. The frequent use of the hoe is helpful in keeping down surface weeds, but it only removes the top of deep rooted weeds and of the perennial type and in the case of weeds growing among seedlings, there is no alternative to hand weeding. It is in the open spaces that the hoe can be most successfully operated and once the young surface weeds of the annual species are uprooted, they soon wither from exposure to the sun. One of the most common mistakes is to begin weeding late in the season. Never postpone the work until June, when the neglected weeds of May have given the ground a verdant covering and robbed the soil of food and moisture, and do not be misled by the idea that weeds that are allowed to remain in the soil in autumn will be killed by winter frosts, because they will remain to encumber the ground and, being seeding time, 'One year's seeding means seven years' weeding." Had hand weeding been thoroughly done in early summer, there would have been fewer weeds left to seed in autumn, the plants would have benefited, and the tidy and clean appearance of the garden would have contributed to the pleasure of the household. While the hoe is most effective in dry weather, the best time for hand weeding is after rain, when the soil is moist. Deep rooted weeds are difficult to remove when the ground is hard and caked and when a portion of the roots remain in the soil they usually grow again. In these circumstances a hand fork is of valuable assistance and if the weeds are firmly gripped at the base and given a slight twist, they can be extracted by the root. Never allow weeds to be on the surface—the only safe way is to burn them or consign them to the rubbish heap. ST. MUNGO.

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REMEDIES FOR INSECT PESTS

Some timely hints on how to deal with them. Be wise in time. Destroy the early broods. Save later trouble.

DURING the summer months insect pests cause much worry in the garden and on the allotment. Seedlings resulting from early spring sowing may have been making most gratifying progress when suddenly insect pests begin to appear. The whole secret of success in dealing with such is in making an early start and doing the treatment in a thorough manner.

Gooseberry Pests.

A good instance is that of the gooseberry caterpillars or larvæ of magpie moth. These are not difficult to eradicate if measures are taken at once. In certain districts these caterpillars annually defoliate the gooseberry bushes. The larvæ when first appearing in spring are quite small and brownish in colour. These larvæ have been hibernating during winter. Later they assume the familiar black and white, magpie colour scheme from which they received their name. If dealt with promptly they may be destroyed once and for all. If these measures are not taken the caterpillars will return. Hand-picking is slow, but very effective. The caterpillars may be dropped into strong salt water or oil. When the fruit is swelling it is better to avoid insecticides. However, these may be applied double strength afterwards. Nicotine washes or even soap and water are usually effective. A good plan is to syringe the bushes with clear water, using a powerful syringe. The force of the water dislodges the larvæ, which may be picked up or dug into the soil.

Cabbage White Butterflies.

The cabbage white butterflies are another good example. As these pests are double brooded, it is obvious that if the first caterpillars are destroyed, later plagues may be prevented. As soon as the butterflies are noticed a search must be made on the plants. This will reveal groups of yellow eggs. These may be easily destroyed. Later the small caterpillars may be hand-picked, and in this way a serious attack may be prevented. If gardeners were to co-operate in this matter it would be much easier to be rid of pests. Many caterpillars may be killed by syringing the plants with salt water. Use 2oz. of common salt to the gallon. An old idea practised by many cottage gardeners after picking the caterpillars by hand, is to throw fine, dry dust on to the plants. This is dashed into the heart of the plants. The plants will grow cleaner and free from the pest. Each female butterfly killed now may mean thousands of larvæ later in the year. The plants may also be sprayed with soap and water, or soot and lime dusted on the plants while damp. No matter what preventive is used, it must be in the early stages of the insect's life. More difficulty will be experienced in destroying the larger larvæ.

One other point must be noted, that is to keep a look-out for the small yellow cocoons so often found near dead caterpillars. These are the pupæ of the ichneumon flies. They live on the internal parts of the cabbage caterpillars, only coming out to pupate. They must be preserved as they are valuable allies of the gardener in his fight against the many pests which beset his path.

Wasps.

In districts where the wasps did much damage last year it will be advisable to destroy all the queen wasps that are found. It is stated by entomologists that in the early part of the year wasps destroy many noxious pests. A little observation will prove that this is to a great extent true. However, it is usually agreed that if all the queen wasps that are easy to get be killed, enough will remain to carry on the alleged good work. Where the pest has been numerous it is advisable to fix traps for them at once. The simplest is a flower pot raised some few inches by stones, a glass jar being placed on top of this. The trap is baited with treacle, the wasps fly under the inverted flower pot after the sweets inside. They naturally fly upwards and are imprisoned.

Green Fly, Timely Advice.

There are many effective remedies to be obtained for green fly on roses and the amateur will be wise if in this matter he acts in good time. Most are very reliable, giving little trouble in preparation and application. The thing is to use the insecticide before the pests have time to increase greatly and afterwards spray with regularity.

Turnip Flea Beetle.

Other prominent pests of the present time include the turnip flea beetle, the carrot fly, the onion fly and the celery fly. The turnip flea beetle furnishes a good illustration of the point of my notes. These insects hibernate in the winter, coming out in early spring to lay eggs on cruciferous weeds, *i.e.*, charlock, shepherd's purse, etc. The beetle itself is no more than one twelfth of an inch in length. It is capable of making long flea-like leaps, hence its name. The grubs tunnel in the leaves of cabbages, etc. There are many generations in a season. The most critical period in the life of any cruciferous plant is until it gets into rough leaf, hence the importance of taking the first batch of pests in hand. Careful eradication of cruciferous weeds is of great importance. These weeds enable the pest to feed and breed before the garden plants are out. Application of soot, lime, or both, or even to dust the young plants with road dust while wet with dew, is good. Boards placed about coated with tar form good traps for the beetles.

Carrot Fly.

The carrot fly grubs bore into the roots and throw up yellow dust, hence the name carrot rust. As in the case of the turnip beetle there are many generations annually. All plants with yellow leaves should be destroyed. Early thinning is advisable. The smell of the plants when disturbed attracts the fly. Therefore it is wise to treat the ground with paraffin after thinning. Soot and lime scattered on the plants are good. The following is given by a great authority: To a barrow of sawdust add one gallon of spirits of tar. This is mixed in the soil at the time of sowing. For all these pests soot and lime are useful. In addition to keeping the pests away, it encourages the plants into robust growth, the fact of which helps them to withstand the attacks of pests. The great point is to anticipate the attacks of pests, and destroy the first broods.—T. H. H.

GROWING CUCUMBERS IN FRAMES

THE value of the ordinary garden frame as a means of procuring a supply of home-grown cucumbers is well known, but few beginners obtain the best results possible by this method. The cause is not usually far to seek—they imperfectly understand the requirements of this crop, and so do not give it the necessary conditions to produce a first-class crop.

A good, well made hot-bed is essential, and this cannot be successfully dispensed with even if the frame is heated with hot-water pipes. Long strawy stable manure and leaves are the best substances from which to make the hot-bed and three parts of the latter (by bulk) to one of the former are about the correct proportions in which they should be mixed. These materials should be gathered together and turned over thoroughly several times at intervals of two or three days before making up the bed. Should any part of it be decidedly dry, it should be damped over as it is turned, but on no account should a state of soddenness be approached.

The size of the bed will depend, of course, upon the dimensions of the frame to be used, but it must be sufficiently large to allow a margin of 2½ft. or 3ft. all round the frame. First of all, mark the corners of the hot-bed-to-be by driving four stakes into the ground, then proceed to place the fermenting material down in layers, carefully treading each layer very firm as the work proceeds. If this is not properly attended to the bed does not settle down evenly and the heat produced is not uniform throughout. A thickness of from 3ft. to 4ft. will be sufficient—the bed to be a little higher at the back than at the front. A sheltered spot, facing south, should be chosen for the construction of the hot-bed.

The frame may be placed in position as soon as the bed is completed, but do not be in too much of a hurry to set out the young plants; rather wait until the bed has settled down and the temperature has just commenced to decline.

The compost in which to plant may consist of good fibrous loam, leaf-mould, sand, and a little rotted horse manure, mixed in such proportions that the whole forms an open porous medium through which the roots will quickly permeate. Do not use too much in the first instance, otherwise it is apt to become sour before the roots enter it—a bucketful to each plant will be sufficient, and more may be added by means of repeated top-dressings as may be necessary. An important point is to place the soil in position some days prior to planting, in order that it may become thoroughly warmed through.

Obtain strong, sturdy, pot-grown plants which are well rooted but not pot-bound; see that they are sufficiently hardened off prior to transferring them to the frame. Choose a spell of warm weather in which to perform this latter operation. Two plants to each 6ft. by 3ft. light will prove ample. Caution will be necessary with regard to watering at first, but the soil must not be allowed to become dry. When the weather is bright, syringe freely and frequently, to promote a moist "growing" atmosphere and admit a little air; but great caution must be exercised in doing this if cold winds prevail, as they so often do at the beginning of the summer. Syringe over, and close the frames up early in the afternoons, so that full advantage is taken of all sun heat.

As the tiny white roots appear on the surface more compost must be added, a thickness of 2ins. or 3ins. being sufficient at one time.

Weak growths will require thinning out occasionally, and all growths other than those required as "leaders" to fill the allotted space may be stopped beyond the second leaf. The middle of the day, when the weather is warm, is the best time to attend to these details without causing the plants to suffer a check. Remove any yellowing foliage or leaves which are jammed against the glass, and water freely with tepid water when the plants are in active growth. During cold weather cover the frames up each night with mats, sacks or other protecting material. Cut the fruits while young and tender, and do not allow too many to set on one plant. When the plants are well established, weekly applications of dilute manure water will prove very helpful.—T. H. E.

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WHAT OUR READERS SAY

SEA LAVENDER.

SIR,—From the description given by "T. H. E.," the plant mentioned (THE GARDEN, March 19th, page 181) is not Statice latifolia *Sm.*, but a garden form of S. limonium. The "shining more or less evergreen leaves" rule out true S. latifolia, which possesses leaves which die down in the winter and are densely covered with beautiful stellate pubescence; this also clothes the stem and branches. Its flowers are considerably smaller than those of S. limonium, but for all that it makes a very beautiful garden plant. Boissier placed this species in a different section from S. limonium on account of its five-lobed calyx, more hyaline bracts, etc., whereas the latter possesses a calyx sub-ten-lobed, bracts more herbaceous, etc.—C. E. SALMON, *Reigate*.

CODLIN MOTH.

An appeal to amateur growers.

SIR,—The small maggot which is found in apples is the larvæ of the codlin moth, and the damage it does is very considerable throughout the country. When, however, there is a very short crop or total failure the numbers of the moth must be greatly reduced, having no homes to go to. As far as I have seen this year there are very few eggs about, and it would be of the greatest value if amateur fruit growers would look over their young fruit and gather and burn at once any which show signs of attack. We should thus catch the moth when its numbers are few and reduce very considerably the possibilities of attack next year. The caterpillar enters usually at the eye, and a small hole will be found from which the brown powdery frass is exuding. These are the affected fruits, which should be removed and immediately destroyed. As the thinning of fruits should now be attended to, I send this note to suggest that good work in pest prevention may be accomplished at the same moment.—EDWARD A. BUNYARD, *Maidstone*.

GARDENING TOOLS.

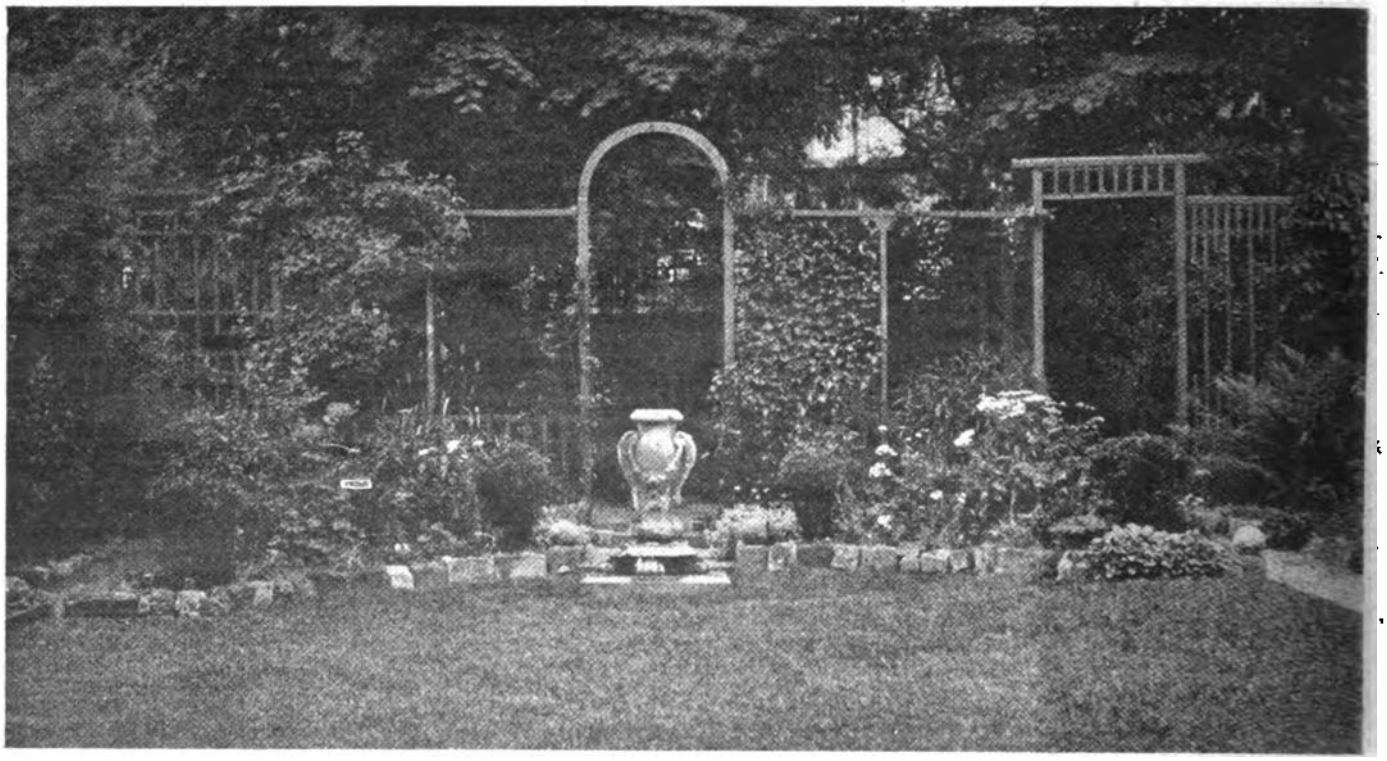
SIR,—You have recently published an interesting series of articles on garden tools. May I add to the list? The gardener very often desires to remove a bulb or a tap-rooting plant without disturbing its immediate neighbours. For plants of moderate size not too deeply rooted an old kitchen or carving fork has its uses. For larger specimens a potato fork or fairly close-pronged garden fork that has been worn down by much garden work is the very implement if, instead of being thrown away, the outside prongs are filed off or sawn off with a hack saw, leaving a two-pronged digging implement. These two hints will be of no use to those who have read Mr. Bowles on the subject of garden tools, but as his book that deals with this is now out of print and therefore not universally available, I mention them.

Recently, like thousands of others, I visited the Chelsea Show. There I had some talk with a friend, a working gardener, who said to me: "Sir, it's a funny thing, I've been round the Show and have not seen a single wheelbarrow I should care to use. They don't make 'em nowadays. All the weight comes on your arms, they are bad to tip, and the bolts are nearly all driven through the woodwork, so that the stays, instead of making the barrow stronger, make them weaker." In consequence of his remarks, I had a look round and, sure enough, his strictures appeared to be not inaccurate.

It should, I submit, be easy for anyone with an elementary knowledge of dynamics to design a standard wheelbarrow so that, while guaranteeing a maximum load, ease of filling, ease of tipping and strength, the weight when full should rest on the point of balance rather than on the arms and shoulders of the person operating the barrow. Can the horticultural sundriesmen be persuaded that such a labour-saving appliance would be popular and useful?—C. J.

OUR PHOTOGRAPHIC COMPETITION

Some of our competitors seem to be under the impression that the photographs which they submit must of necessity be taken in their own gardens. This is by no means essential. As will be seen from time to time, awards are not so confined. There are beautiful and interesting garden pictures to be found all over the country, in public parks, in the gardens of friends, in wayside cottage gardens, as well as in those of more imposing character, and photographs of these are just as acceptable and likely to be instructive and interesting to other garden lovers. For these reasons they are equally as welcome as those taken in the particular garden with which the competitor is associated, though in the latter case opportunity is afforded of intimate notes of personal experience which in themselves may help other readers.



This photograph serves to show the advantage of trellis work in the garden. It is employed to cut off a part of the garden situated under the trees and which affords a shady retreat in the hot weather. The sundial, minus the dial, which is present in the picture, is reputed to be about 200 years old. The design gives an air of spaciousness to the garden, which is on the outskirts of the town. The Guinea Photograph, sent by MR. A. STEEL, *57, Cecile Park, Hornsey, N.8.*

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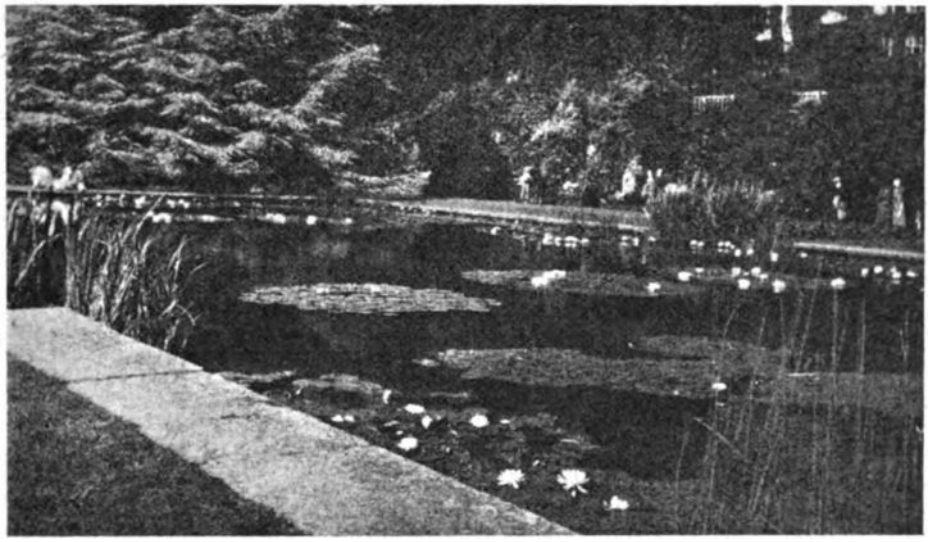
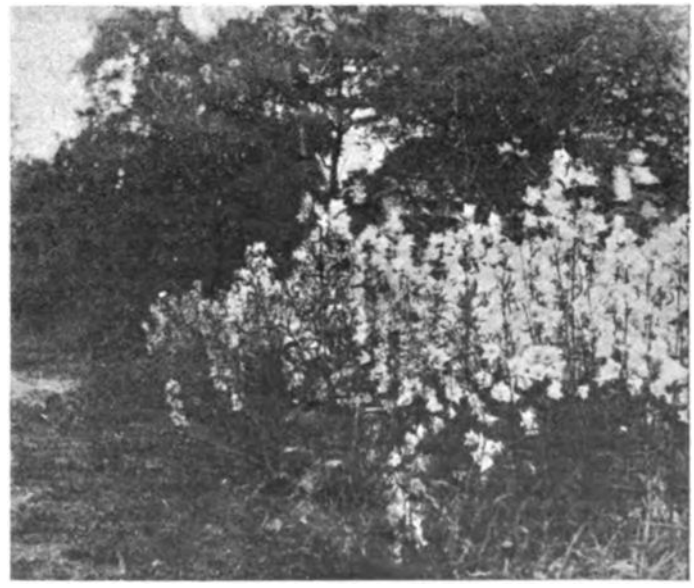
This was formerly a very poor, narrow border in front of a low shed. I widened it considerably and made a brick path. This photograph taken during the second summer of the border shows its effective masses of phlox, King Edward VII daisy, Japanese anemone and an edging of white pinks, broken by masses of yellow violas, gaillardias and poppies.—MRS. C. HARRISON, *Malvern, Worcester.* Award of 5s.

This picture of my lily pond, was taken only three weeks ago. The pond is surrounded by a red brick wall, in which forget-me-nots are growing. These look most decorative. The lilies have not yet opened fully, but in another week or so they will be at their best. A number of varieties are grown, including white and shades of soft pinks and reds.—MRS. K. CLARKE, *Rye.* Award of 5s.



This photograph shows part of the water lily tank on the lily terrace in the gardens at Bodnant. Many hybrid water lilies are grown, showing a wide colour range. In June a thousand blooms have been counted open at one time. The cedars in the background were both planted in 1876.—MISS K. M. DICKINSON, *Hull.* Award of 5s.

Azalea *rosæflora is, perhaps, the best of all the miniature azaleas. Its double rosette flowers are of an attractive shade of salmon pink. It is some twenty-five years old and* 18*ins. high.* —MR. C. NIPPARD, *Bournemouth West.* Award of 5s.



A clump of Campanula persicifolia planted at the edge of a copse in my wild garden looks most effective. It is a first-rate plant for border planting also. MR. HARRISON, *Cheshunt, Herts.* Award of 5s.

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THE FRUIT AND KITCHEN GARDEN

Present Work in the Amateur's Vinery.

JUNE is an important period with vines which were started in a slight heat in March; these would flower at the latter end of May and during the present month thinning will require attention. To the experienced cultivator this is a comparatively easy task, for his practised eye tells him which berries to remove directly he sees the bunch, and he forthwith carries out the task without mishap. But the amateur, and more especially the beginner at grape growing, is in a different position and he must exercise a good deal of care if he is to thin out his crop as it should be done. The novice must not attempt to remove all the surplus berries at once, it is far safer to cut out a few and then go over the bunches again about ten days later. It is a good plan to practice thinning in the first instance on a few of the surplus bunches which have to be cut away and then, when a start is made on the thinning proper, commence with the smallest bunches.

The operator must provide himself with a clean, bright pair of special grape scissors and a small notched stick with which to steady the bunch. When thinning, the following points must be borne in mind:

1. Take care not to touch the berries with the hands, hair or cap, as this causes rusty coloured markings on the berries later on.

2. First cut away the small seedless berries, commencing at the bottom of each bunch and the point of each side branch and working to the top of the bunch.

3. On no account cut away the central berry of the three which form each point, and in the case of varieties with long footstalks, all three may be retained.

4. Cut away berries turning inwards.

5. The lower part of the bunch should be thinned more severely than the top or shoulders, and late keeping varieties such as Black Alicante, require more berries removing from the centre than do early varieties, otherwise the inside berries are liable to decay during the autumn.

6. When thinning out varieties known to be shy setters, such as Muscat of Alexandria, do not cut away any but the seedless berries until it is obvious that more berries have set than there is room for.

After thinning is completed the borders should be thoroughly soaked with water at the same temperature as the house, and a few days afterwards a good soaking with manure water will be beneficial, this to be followed by a second dose of manure water after an interval of ten days. Maintain a moist atmosphere by frequently damping the paths and borders and always damp down at closing time. On dull, cool days keep a little heat in the pipes. From mid-June onwards it is advisable to put about 1in. of top ventilation on the vinery about 9 or 10 o'clock in the evening, and early next morning this amount should be increased, otherwise scalding will take place.—T. H. E.

Now is the Time to Earth-up the Potatoes.

THE earthing up of potatoes is one of the simplest of garden operations, but there is more in this method of treating the growing crop than some growers imagine. It may be as well to explain for the benefit of the uninitiated some of the benefits to be derived by drawing up the soil towards the plant and forming a ridge or drill. The runners or stolens to which the tubers are attached are produced near the surface of the ground, and it is therefore necessary to provide a covering of soil that will prevent exposure to the light and cause the potatoes to turn green, a condition that makes them unfit for table use. Earthing up also supports the haulm, while the sloping sides of the ridge are useful in running off heavy rains, thus avoiding an excess of moisture, which in certain soils creates conditions favourable to the outbreak and spread of disease. The plants should be earthed up before the stolens are formed and while that stage of growth varies according to the type, gardeners are generally guided by the height of the foliage, which should not exceed 6ins. In drawing up the soil on either side of the row, care must be taken not to injure the roots with the hoe, and the sloping sides of the ridge should have a slight hollow at the apex. Preparatory to the actual work of earthing up, a little time may be profitably spent in forking the ground between the rows and removing the weeds which, if allowed to remain, are difficult to eradicate later on when the foliage has fully developed. If the soil was enriched with organic manure in winter or spring, a light surface dressing of sulphate of ammonia at the rate of 1 oz. to a running yard has a beneficial effect on the weight of the crop when applied at the hoeing season.

Broccoli for Winter: Some Seeds to Sow for Succession.

AS many plants as available space permits should be planted out in June. The soil is warm and when rain comes the newly planted stock soon becomes established. The soil for them should be firm and moderately rich. I am not in favour of planting broccoli in very poor soil with a view to obtaining firm growths which will withstand severe winter weather, as usually such plants when they have passed through the winter safely, yield only indifferent hearts or curds and the latter are open and mostly discoloured. Have a very firm rooting medium and, if moderately rich, the plants in it will make rapid progress during July, August and September, and become very fine specimens by the early part of November, possessing firm stems, from which large, compact curds will come in due course. The plants will have practically exhausted the nutriment in the soil by the end of the autumn. If such specimens are earthed up in August, the stems just below the lowest leaves will be protected, as it is this portion of the plant that suffers when severe frosts come. These hints apply to Brussels sprouts for spring use, too; with the exception of the earthing, which may be done, but, of course, the plants will grow much higher than the ridge of soil, and their constitution is different, too. I strongly advise readers to plant three varieties of broccoli now, one for mid-winter, one for March and April and one for May and June use. For succession sow a few seeds now of carrots, endive, lettuce, peas, dwarf beans, turnips and radishes, and broadcast pickling onions. Early maturing varieties should be sown.—G. G.

Fruit Trees on Walls.

ALTHOUGH fruit trees, trained on walls are more sheltered than those grown in the open quarters of orchard and garden, they are generally found to be more soiled and more liable to attack by insects. In the open the heavy rains wash the leaves and branches, whereas the walls prevent all such natural washings, except on one side, and that only when the wind and rain come in the right direction. If the cultivator possesses a garden engine or hand pump he should make good use of it at least once a week during June, July and the early part of August. Failing the garden engine, use the hand syringe with as much force as possible, directing the spray sideways to wash the under sides of the leaves. The border soil, too, is often found to be much drier near walls than in the open border and a thorough soaking of the soil to a distance of at least 3ft. from the wall will be highly beneficial. Directly stone fruits, such as apricots, plums and cherries have stoned satisfactorily, follow an application of clear water with one of diluted liquid manure and also apply a light surface mulch to all borders facing due south, so that the moisture will be conserved and the roots kept cool. All retained young shoots should be tied in now, as if left too long untied they become too stiff to be bent to the wires without breaking. Furthermore, these young shoots prevent the sun's rays reaching the fruits if they are not neatly tied in. Stop lateral shoots and pinch out sub-laterals where they may cause undue crowding.—HANTS.

Birds and Soft Fruit.

UNLESS some precautions are taken, birds are likely to do a great deal of damage to the soft fruits. The attacks are much more severe in a dry season, when large numbers of fruits are spoiled by the birds, which are probably suffering from thirst. It is worth recalling that the attentions of the birds may largely be diverted from the fruit if pans of water are placed about the garden. A remarkable proof of the value of this plan was seen by the writer last season, in connection with some cherry trees. Several saucers of water were placed round about the trunks and it was noticed that the blackbirds, after taking a drink, left the fruit alone to a very large extent. Formerly the birds had taken a very heavy toll of the crop indeed. Where birds are present in large numbers this plan should not take the place of other preventive measures. Sparrows in particular will often attack fruits out of sheer mischief, and to be on the safe side nets must be employed. Tie these over bushes, or peg down on to strawberry beds, as if the nets become disarranged the bolder birds will be quick to discover the gaps.—S. L. B.

Liquid Manure and Its Uses.

AS an aid to growth and the production of good crops, liquid manure is invaluable. It is easily and quickly absorbed by the roots of plants and can be reduced to a constituency suitable to flowers, fruits and vegetables. To maintain a supply throughout the season, a stout cask or barrel, such as is used in the distribution of paraffin, is requisite and it should be bedded to about half its depth in a corner of the garden that is in close proximity to the water supply. The choice of ingredients depends to some extent on the material that is available, but I find it a convenient arrangement to solicit the aid of the local butcher, who provides, annually, a mixture of cow and pig manure in a strong, porous sack, to which is added a small pailful of old soot. The bag should only be half filled and after it is tied securely, immerse it in the cask of water and allow it to soak for a few days before use. When applying the liquid manure the strength must be varied according to the nature of the plants, thus the proportion in the case of roses and dahlias is one half liquid and one half water, while sweet peas require a weaker solution of two parts water to one of manure, which should reduce it to the colour of weak tea. The water in the barrel has, of course, to be renewed from time to time and tends to reduce the strength, so that the proportions may be changed as the season advances. Apply once a week when the soil is damp.—S. M.

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THE IRIS SOCIETY'S SHOW

THE first impressions of the first show of the Iris Society were very pleasing. There is an ever-present danger of monotony in a "one-flower" show, but the tall spikes of June-flowering irises, with their varied colours, lend themselves to an effective display. The chief trade growers made gardens of irises on the floor in the middle of the hall, and while, of necessity, some sorts were repeated, there was a pleasant variation in their methods of arrangement.

We have termed them gardens of irises, but this is not strictly accurate, Although at first sight the many displays gave the impression of gardens, one soon saw that, in reality, they were collections of cut irises very tastefully arranged. We rather expected that one of the firms which specialise in irises—Barrs, Bunyards, Perry, Wallace and the Orpington Company—would have made an iris garden on the lines of those we have admired so often at Chelsea, and we have no doubt that this was fully considered. But we imagine that it was reluctantly decided that a one-day show did not warrant the expense and great work that would be entailed in such an exhibit.

But it must not be inferred from these remarks that we did not appreciate the worth and artistic value of the exhibits as set out, for they were really admirable, and all concerned are to be congratulated on having such an effective show. While, as may be expected, the tall bearded irises predominated, these were shown in a great variety of distinct and beautiful colours, and with the tall, graceful sibirica varieties, the dwarfer but very fascinating Californian irises and various species, there is sufficient variety to make a satisfying garden entirely of irises.

Judging from the novelties now shown, there seems to be a tendency among the enthusiasts to "go in" for size. The bold flowers set on long stems certainly do take the eye, but it is to be hoped that the raisers will not be entirely obsessed by size, and neglect the chaste beauty and charm of markings of the smaller types. To the ordinary garden lover—to whom the descriptions "June-flowering" and "tall bearded" irises bring forth mental visions of the ordinary German iris seen in most gardens in various shades of blue, it was the newer so called pink varieties that most appealed. While these are not really pink, the general description serves, and there are now many beautiful flowers with standards of beautiful pinkish puce shades of colouring, often flushed with bronze. These and those with yellow standards are exceedingly effective in the garden as well as arranged in vases.

Generally, the competitive classes were well filled, and it must have been gratifying to the executive to find that the amateur members supported the Show with such splendid flowers. Mr. B. R. Long of Richmond Surrey, was the most successful of the amateurs, for, besides several first prizes, he won the Veitch Memorial Medal, offered for the best exhibit shown by an amateur, which was awarded to his admirable group of bearded irises. This included Colonel Candelot, a lovely flower with puce coloured standards and velvety mahogany red falls; Isoline, purplish old rose falls and lilac standards; Ambassadeur, reddish violet standards and velvety maroon falls; Mlle. Schwartz, a very tall flower of pale mauve colouring; Mlle. Denis and Mme. Chobaut, which has white standards shot with puce and yellow, and creamy falls: these are the names of a few of his splendid varieties. In this class Sir William Lawrence, Burford, Dorking, was second; he had various seedlings, and Imperator, Caprice and Opera, with pinkish standards; and Dalila, Iris King and Eldorado in which the standards have yellow colouring.

In the class for a medium sized group of bearded irises, Mr. G. L. Pilkington, Woolton, won chief honours and, in addition to the first prize, received the silver medal of the American Iris Society. His chief varieties were Amber, Dusky Maid, Quaker Lady, Fro and Moonlight. Mr. C. W. Christie-Miller, Sonning, was first in the class for a smaller collection with splendid vases of Souvenir de Mme. Gaudichau, a tall purple bicolor variety; Alcazar, another tall variety, of deep purple colour on the falls, with bronze veining in the throat and bluish violet standards; while Trojana has metallic blue standards and violet purple falls.

The eighteen spikes of bearded irises shown by Mr. B. R. Long were fully equal in quality to those in his large collection. He included Flamenschwert, golden yellow and crimson maroon; Imperator, violet shaded with buff and red; J. B. Dumas, violet rose and creamy yellow; and Edward Michel, one of the best pink irises. Sir William Lawrence was again second.

A great many competed in the class for twelve spikes of bearded irises, and here again Mr. Long was the most successful, and Mr. Pilkington was second. Mr. Long also was first with six similar spikes. Sir William Lawrence was first in the class for three irises other than bearded, and he showed Tenax, Forrestii and Bulleyana. Mr. James Peech, Cautley Park, was second with Luna, Hoogeana and Terpsichore.

The classes for new seedlings were disappointing, in that so many flowers were unnamed; and the same remark applied to most of the many "Selected for Trial at Wisley." The best of the named varieties were Cupavo, a very large flower with long purple falls and satiny mauve standard; Britoness, large pale yellow with golden beard; and Akbar, velvety purple falls and metallic purple standard. All shown by Mrs. W. R. Dykes. Chryso-for delicata, a beautiful cross between Chrysographes and Fortunei; and Te-bracteata, a cross between Tenax and bracteata, shown by Mr. Amos Perry.

The non-competitive groups, shown by Messrs. Barr and Sons, Messrs. G. Bunyard and Co., Mr. Amos Perry, Messrs. R. W. Wallace and Co., Messrs. Waterer, Sons and Crisp, Messrs. Lowe and Gibson, Mr. G. Reuthe and the Orpington Nurseries, contained a great many beautiful irises, chiefly of the tall bearded section, though the graceful I. sibirica varieties, I. Forrestii and the Californian irises were also represented.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

For Sweet Pea Exhibitors.

Tying up "cordon" grown sweet pea plants occupies fully half the total time devoted to all phases of exhibition culture, and many growers would, perhaps, welcome a method which would enable this work to be accomplished at least three times as quickly. I refer to the use of galvanised split wire rings. These rings are about 1in. in diameter and made of pliable wire and their adjustment is very simple. Open the ring with the fingers into the shape of a capital C, it can then be closed round the haulm and support just above a leaf axil. Do not close the ring tightly, but allow sufficient room for the further expansion of the haulm. Practice will enable this simple operation to be done very rapidly and the fastening is just as effective as a raffia tie. The rings are inexpensive and are stocked by most seedsmen. They can be removed at the end of the season and used year after year.—G. C. M.

How to Make the Fireplace Beautiful in Summer.

Most houses have a fireless grate in one or more of the rooms during the summer. They may be transformed into the most artistic, fragrant and coolest looking spots in the whole house with a little care. In the spring ferns should be planted in wooden baskets and earthenware pans; these make a green luxuriant background. The taller ferns are best actually placed in the grate itself and others in front soon hide the bars once their fronds unfurl. Violas planted in round bowls make a brave show for months. As some of the pot plants come into flower in the greenhouse or cold frame, a few may be borrowed for the enhancing of the miniature conservatory. Last year we had lilies, petunias, gladioli, mignonette, clarkia, heliotrope and begonias making a feast of colour and scent. They were more delicate flowering, the gladioli especially, than when grown in full sunshine. Water carefully and apply soot water to the ferns.—C. E.

The Final Potting of Chrysanthemums.

When putting chrysanthemums in their final pots, bring the new compost above the old ball around the sides, so as to make it saucer shape; this allows for the old ball of soil to receive most of the water instead of the new soil. In two or three weeks level it down over the ball. This prevents the new soil getting sour before the roots get into it.—C. L.

Transplanting Seedlings in Dry Weather.

The following is a method I adopted when compelled to transplant some seedlings whose roots could no longer find accommodation in the seed boxes, at a time when the ground was dry and cracked and the sun was hot. First of all I poured a bucketful of water on the patch of ground selected. It disappeared immediately, but enabled me to work the soil. Then I poured on another bucketful of water and very gently but firmly planted the seedlings. These I covered with finely cut coconut fibre refuse, gently shaken over. Seedlings transplanted without this covering died, the covered ones survived.—I. C.

Treatment of Mossy Saxifrage.

The appearance of borders and clumps of mossy saxifrage is often spoilt (especially near towns) by the withering or brown appearance of the centres. This condition can be prevented by a little attention twice a year—in spring and late autumn. Dress the plants by shaking into the clump from the top (using a handfork to loosen the soil underneath at the same time) a good potting soil with an addition of fine stone chippings. A little patent manure should be included in the spring dressing.—D. E.

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Self-Fertile Cherries.

Can you give me the name of any self-fertile cherry that flowers the same time as the White Heart and May Duke. I have had a great show of bloom, but practically a very few are setting. Also, will you tell me if it is coral spot on the mint cutting enclosed? This is the second bed I have had like this, the first I dug up and then started the second a long way away and with fresh mint roots from another garden. If it is coral spot, is it due to lime insufficiency? —F. D., Maidenhead.

As you probably know, most sweet cherries are quite self-sterile. Archduke—a very old variety—is partly self-fertile and would go well with the varieties you mention. If you have three or more sorts in the garden, however—blooming at much the same time and most cherries do—there will be no need to worry about a self-fertile variety, as one sort will cross-pollinate the other. We would, therefore, recommend that you plant Governor Wood and Bedford Prolific. Neither are self-fertile, but planted with those you have already, should crop well. Of course, it may not be faulty pollination that is the cause of your existing trees being unfruitful. Weather plays a very big part and possibly your cherry blossoms have suffered from wind or frost. The disease on the mint cutting you sent is known as mint rust. All affected plants should be destroyed completely and the remaining plants sprayed with a rose-red solution of potassium permanganate.

Damaged Laburnum Leaves.

I would be glad of the assistance of your valuable paper in ascertaining what is wrong with my laburnum leaves. They were three year old trees when I planted them last September twelve months, and last year they did very well. I have them trained on wire rods (the type used for tennis nets), and wire, along my front fence. They started off very well this spring, but in the course of twenty-four hours the leaves of one of them shrivelled up and the buds were stripped from the flowering shoots. As all the leaves in the first tree are not affected, and the leaves of the other trees are not obviously damaged, frost is not definitely indicated, and to me the first tree has the appearance of having been affected by an insect spray of some sort. Could the stripping of the flowering shoots have been done by starlings or sparrows? There is no trace of buds on the ground. The trained branches are not tied over-tightly on the rods and wires. Some that are not tied at all are affected.—S. C., New Malden.

Though you doubt frost being the cause of the leaves of the laburnum tree turning brown in parts, we can suggest no other cause. There is no evidence of disease or attack of insect pest. Should any more of the new leaves turn brown in the same way, send good specimens in a tin box, and we will try to assist you in elucidating the mystery.

Making a Wild Garden.

I have a piece of ground under trees which was used for storing faggots, wood, etc. I had it cleared and have planted it as a wild spring patch. It gets a little sun before the leaves on trees are fully out. It has been very pretty this spring with patches of primroses, grape hyacinths, one or two small shrubs, some daffodils, and narcissi, hepaticas, etc. I also have three wood anemones and A. appenina, white and pink bluebells, ferns, wild strawberries, a few periwinkles, foxgloves, a Dielytra spectabilis, one or two Campanula macrantha (white), columbines, doronicum, camellia, violets, aconites and snowdrops. I am going to scatter a little seed of Ionopsidium acaule to see if it will do there. I want to find something that will make a groundwork for the bulbs and those wild and semi-wild plants, so as to help keep down weeds and make it look covered, but I cannot think of the right thing. I had thought of fine grass, but have given up that idea. Periwinkles are too coarse and would choke primroses and hepaticas (the ground is not very good). If you could help me I should be much obliged and if you could give me several suggestions I might have large patches of several things, perhaps. It seems to need something creeping or self-seeding, but very low and fine.—W. B., King's Langley, Herts.

We suggest the following plants as a groundwork for your bulbs: Acænas Novæ-Zelandiæ and microphylla, Thymus Serpyllum, Corula squalida, Omphalodes verna and Polygonum vaccinifolium.

Primula obconica and its Poisonous Properties.

I shall be glad if you can give me any information about the poisonous properties of Primula obconica? What substance is it which is present in the plant which causes acute irritation, and even a rash to appear on the skin of some people? I have heard that it is not necessary for people who are affected by these plants actually to touch them, but it is sufficient if they are near the plants. Is there any truth in this; and, also, is there any way of preventing such irritation, or cure for the same?—L. C., Esher.

The poison in P. obconica is secreted in the glandular hairs with which it is covered. Although we have known many individuals who have suffered from contact with this plant, we have never known anyone suffer without actual contact, though it is true a few have shown signs of distress at the sight of it. It is just possible that a few supersensitive individuals may suffer without actually touching the plant. There is no known way of preventing the rash except leaving the plant severely alone. If the plant is not handled the rash quickly disappears and no further trouble is experienced.

Transplanting Rhubarb.

I have lately taken over a garden and I find there are some rhubarb roots growing close to the stems of a hawthorn fence. I desire to move them into a more suitable position. Will you kindly inform me how to proceed, in preparation of new quarters and time to transplant the rhubarb roots?—H. M., Poulton-le-Fylde.

Rhubarb thrives best in a rich rooting medium. Trench and manure the new bed early in the autumn and in November lift the roots carefully and replant them 3ft. apart.

TRADE NOTE.

A GARDEN cannot be considered complete, nor can it be fully appreciated, without suitable garden furniture. Cahirs and tables of cane or wicker are the most serviceable for general use, for they are light and so can be carried from place to place, and above all, if of good design, they are exceeding comfortable. The new resilient cane-weave furniture made by Messrs. Hugh Lane and Co., is not only pleasing to the eye, but very durable, comfortable, made in teq best quality and of the finest workmanship. Suites of garden furniture made by this firm are most attractive and look very effective in the loggia, conservatory, or on the lawn and they can be specially recommended to give lasting service.

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RAISING SIMPLE ROCK PLANTS FROM SEED (see page 414)

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THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI — No. 2899 Saturday, June 25th, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2899. JUNE 25, 1927. PRICE TWOPENCE.

GARDEN COMPETITIONS

Garden Championships.

THE Garden Championships which are being organised by the *Daily Express* in conjunction with the London Gardens Guild are likely to be a greater success than last year, if the number of applications for entry forms is any criterion.

It is not generally known that these Garden Championships are a combined effort of more than sixty local horticultural societies and branches of the Gardens Guild. These societies in many districts organise their own garden competitions, and many prizes are awarded. As a modest estimate it is safe to say that over 1,000 actual prizes will be awarded in these Garden Championships. To take the schedule of one society alone, that of the Bellingham Horticultural Society, nine classes, including special prizes for lawn and gardens tended by disabled ex-service men, are provided for different kinds of gardens. That means that anyone residing in the area covered by the Bellingham Horticultural Society will have a good chance in their own district of winning one of these prizes.

In the final judging only the first prize winning gardens are visited by the judges. The following experts have already been appointed to assist in the semi-final adjudication: Marjory Allen, H. Cowley, G. Butcher, W. H. Johns, W. Stewart and G. C. Taylor, B.Sc., F.L.S. The final judges are The Rt. Hon. Noel Buxton, M.P., ex-Minister of Agriculture; The Rt.Hon. Walter Guinness, M.P., Minister of Agriculture; and the Marquess of Northampton. There is still plenty of time for readers to apply for an entry form, which will gladly be sent by the organisers, London Gardens Guild, 124, Walworth Road, London, S.E.17.

Housing Scheme Gardens.

THE predominance of the amateur in the gardening world to-day is one of the encouraging signs of the times. The progressive movement may be said to have originated in the national organisation of allotments during the war, and it has since been developed by the creation of municipal housing schemes throughout the country, a recruiting agency that is directly responsible for the admission of a multitude of enthusiasts that are now to be found in the ranks of horticulture. Despite the difficulties inherent to soil and situation, material progress has been made, while interest in the cultivation of flowers, fruit and vegetables has been stimulated in large cities by the enterprise of the Press. In this connection the *Glasgow Daily Record* has set a good example by providing a championship trophy and money prizes for the best kept garden connected with the twenty Corporation housing schemes. The members of the local seed and nursery trade have also given their support by providing special prizes and a feature of last year's competition was the praiseworthy results obtained by the occupants of the slum clearance houses. This latter branch deserves particular encouragement, and might, with advantage, be adopted by newspapers other than those already undertaking such work circulating in the more densely populated industrial centres in England and Scotland.

Fruit Competitions for Amateurs.

AS announced in the R.H.S. Book of Arrangements, fruit competitions for amateurs have been arranged to be held in conjunction with the Royal Horticultural Society's Fortnightly Shows on July 19th and August 3rd. The schedules for these fruit competitions are now available and copies can be obtained from the Secretary, R.H.S., Vincent Square, London, S.W.1. All amateur gardeners, whether Fellows of the Society or not, are eligible to compete. There are some twenty classes arranged for on both occasions.

Vegetable Trials.

THE Royal Horticultural Society will, during the coming season, carry out a trial of autumn sown onions and cabbages. Seedsmen and growers are invited to send a packet of each variety of these two vegetables which they desire entered for the trials to The Director, R.H.S. Gardens, Wisley, Ripley, Surrey (from whom the necessary entry forms may be obtained), to reach him on or before June 30th, 1927.

The Editor's Table.

FLOWERS of a new strain of pyrethrum have reached us from Mr. Harold Lee, a well known grower. The variety sent is known as Mrs. Harold Lee, and the flowers are large (some 3ins. across), of a bright blue pink in colour, with a central greenish disc. They are carried on long stems which would seem to indicate that the strain is vigorous in constitution. The strain should form a valuable addition to the many varieties of this plant that already grace the herbaceous border in our gardens.

This Week's Work

For Gardens in the South and Midlands.

Sow seed of rock plants, such as campanulas, aubrietias and dianthus.

Stake all herbaceous perennials and hoe between the plants.

Top-dress tomatoes in pots and cucumbers in frames.

Feed with liquid manure roses, sweet peas and chrysanthemums.

Start the summer pruning of apples and pears.

Make a final sowing of garden peas.

Remove seed pods of rhododendrons, lilacs, azaleas, etc.

Apply weed killer to paths.

This Week's Work

For Gardens in Scotland and the North.

Plant out celery and Brussels sprouts.

Layer malmaison carnations.

Sow parsley for winter supplies.

Top-dress tomatoes and feed weekly with liquid manure.

Lift bulbs of Darwin tulips and Spanish iris.

Stimulate sweet peas with sooty water.

Give annuals a final thinning.

Transplant Autumn Giant and Walcheren cauliflower.

Sow stocks for winter flowering.

Propagate aubrietias by cuttings taken from non-flowering shoots.

Thin beetroots and French beans.

Complete the planting of beds and borders.

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FOLIAGE PLANTS FOR BEDDING

Where seed was not sown in March or April, young plants may be purchased now and planted direct in the open beds, which will gain greatly in beauty and effect.

PLANTS with richly coloured foliage, are at all times welcome in the garden providing that too lavish a use is not made of them. As "dot" plants for large beds they are ideal: edgings of the smaller growing sorts are also most effective, but beds composed entirely of foliage have not that charm and brilliancy that one usually associates with the summer garden.

The number of foliage plants available is surprisingly large, but it is an unfortunate fact that the majority—indeed, it might be said all—are only of half-hardy constitution Perhaps the simplest sorts to manage are the annual species, for these are easily raised from seed sown in the greenhouse during spring. However, the perennial sorts should also be grown, for these include among their numbers some of the showiest of all foliage plants.

Taking annual forms first. Kochia trichophylla is at once one of the most ornamental and least troublesome of them all. Seed is sown during March or April in the greenhouse or frame, or even outdoors at the end of the month. It is very compact and rounded in growth, and the feathery foliage, bright green throughout the summer, assumes warm shades of coppery red with the approach of autumn. It is an admirable dot plant for growing with pelargoniums, and is also effective in the autumn among China asters.

"Beet" may not seem a very promising subject for the flower garden, but in Dell's Crimson we have a richly coloured foliage plant which is especially pleasing with flowers of a scarlet or white hue. The dracæna-leaved beet is a dwarf sort, and so is particularly useful as an edging plant. April is a good month for sowing, and the seedlings should preferably be grown along in pots.

A close relative to the familiar Amaranthus caudatus (which is also of some value for bedding purposes), A. melancholicus ruber has large leaves of the most sumptuous shade of ruby crimson. One often sees it used effectively with Cineraria maritima, but it is also of value for growing with light-tinted flowers. Height seldom exceeds 1ft., so it may be used for edging beds of taller growing plants.

THE SILVERY LEAVED LEUCOPHYTA BROWNII IN A BED OF BEGONIAS.

Centaurea candidissima is one of the most familiar of all foliage plants, and right well does it deserve such high popularity. The elegant foliage is of a soft silvery tone, owing to the dense covering of down, and will blend well with flowers or foliage of almost any hue but white. Where the greenhouse is crowded during winter, it is best to buy seedlings from advertisers at planting out time, for this species needs to be sown in autumn if strong seedlings are to be obtained.

Perilla nankinensis will always please, for the foliage is of a fine shade of deep bronze purple. It is very susceptible to damage by frost, and should not be planted out until the beginning of June.

Pyrethrum aureum is worthy of a passing mention, though it is sadly out of fashion nowadays. Still, it is a cheerful little plant with its bright yellow foliage, while it may be had in several varieties, differing chiefly in habit of growth.

Zea is the maize of ordinary folk, and is really delightful, with large drooping leaves that are elegantly variegated. There are several different sorts, with line foliage in rose, green, cream or white. Seed may be sown quite late in April, for the maize is a quick-growing plant, even in its earliest stages.

The number of perennials of a suitable nature is almost legion: they possess the disadvantage that cuttings have to be carried through the winter, and for this reason—in small gardens, at any rate—are never likely to be so popular as the annual sorts.

Alternantheras have leaves most gorgeously tinted—deep purple; yellow; green, purple and yellow; red, etc., being some of the commonest colours. They were highly popular in the old days of carpet bedding, but are now in great demand as edging plants. Cuttings may be rooted in spring in the propagating case. A fairly large number must be propagated, for close planting should be practised with this class.

Acacia lophantha, a relative of the mimosa or Australian wattle, is attractive at all stages of development. The dainty fern-like foliage is particularly pleasing in first year seedlings, and these are most suitable for small beds. They may be lifted in autumn, and grown on if larger plants are required for the following year. Cuttings also root readily in spring or autumn.

Cineraria maritima, very much resembling a very fine silver centaurea, is usually raised from seed each spring, but where extra large plants are required, older plants are, of course, desirable.

Coleus Verschaffeltii, alarming as it may sound, is one of the finest of all foliage plants. The rich crimson foliage is peculiarly effective, with vivid scarlet or other strikingly coloured flowers, while, of course, it is also good with pale hued blossoms or foliage. Small plants are obtained from cuttings inserted in the spring, and these are useful for edging purposes. Larger plants are those grown on through the second year, rich soil being necessary if they are to reach full proportions.

Eucalyptus Globulus, the blue gum tree, produces a sub-tropical effect in the flower

CENTAUREA CANDIDISSIMA MAKES A MOST EFFECTIVE EDGING PLANT.

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FOLIAGE PLANTS OF ALL KINDS MAKE A DECORATIVE DISPLAY IN SUMMER BEDS.

garden, and, in its younger stages, lends great charm to the beds. It is a rapid grower, however, and old plants soon reach ungainly proportions, necessitating the raising of fresh stock at least every second year.

Echeverias are going out of fashion, but the prim rosettes may still be in favour with some, particularly those who require a plant that will withstand droughty conditions over a long period. Stock is readily increased from offsets, and these will soon reach a size fit for bedding-out purposes. In dry soils, the scapes of orange yellow flowers are often produced fairly freely, and these are quite attractive features during a good year. Lobelia cardinalis is a specially valuable foliage plant, for, in addition to the rich mahogany red leaves, it bears spikes of blossom in the most intense shade of scarlet during late summer. It is particularly valuable for a semi-shady, rather moist bed, for under these conditions it will thrive amazingly well.

Leucophyta Brownii is a rather extraordinary plant, for its dense twiggy habit of growth, combined with the silvery white colour of its leaves, produces an effect that is, to say the least of it, very uncommon. It is not often seen in small gardens, but is very effective wherever grown, and especially so in association with begonias, also with scarlet salvias or pelargoniums.

Melianthus major, with deeply cut and glaucous grey foliage, shall close the list. It is a strikingly handsome plant for a fairly large bed, the younger specimens giving the best returns for any time and labour spent upon their culture. Cuttings should be inserted in autumn, when it will be found that they root rapidly. An alternative method of propagation is from seed, and this method will give good shapely young plants for a small flower bed.

There are many more plants that could be added to the above list, for what are we to say of the cannas and abutilons, the ornamental thistles and the india-rubber plant, of iresine and grevillea—to mention but a few that come to mind? It is hoped that these short notes will stimulate an interest in the subject, but it is impossible to cover the whole field in anything but a book. B. D. S.

PLANTS FOR THE SEASIDE GARDEN

WHEN an ardent amateur gardener, accustomed to a sheltered suburban garden, moves to the seaside, the first few gales are a sad trial; and he is apt to declare in his wrath that it is impossible to grow anything but a flagstaff and a water-butt. Later on he discovers that many things that would not grow near London will flourish in the free, sunny air of the gardens round him, and that there are ways and means of providing the necessary shelter; so he takes courage and sets about making turf walls or getting hurdles.

Of the many kinds of shelter fence none is more suitable for the seaside than the turf wall. This should be well packed, about a foot thick and not less than 2ft. 6ins. high. The top can be planted with thrift or yellow stonecrop, but these will need watering until they are well established. On the inner face of the wall a yellow winter-flowering jasmine may be pegged down, and will soon cover a wide space, rooting at every peg.

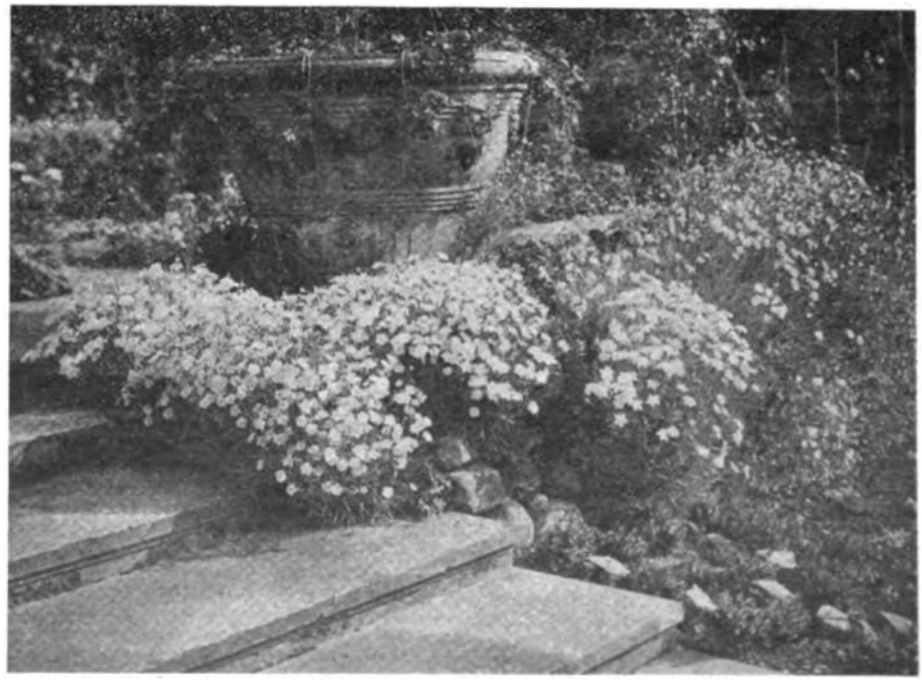
Failing this turf wall, sheep hurdles are a good substitute, and if topped with a little rustic woodwork to carry them up to about 4ft., they look quite comely. It is well to bank up the earth at the back of the borders to form a ridge about 18ins. high, as this additional protection is very valuable, especially until the plants are acclimatised.

Roses will usually do well if procured from a nursery in a rather exposed position. Dwarfs should be chosen, not standards. They should be firmly planted in the shelter of walls or hurdles, well staked and pruned rather hard, not earlier than the end of March. The following varieties appear to do particularly well near the sea: Pharasaer, Frau Karl Druschki, General McArthur, Lieutenant Chaure, Ophelia, Mme. Ravary, Mme. Hoste, Christine, Mrs. H. Stevens, Mrs. Oakley Fisher (single) and Hugh Dickson.

As regards other suitable plants, these may roughly be divided into three classes—tall-growing, medium and rock plants. To which, perhaps, may be added shrubs.

Of the tall-growing sorts, the best are: Anchusa, galega (lavender, white or mauve), helenium, valerian, hollyhocks, evening primrose and lupins. It is a strange fact that these last named, which, in a sheltered garden, are the first to suffer in a gale, will become acclimatised to a windy spot and grow so wiry that they will suffer little damage in any ordinary wind, if given the usual help of a firm stake. The same may be noted of sweet peas, but these must not be coddled in their early stages if they are needed for a windy garden. Sow in a deeply dug and richly manured trench in March, thin out when 2ins. high, put in your pea-boughs firmly and you will find that the sweet peas will be strong and sturdy. That lovely orange variety, Barbara, is especially obliging in this respect.

Medium-tall plants: Perennials.—Canterbury bells, carnations, pinks, Allwoodii,



ROCK PINKS FLOURISH AND PRODUCE ABUNDANCE OF BLOOM IN A SEASIDE GARDEN.

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wallflowers, stocks, sunbeam poppies, the sturdier of the early-flowering chrysanthemums and flag irises. Of the many exquisite shades of flag irises now procurable, perhaps the two most lovely are Queen of May (the nearest approach to real pink), and Mme. Chereau (cream colour, of great substance and with a wide picotee edge of lavender-blue). (Annuals).—Mignonette, sweet sultan, all kinds of poppies, nigella, red linum and Virginian stock.

Practically all the hardy rock plants do well. Dianthus deltoides, Veronica repens, all the helianthemums (or sun roses), violas, polyanthuses and all the saxifrages. I have left shrubs till the last; but there are many kinds that might well claim to come first, as, for instance, the veronicas, those buxom, sea-loving ladies with robes of every shade from white to deep purple, blue or crimson. It is, alas! true that some of the newer and more gorgeous colours are not quite proof against frost; but for the south coast that is not a matter of great moment. The sea buckthorn and cotoneaster supply a fine show of berries through the winter, while the Ribes sanguinea, the sallow (or pussy-willow), the sea-purslane, the tamarisk and, for the south coast, the escallonias, surely make a goodly company.

Perhaps the time when the high, drying winds are most trying to the gardener is when he is planting out seedlings or putting in cuttings. It is a good plan, when transplanting, to cover the young plants with inverted flower pots for a day or two, until they have had time to take hold. Cuttings may be put in a retired corner and covered with the excellent domestic glass jam jars, the two-pound size makes an excellent cloche, and if well rammed down will stand almost any gale. M. L.

SIMPLE ROCK PLANTS FROM SEED

Raising rock plants from seed is by far the easiest and cheapest way of increasing one's stock. With many of the simple kinds with which this article deals, no difficulty will be experienced in growing on the plants raised from seed sown now. Full cultural details are given below together with a selection of some of the best kinds for the amateur's purpose.

IN a recent issue of THE GARDEN there appeared an interesting article, "Alpine Plants from Seed." In that article, the rarer species were dealt with; but surely it is even more important that the possibility of raising commoner sorts from seed should not be overlooked? Common though they may be, yet, when all is said and done, the gorgeous aubrietias and alyssums, dianthus and campanulas, and other popular plants, form the backbone of the average amateur's rockery. The reason for their popularity is not far to seek, for they are everybody's plants, easy to grow, free-flowering, of rapid growth, and needing little care beyond the original sowing or planting. Besides their undoubted value in the rock garden proper, they should be extensively planted on old stone walls, rough banks, in the crevices of stone steps, and all the other places that a little reflection will suggest as suitable. As it is thus clear that these "common" plants are needed in large quantities, it must be equally obvious that seed sowing is the quickest and cheapest way of getting together an adequate stock for all purposes, and, as many of the varieties mentioned here are true species, they may for the most part be relied upon to come true to name from seed. Seed sowing is, of course, purely a matter of common sense, and there need be no difficulties in raising stock of any plant that is known to germinate fairly rapidly and evenly. As regards the actual sowing, it should be remembered that the thickness of the covering for *all* seeds should be twice their own diameter of finely sifted soil. To facilitate thin sowing, the smallest seeds should be mixed with silver sand, but the larger seeded kinds can be spaced without this aid. Probably the safest place to sow is in boxes or pans of prepared compost, these being placed in a frame facing north and covered with glass until germination has taken place. It will, however, be necessary to turn the glass at least once per day, owing to the moisture which tends to condense on the cold surface. So far as watering is concerned, it is wise to try to avoid this as far as possible until the seedlings are through—beyond the initial watering, of course; but when necessary the finest rose should be used, or, better still, the pans or boxes may be partially immersed in rain-water, thus allowing the water to percolate from the bottom upwards. Where no frame facilities exist, the seed boxes should be stood under a north wall, but never where they can receive the drip from overhanging trees. It is also possible to raise the seedlings in the open ground: in this case the soil should be raked to a very fine tilth, and extra care taken to keep away slugs, which are especially fond of the tender seedlings of some rock plants, and notably so in the case of some of the campanulas—usually the choicer sorts.

THE ROSE PURPLE ERINUS ALPINUS SHOULD BE SOWN IN ITS FLOWERING POSITION.

Where the seedlings are raised in boxes, it is worth while to make up a special compost, though at the same time it may be noted that good garden soil will also serve the purpose so long as ample drainage is provided. A compost that will suit the majority of alpine plants is: 2 parts "ballast"—broken pots, stone chippings, etc.—1 part turfy loam or sweet garden soil, and 1 part finely sifted leaf-mould. Many alpine plants are lovers of lime or chalk, and for these the ballast material may consist of old mortar rubble or, practically as good, broken limestone chips. When the seedlings are ready for transplanting, it must be decided whether they are to go into the open ground or whether they shall continue in the frames. Where space is available, the latter plan is best, for then one is able to have better control of the plants as regards watering, etc. It must be clearly realised, however, that the plants need no coddling, the lights being left off night and day, except that they may be protected from torrential downpours, which might wash the seedlings from their moorings. If the nursery beds are made up in the open ground, my previous remarks *re* slugs should be kept in mind. Soot is an old-fashioned but safe remedy, while recently we have heard much about the value of alum for keeping slugs in check. In any case, traps such as bran, orange peel and so on should be set, and any vermin found in these destroyed without compunction.

The seedlings are moved from the nursery beds to their flowering quarters in autumn, but this is an operation that needs no description. The work is best carried out during dull showery weather, and the plants should be lifted with as little root disturbance as possible, which means, of course, that they should be lifted with as large a ball of soil as practicable.

It is impossible to give more than a brief summary of plants that may be grown from seed, for space is running short. In the following list, lime-lovers are indicated thus (L), and these should have limestone or mortar rubble included in their compost.

Alyssum (L).—A. saxatile compactum is one of the brightest of spring flowers, with dense sheets of golden yellow flowers; the hoary grey foliage is attractive at all times, and the habit of the plant will be improved if it is lightly "shingled" over with the garden shears immediately after flowering. A. spinosum

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s a sub-shrubby member of the same family, of dense spiny growth, and bearing clusters of white or pale rose blossoms.

Aubrietias come as easily as the proverbia "mustard and cress," but the named sorts are not to be relied upon from seed. The best plan is to buy a mixed packed from a reliable firm; of course, the majority of seedlings will be of a purple or mauve colour, but a few pinks and crimsons should turn up, and these are the colours one prizes most.

Campanulas for the rock garden are numerous, and most of them appreciate lime. They are especially valuable, as they flourish in shade, where it is often difficult to grow flowering plants. The following is a selection from an almost inexhaustible list of species and hybrids: Garganica, blue with white centre, trailing; muralis, purple, 6ins.; pusilla, pale blue, and the white form, p. alba; carpatica, light violet, 1ft.; and turbinata with open cup-like violet flowers, 6ins.

Dianthus is another extensive family and members of this group should also be given lime. For fragrance, there is no more valuable species than fragrans, with single white blossoms. D. cæsius is our native Cheddar pink with fragrant rose flowers in June and July; and deltoides, with rosy purple blossoms, is another native species. There are many others, including alpinus (one of the best) caucasicus, superbus, etc., and the majority are not hard to raise from seed.

Erinus alpinus is a diminutive plant with reddish purple flowers, and is, perhaps, best sown in its flowering quarters, *i.e.*, any odd crevice where the seed has enough soil for germination. Two good varieties are albus, pure white; and carmineus, bright red.

Iberis is the botanical name of an old friend, candytuft, and the perennial forms are of great value in early summer, although they should be used rather sparingly, for their masses of pure white blossom tend to deaden all colours but scarlet, or deep tones such as purple and crimson. I. gibraltarica, sempervirens and correæfolia are three of the most compact perennial species, varying in height from 6ins. to 12ins.

Linum perenne (L) is, strictly speaking, a border plant, but it is of such light and graceful character as to look quite at home in the rock garden, while its flowers are particularly useful for bringing in that all too rare colour—blue. L. perenne grows about 2ft. tall, and rather more robust is L. narbonense, with large deep blue blossoms. L. alpinum is a trailing species with grey-blue flowers; arboreus and flavum have yellow flowers; and in LL. monogynum and perenne album we have two neat white-flowered species.

It is difficult to know what to say of the primulas. If one is lucky enough to get fresh-gathered seed, most of the species will come up freely enough; but with old seed it is usually a slow job. Species for the novice include Beesiana, Bulleyana, Cockburniana, cortusoides, denticulata, hirsuta, japonica and pulverulenta (especially p. Bartley Strain): all of which will be found described in a good seed catalogue.

Saponaria ocymoides is an extremely showy perennial soapwort, with masses of rosy purple flowers; alba is a white form; and o. splendens bears flowers of a lively shade of pink.

Last of all may be mentioned the exquisite rockery violas, chief of which are bosnaica, cornuta and gracilis, with their numerous varieties in mauve, purple, white, yellow and blue. These are all extremely easy to grow, and will often flower the first year if sown early enough. They require a rather moist soil during the time of germination.

When these rock plants are to be grown in dryr etaining walls or on rockery banks it is often more satisfactory to sow them direct into their flowering quarters. Aubrietias, ericas and saponaria are best treated in this way.

B. D.

ALYSSUM SAXATILE, ONE OF THE BRIGHTEST OF SPRING FLOWERS, IS EASILY RAISED FROM SEED.

THE DAINTY VIOLA CORNUTA WILL FLOWER DURING THE FIRST YEAR.

HEUCHERAS FOR THE BORDER.

THE heuchera or alum root is rapidly gaining favour, both as a subject for the herbaceous border and as a cut flower; while it is not to be despised for suitable spots on the rock garden. During May and June, well grown clumps are a feast of colour. The plants are dwarf, but the graceful spikes of bloom are from 1ft. to 2ft. in height. They are extremely floriferous when in a healthy condition, but often the clumps are left undisturbed for a number of years, and consequently they become starved and incapable of producing a good display of bloom. That they are among the most elegant of hardy plants is beyond doubt, and for this reason an effort should be made to grow them successfully. Frequent propagation is recommended—say, every second or third year—and this is best carried out in July, immediately after flowering. The old plants need not be lifted, but a number of the growths should be removed, a few of the old leaves cut away, and then the growths should be set a few inches apart in a cold frame or hand light. A sandy soil is preferable and a little shade until rooted will be advisable. When well established, fully expose the plants, and with the first showery period transfer them to their flowering quarters. The old clumps will be greatly improved by a liberal top-dressing of decayed manure and leaf-mould, or hop-manure.

The forms of H. sanguinea are good, particularly splendens, which is brilliant scarlet. The free-flowering Shirley produces sprays of coral scarlet flowers; while another form, Pluie de Feu, is brilliant red with dark green leaves. In H. brizoides gracillima we have a light and graceful plant. Edge Hall is a pretty rose shade; Walkeri, intense crimson; Beauty, salmon rose; Crimson Spray and Kilnfield White are also worthy of note.

T. W.

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THE BUSY MAN'S PAGE

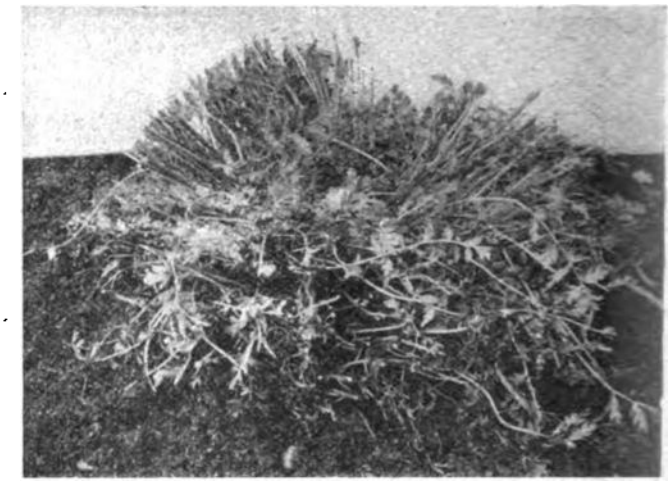
Stimulants for Summer Use.

A MULCH of well rotted manure round plants is a most effective method of feeding them, occasional rains washing the rich contents down to the roots. Many gardeners, however, prefer to dissolve the fertilising matter by stirring the manure into water, the weak tea solution being afterwards applied as liquid manure. Manure, however, is so scarce that the majority of readers cannot get any for this, so they must depend entirely on artificials. Two plans again hold: a light application of manure is sprinkled round plants and bushes, and this is hoed into the surface soil; or an ounce or two is dissolved in a gallon of water and the liquid applied. For general purposes gardeners ought to prefer a balanced, all-round general fertiliser. There are many on the market, like Clay's Fertilizer, Thomson's, Kirk's, Carmona, and probably your own seedsman has a good rose manure or some other. Guano is also good, and then every reader must understand the stimulating nature of sulphate of ammonia, nitrate of soda, saltpetre, phosphate of potash, nitrate of ammonia and other expensive "growth" fertilisers. Use 1 oz. per square yard or ½ to 1 oz. per gallon. Never apply an artificial manure over plants; sprinkle it round them so that it may soak into the ground and reach the roots.

Cutting Back Pyrethrums.

SOME of the earliest varieties of pyrethrums that come into flower in the early days of June are already giving evidence that their beauty is on the wane, and this should be a sufficient indication to the grower that the time has arrived when the plants should be cut back. Those who know these plants well and who make the most of them, cut down the flower-stems to within a few inches of the soil directly the flowers fade. If the fading flower-stems are allowed to remain on the plants for any length of time, the energies of the plants will become speedily exhausted, and the chances are that only one crop of blossoms will be obtained. The prompt removal of the fading blossoms, and the flower-stems too, should ensure the development of a second display of their welcome blossoms in July and August. For the purpose of illustration, in Fig. 1 a plant of a single-flowered pyrethrum, with the flowers just beginning to fade, is shown. The stiffness of the petals has gone, and in some cases they are actually drooping. In the case of double-flowered sorts, the blossoms begin to wither and shrivel. It is at this period that the flower-stems should be cut back to within a few inches of the soil.

1.—A CLUMP OF PYRETHRUMS ON WHICH THE FLOWERS ARE FADING.
The stems are now ready for cutting down.



2.—THE SAME PLANT CUT DOWN TO WITHIN A FEW INCHES OF THE GROUND.

Fig. 2 serves to illustrate the drastic way in which the flowering plants should be cut back. A plant of this description has great possibilities. If the soil round about the plants that are cut back is lightly forked over or loosened, and then well watered, subsequently applying a mulching of well rotted manure from an old hot-bed, the plants will quickly respond with new and vigorous flower-stems, well repaying the grower for the extra trouble taken. The plant illustrated has been mulched in the manner indicated. When in good health the plants enjoy a fortnightly application of manure-water, and copious supplies of clear water in dry weather.

The Use of Ashes and Cinders.

ASHES and cinders are useful in more ways than one in the garden, although the residue of a coal fire has practically no fertilising value. In the case of heavy ground these can be spread on the surface and dug into the soil. The cinders will play a useful part in opening up the clay so that air can pass freely into it and, as well, the drainage of water is facilitated. Fine, gritty house ashes spread round young plants will keep off slugs and prevent them from doing damage. The very fine dusty matter may be mixed with soot and used to dust the plants for killing insect pests. When planting bushes, mix a few large clinkers with a little lime and put a layer of these in the bottom of the trench. This will help the soil drainage and also check any pests that might burrow up among the roots of the plants.

Radishes in Summer.

TO maintain a succession of radishes, sowings should be made at intervals of about a fortnight right until the end of September. During the summer it is most important that the sowings should be on cool shady borders where the soil is comparatively rich. Beds of loam and leaf-mould that may have been used for transplanting bedding and other subjects would be admirable for radishes. Unless radishes can be grown quickly, so that they are tender and crisp, they are of very little value. It is far better to sow the seed in drills, as this allows frequent surface-stirring of the soil and also leaves space between the rows for a mulch of short manure which will prove very helpful during the summer. Before sowing the seeds, soak the drills with water, and, after sowing, cover in with fine soil. A certain amount of thinning will be needed, and, of course, one selects the poorest plants. When young, every part of the radish plant may be used in the salad bowl, and the later thinnings may be washed and added to a mixed salad. In very scorching weather it is a good plan to cover the seed bed with mats or some form of shading until the plants come up. Abundance of water must be given if there is no rain, and this should always be applied in the evening.

Spring Bedding Plants.

INITIAL preparations count for so much in gardening that we hasten to remind everyone that suitable preparations must be made for next spring's bedding needs. Not only must seed be sown, but cuttings can also be rooted and, in odd instances, old stools divided up; actual needs and present stock determine the work which is required. Wallflowers, no doubt, have already been sown, but it is not yet too late to make a further sowing, provided that it is done at once; plants from earlier sowings may be pricked out in vacant potato or pea borders or in any spot where they may grow. Aubrietias are best sown in the frame, the seed being so small; keep the frame close and shade until the seeds germinate, and in due course transplant into a shady nook in the open. Myosotis or forget-me-nots are also favourites and enter into many a delightful colour scheme; the catalogue reveals many choice named sorts; but, as a low bedder, M. nana alpestris is very fine. White arabis can also be raised from seed, but, if a stock is available, a very good plan is to take cuttings of the ends of shoots, and dibble them in, in a semi-shaded border, keeping them moist for a time. Primroses and the earlier polyanthuses require dividing up or seed may yet be sown; transplant into an open border plants raised from earlier sowings. The double daisies can readily be raised from seed or old plants may be torn into single crowns and planted. Violas, too, are very fine; and cuttings of Snowflake, Maggie Mott and other bedders may be rooted readily in the open at the present time.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

How and When to Cut Flowers so as to Preserve their Freshness.

RARE floral gems have their special attraction for the gardener, but flowers of the "cut and come again" variety will always be sure of popularity, chiefly because they can be used for indoor decoration, or can be cut and given away to friends, without in any way robbing the garden. Sweet peas, coreopsis, geums, roses, snapdragons and others are among the plants which give us more and more blooms, if they are constantly picked before they develop seeds. But these flowers, to give the greatest amount of satisfaction, must be cut with care and understanding.

It is generally accepted that the best time to cut flowers is in the early morning, before the dew has gone from them. If this cannot be done, the next best time to cut is in the late evening. Flowers cut at this time should be immediately put into water, and allowed to remain there until the morning before being arranged in vases, or before being sent by post. The petals of flowers should not be allowed to stand in water, but if the flowers are of the type which soon droop their heads, they may be immersed up to the neck in water, a tall vessel being used for the purpose.

All flowers begin to fade when the process of fertilisation has taken place. It follows, therefore, that if flowers are plucked before they are open, and brought indoors, where insects are less likely to find them and where fertilisation is delayed in consequence, they will last better than those plucked when fully open, whose pistils have already received the pollen from other blooms. Poppies are remarkable in this respect. A full blown poppy will last, perhaps, only an hour, but a poppy cut in the early morning, just as the green sepals are bursting from the flower head, will last for three or four days in the vases. Poppies that have been carried a distance should have the ends of their stalks cut under water when they are being arranged.

Roses are best cut in the bud, not only because their beauty is generally best before they are full blown, but because they frequently lose their colour more in the sunshine than indoors. To cut them with short stalks is a mistake. Long stalks are a great asset in arranging decorations, and, in addition, roses of the hybrid tea types that are pruned back after flowering, will usually yield a second crop of bloom. One good bud low down on the flower stalk, *i.e.*, just above its union with the main stem, is sufficient to leave for the second crop of flowers.

Occasionally flowers, such as clarkias, tend to droop their tips when cut for indoor decorations. The trouble can in some cases be avoided by the simple method of pulling the plants up by the roots instead of cutting the stems. Clarkias pulled in this way will last well in the flower vases, and the same process could be adopted with other annuals.

Of flowers that are specially suitable for cutting, which could be grown in special masses, or rows in the vegetable plot, some of the prime favourites are coreopsis, stocks, love-in-a-mist, gypsophila, sweet peas, dwarf sunflowers and sweet scabious (annuals), and among the perennials, linaria, coreopsis, single dahlias, chrysanthemums, gladioli, gerbera, carnations and pinks.

ORANGE-SCARLET GERBERA (TRANSVAAL DAISY) MAKES A CHARMING SUBJECT FOR INDOOR DECORATION.

A Shower of Stars.

FEW plants give such prolific displays of tiny star blossoms as do the saxifrages. The one illustrated above is Saxifraga hypnoides, and is one of the most accommodating of plants. Its simple needs are moisture and a little sunshine, and it will grow in places where the soil is poor and scanty provided it is not allowed to become too dry during the hot weather.

A balcony tub or box would be easily transformed into an object of great beauty by planting this saxifrage. The flowers are just now at their best, but the green foliage is perennially beautiful, and a mass of this plant could therefore be grown in the centre of a tub or shallow pan and surrounded by seedlings of a later flowering plant, such as lychnis or nasturtiums.

New Ideas for the Garden.

WHAT an enormous amount of interest and beauty in a garden is due to the extra furnishings, apart from the flowers, which we are able to introduce. Of course, money counts in these features, and some of the ornaments and summer-houses, such as were on view at the Chelsea Show, can cost fabulous sums. But there are a number which are well within the reach of most amateur gardeners, and which would add considerably to the artistic effect of their gardens.

S. HYPNOIDES, A QUICK-GROWING MOSSY SAXIFRAGE SUITABLE FOR EDGING OR CARPETING.

Seats are, of course, the first in importance in any garden. For of what use is a garden if one may not sit in it and enjoy its fragrance and restfulness? It is hardly necessary to stress the need for the seat to be in a shaded and, if possible, secluded part of the garden. In a small garden the seat should be unobtrusive. If it is painted a glaring colour, it will seem to monopolise the whole garden space. For the really tiny garden a dark-stained wooden seat is, perhaps, the most suitable. Teak furniture, such as is supplied by Castle's Shipbreaking Company, Limited, is ideal. I have had a seat of this kind in constant use for over ten years, and it is still in splendid condition, so that, though the initial expense is fairly heavy, the furniture is cheap in the end. Common deal furniture, made by the home carpenter and stained with creosote, is a fair substitute.

Orange canvas is growing in favour for garden awnings and hammocks. It is a pleasant change from green. Those, such as Messrs. Gamage offer, are in themselves a brilliant and colourful addition to a lawn, and their colours can be repeated in the extra deck chairs and cushions that are stored for garden use.

All kinds of chairs, tables and settees suitable for garden use are now made from fine cane. These have the special advantage, in addition to their beauty, of extreme lightness, making it a much less laborious task to move the furniture from place to place in the garden, or to bring it into shelter during bad weather. This furniture is very comfortable, and can easily be cleaned by washing when it becomes soiled. Messrs. Hugh Lane and Co., Limited, specialise in this class of goods.

There is no question about the value of furniture in the garden. Gardens supplied with ornaments which are merely ornamental and not useful lack friendliness. Indeed, it is extremely doubtful if such mere "ornaments" are ever really beautiful or add to the artistic appearance of the garden.

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NOTES ON THE FLOWER GARDEN

A Little Lily Pool.

NOTWITHSTANDING the assurances of catalogues, people with small gardens and moderate incomes regard the growing of water lilies as out of reach. They have seen the large ponds in some public garden covered with the gorgeous nymphæa flowers and revelled in their beauty; and they have never realised that they may have that beauty in their own little back garden at the cost of a few shillings!

The materials necessary for making a small lily pond are some good-sized pieces of sandstone or limestone (old bricks will do as a substitute), some Portland cement, barrow-load of good fibrous loam and, lastly, a handful of water snails to keep the water clear. The nymphæas may be had at any price from eighteenpence to several pounds. A single plant of Marliacea rosea, costing 3s. 6d., will soon increase until it covers the surface of the water with its exquisite coral pink blooms. Gladstoniana, price 5s., has huge snow white flowers.

Choose the sunniest place you can spare, and dig it out to the depth of about 3ft. in either formal or irregular shape. The size, of course, depends upon the space available, but a pool 5ft. or 6ft. across will give room for several varieties of lilies. A good shape is a rough figure 8, divided across the centre by some piled-up blocks of stone, thrown in after the cementing of the pool is finished.

The floor and, perhaps, the first layer of stone forming the sides should be covered with cement; above that it is more picturesque, because more natural, to cement the joints only. This must be very carefully done, so that no leaks may be left. The topmost layer of stones should be varied in size and shape, placed irregularly and projecting over the edge. When the pool is finished, allow the cement to dry hard before putting in water, and then wait for a day or two before planting, to make sure that it is watertight.

Put in about 6ins. of soil and 18ins. of water; this is enough for nearly all the hardy lilies. Plant the lilies in old potato baskets, placing turf on the surface of the soil to prevent its being washed away. Sink them gently where you want them to flower. They will soon form extra plants and, as the baskets rot away, will establish themselves in the bed of the pool.

There will be plenty of room for two or three water plants other than lilies. Aponogeton distachyon (water hawthorn), the fresh-water arum (a miniature replica of its greenhouse cousin), Villarsia nymphæoides (which only needs to be thrown into the water) and the ordinary arrowhead are all excellent.

The beauty of the pool will be increased by damp-loving plants in a soil chiefly leaf-mould and sand, round the edge. Hanging curtains of aubrietia (Dr. Mules or Pritchard's A.1.) and the mossy saxifrages may be trained over the bordering stones.

A pond like this may be a beautiful joy stocked only with our English wild plants, the yellow and white water lilies of our rivers, the water iris, arrowhead and bogbean, forget-me-nots and kingcups.

EVEN THE SMALLEST GARDEN CAN HOUSE AN ATTRACTIVE LILY POOL.
Here is one in a small garden made bright by a wealth of moisture-loving plants around its banks.

You can make your pool now, putting in water lilies of budding size, as well as young plants of any of the aquatics or moisture-loving plants which have been mentioned. All these will soon establish themselves.—G. H.

One of the Best of Rock Garden Shrubs.

THIS year Lithospermum prostratum has proved itself one of the finest subjects on the rock garden. To bring it to this state of perfection, no great labour or expense is required; just bear in mind that this plant has a great aversion to lime, and remember that two year old plants from cuttings invariably produce the best and largest quantity of bloom. It is quite hardy, and should be given a trial on all rock gardens. Being of a trailing or prostrate habit, it should be planted so that the growths will fall over a rock or down a sloping bank. I prefer the latter, for then it is possible to do a little top-dressing after flowering, and the growths are pegged down at the same time. The flowers are a beautiful gentian blue, and are freely produced in May; but there is hardly a month when a few flowers are not in evidence. The variety Heavenly Blue is lighter in colour, the blossoms being a luminous sky blue; while the plant is more compact in habit than the type.

In some gardens this plant is quite a success without any special effort being made, and in such instances the soil will be a light sandy loam, and probably deficient in lime. As a rule, a rooting medium similar to that used for heaths will be suitable, and in such a compost it will form patches a yard square which are eventually covered with brilliant blue flowers.

Propagation is effected by cuttings taken during July and August, and they will form roots in sandy soil if afforded the protection of a cold frame or hand light for two or three weeks. Young unflowered shoots with a heel attached make the best cuttings.

L. purpureo cæruleum.—This is a rare native plant, quite distinct from the above in growth, but the flowers are somewhat similar, being a rich blue when fully expanded. The leafy stems will attain a height of 2ft. or more, at the apex of which are produced the clusters of blooms. It is perennial, and should be cut down to the ground level every winter; then young shoots are formed which will flower freely in May. Of rather rampant growth, it must not be planted in the best parts of the rock garden, but around isolated rocks or in close proximity to the wild garden it will prove most effective. Like L. prostratum, this plant has flowered freely this year, and, moreover, the colour of the blooms has not been surpassed even by the gentians.—T. W. B.

Rock Roses Under Trees.

ALTHOUGH the rock roses are naturally lovers of the open, there are several which do remarkably well in the partial shade of fairly open woodland, always provided the soil is light and congenial. Under tall oaks, for example, I have grown for many years groups of that attractive white variety often sent out under the name of Cistus obtusifolius, the prettily waved leaves of which are a deep glossy green. This rock rose blooms abundantly where it only gets a minimum of direct sun, and the blossoms are of good size and creamy white with a faint yellow stain at the base of the petals. Where the soil is extremely dry and impoverished, as it often is in woodland, C. salvæfolius will usually do remarkably well. Even under tall pines, where few shrubs will prosper, the sage-leaved cistus will give a good account of itself, and the closely allied C. corbariensis might be tried in similar conditions. All the above can be planted at any time from pots, and in regard to the preparation of the soil I never do anything beyond giving the ground a little loosening. All cistuses like lime or chalk, but these are by no means essential.—A. T. J.

Brooms from Seed.

Sow This Month.

IT does not seem to be generally realised that many of our most beautiful brooms are very easily raised from seed, a method which not only commends itself on the score of economy where many plants for grouping are required, but home-raised seedlings usually transplant more satisfactorily than those which have been packed. The old white broom (Cytisus albus) is one that may be produced in this way, and among the taller ones I question whether there is a lovelier species or variety in cultivation. C. scoparius will, of course, come as readily, but it does

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not seem to be common knowledge that its valuable late-flowering (July–August) form will also turn out very fairly true from seed. C. Andreanus, the very striking yellow and maroon Normandy variety, if not absolutely reliable from such a source, will always give a good percentage in the right colour, plus some very pretty variations always useful for groupings. The Montpelier broom (C. monspessulanus), a first-rate species for growing where the very similar Genista fragrans proves too tender, can be grown with the greatest ease from seed, and this is equally true of the beautiful G. virgata, one of the loveliest of the race. C. nigricans, so invaluable as a late summer bloomer, is not less amenable to increase by this means, and then there is that splendid old shrub, the Spanish broom (Spartium junceum), whose seed readily germinates.

There are several other highly ornamental species which might be included in this list, but enough has been said to draw the beginner's attention to this important phase of broom culture. I usually sow the whole of the above in June, making an ordinary seed-bed of free, light soil in an open part of the garden. The seed is placed very thinly in drills about ½in. deep, covered and firmed down with the back of a spade. An occasional sprinkling in dry weather may be desirable, and precautions should be taken against slugs. This and keeping them free from weeds are all that is necessary until the plants are 6–12ins. in height, when they may be moved to their permanent positions. Many will be ready to transplant in the spring following the year of sowing.—J.

Sweet Woodruff.

A Charming Native for the Wild Garden.

IN these days, when so much attention is being given to wild and woodland gardening, one cannot overlook the charm of this delightful native. Throughout the spring and early summer its prettily whorled leaves are sheeted with snow white stars and the spent foliage is often dried and bunched for the sake of the fresh fragrance of new-mown hay which it retains for many months. Though it is apt to spread rather too freely among choicer plants, the woodruff (Asperula odorata) is admirable for the rougher parts of the rock garden, where it will serve the same purpose as tiarella and other subjects for draping the rocks or covering the ground beneath shrubs. But I think it is never such a joy as when associated with ferns in partly shaded woodland retreats.—J.

PRIMULA JAPONICA AND SOME OF ITS VARIETIES GROWING ON THE BANKS OF A STREAM.

An Easily Grown Primula.

IN Primula japonica and its varieties we have an easily grown plant, and one that should be planted on a large scale wherever its culture is possible. It is not too particular regarding soil, so long as there is sufficient moisture at the root during the growing season, and if partial shade can be provided the various shades of colour are more effective. In some gardens will be found a damp border with a north aspect, and here P. japonica would be quite at home; other damp and shaded corners could also be located, while the margins of streams and damp spaces in the woodland would be ideal stations for this stately primrose. Here the plants will thrive and reproduce themselves freely from seeds; in fact, so numerous are they occasionally, that a certain amount of thinning becomes a necessity. The flowers vary considerably in colour, but the type, a deep and rich crimson, is still one of the best. Different shades of pink and red are available, while a few of the pure white forms mixed with other colours renders the batch most pleasing. The illustration depicts a large number of P. japonica in variety growing by the side of a stream in the interesting gardens of Colonel MacNabb at Chepstow. Here the display was very wonderful at the end of May.

These primulas are readily raised from seeds if sown soon after they are ripe either on a shady border outside or in pans. If pricked off in good soil they soon attain flowering size. Good varieties can be divided immediately after flowering, but as a general rule seedlings give the best results.—T. W. BRISCOE.

FOR THE WOODLAND GARDEN FEW PLANTS ARE AS EFFECTIVE AS ASPERULA ODORATA.

A Yellow Daisy for the Border or Rock Garden.

A LITTLE yellow-flowered composite which is suitable for the front of a border or a position on a rock garden is Chrysogonum virginianum. This plant is a hardy herbaceous perennial, and it is remarkable for the length of time over which it will produce its bright golden yellow flowers, which are borne in sprays and are very attractive. As a rule, chrysogonum grows to the height of from 5ins. to 6ins. but the larger growth is only seen when the soil is deep and moderately moist. When the plant is happy it will often remain in flower from April to October, and it is worth while at the time of planting providing the leaf-mould to which chrysogonum is partial. The species is useful on account of the fact that it does not demand the sunniest positions and, on the whole, does better in somewhat shaded situations. Chrysogonum is readily increased by means of root division, which is best carried out in the spring, although in this respect the plant is very accommodating.—L. B.

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SOME SWEET PEA DISEASES

A look-out should be kept for the appearance of disease on your sweet pea plants, and immediate measures taken to remedy the trouble. Suggested measures are given in this article.

SWEET PEAS are always liable to be attacked by certain diseases and some of these may have very serious results indeed. It is important that the amateur grower should be on the look out for early signs of the trouble in order that prompt steps may be taken. The following is a list of some of the more important sweet pea diseases, with their causes and suggestions for remedial and preventive treatment.

The Mosaic Disease.

This trouble is evident by the yellow mottling of the leaves and, in certain varieties, there is a thickening and curling of the tissue. The plants tend to become stunted and growth is almost suspended for a time. In the case of a strong-growing sort the trouble may be overcome altogether, so that finally the plant, although late in flowering, may not be much the worse for the experience. The origin of the disease is not fully understood, although it is probably caused by the attacks of some minute organisms like bacteria. Green flies, owing to the way in which they puncture the leaf tissue, seem to give rise to the disease if they have recently been on infected plants. The mosaic disease is often confused with streak (to be described later), although really the yellow spotting of the leaves is very distinct in appearance. Plants infected with streak hardly ever recover, but prompt remedial measures usually yield good results in the case of mosaic disease. The best step is to syringe the plants with a solution of iron sulphate (½oz.) added to 1 gallon of soot water. The soot water is made by placing about a peck of soot in a bag into a tub containing 30 gallons of water and allowing this to stand for a week. The iron sulphate and soot solution should be applied once a week on both sides of the row of plants between two and three quarts being allowed for each yard treated.

Streak.

Just at the time when the sweet peas are beginning to flower the first signs of streak are to be noticed. Evidence of the trouble is to be seen in reddish-brown spots and streaks along the stem, which seem to have their origin near the ground. Heavy dews appear to favour the progress of the disease, which, at such times, spreads with great rapidity until the tissues of the main stem are destroyed and the plant comes to a miserable end. Certain bodies found in the spots have been identified as bacteria—the particular species having been given the name of Bacillus lathyri. Streak is also prevalent in the common clover and it often appears where sweet peas have never been grown before. Probably the land has been previously infected by clover or some other legume. It is also possible that at times streak may be introduced into a garden with manure. It must be pointed out that streak is not a root infection, the attack being made through the stomata of the leaves. The only measures which can be taken in the case of streak are preventive. Mulching along the rows of plants with strawy manure is good, for this prevents soil, which may be infected, splashing on the plants in rainy weather. Another step which may be taken is to syringe the plants with a solution of permanganate of potash, 1oz. of the crystals being dissolved in 6 gallons of water. The mixture should be applied at intervals of ten days until the plants are well advanced towards flowering, care being taken to coat the under sides of the leaves as well as other parts. Another measure, which undoubtedly prevents streak, is to carry out some partial sterilisation of the soil. The soil for seedlings should be sterilised by steaming it at a temperature of 180 degrees; then the soil where the plants are to be sown should be soaked with a solution formed of 1 gallon of carbolic acid or Lysol to 200 gallons of water. Another way is to use a 1 per cent. solution of commercial formalin (formaldehyde, 40 per cent.), which is used on the ground at the rate of a gallon to each square yard. Cover with sacking for four days to keep in the fumes. Then uncover for a fortnight, after which the sweet peas may be sown or planted.

Mould.

This trouble is caused by a parasitic fungus and is recognised by yellowing of the leaves and blotches on the stems; eventually these become brown and are finally spread over with a delicate white outgrowth, which is the mycelium of the fungus. Mould affects the seed vessels and the seeds and the germs of the disease may start an attack almost as soon as the young plants are up. Seeds which are suspected may be soaked in water at a temperature of 135 degrees Fahr., and allowed to remain until cooling takes place. Another way is a short immersion in a solution of permanganate of potash, allowing 1oz. to 8 quarts of water. The spread of mould to healthy plants may be checked by dusting the foliage with powdered quicklime and sulphur, using twice as much lime as sulphur. This should be repeated at intervals of three or four days. Badly infected plants should be pulled up and burned without delay.

Root Rot.

This trouble is due to the attacks of a fungus. Affected plants have very little in the way of roots as the fungus destroys these as soon as they appear. On occasion the fungus works up the main stem to the height of 2ins. or 3ins. above the ground, but it never travels far upwards. Attacked plants show a yellowing of the foliage and usually the whole specimen will collapse from below. Sweet peas affected by root rot quite often do not die soon and they will sometimes linger on during the whole of the growing season, in such a miserably stunted state that they are worthless as regards flower production. The fungus makes its attack through the soil. It seems usually to be introduced in manure and it is most common on land that is rich in organic matter. To prevent root rot, soil sterilisation on the lines indicated should be carried out.

Wilting.

This trouble most commonly arises in young plants. The seedlings seem to be quite healthy and then suddenly they fall over and collapse. On occasion wilting may appear in older plants, but it nearly always occurs before flowering time comes. Immediate dressings of lime will tend to check the spread of the disease.

Collar Rot.

Here the first signs are a drooping of the tips of the shoots and the younger leaves, which is followed by the complete collapse of the plant. The fungus which causes the trouble lives in the ground and attacks the plant just where the stems join with the soil. Usually the cause of collar rot is introduced into gardens with animal manures, especially if these are strawy. All affected plants should be removed and burned without delay and the ground treated with quicklime. As a preventive measure the collars of the plants may be dusted with air-slaked lime. On badly infected land scatter straw or other dry litter on the surface and then set this on fire. After this it will be possible to grow sweet peas without fear of collar rot.

Anthracnose.

The chief signs of this trouble are whitish spots on the leaves which become brittle and drop off. The shoots and flowers may also be affected. Usually the disease puts in an appearance about midsummer, when the plants are in bloom and at their best. It is suggested that it may be prevented by spraying the plants with half strength Bordeaux mixture in mid-June and a fortnight later. When the disease has appeared infected plants must be burned and afterwards the ground should be deeply trenched. S. L. B.

GERANIUMS WITH PRETTY FOLIAGE

THE passing of the custom of beautifying a garden for the summer months with plants of a half hardy character, which, in these days, is referred to as "the bedding-out mania," was largely the result of a lessened interest being taken in pelargoniums (better known as geraniums) with pretty foliage, which was their chief attraction. To-day, it is rare to see a collection of any size, and, in a way, it seems a pity that such plants should have been allowed to go out of favour. I remember them in my youth as being regarded as very important in summer bedding arrangements, but at the best they had but a short time out of doors—from about the middle of June in many quarters until early in September, when they were brought back under the cover of the greenhouse roof and warmth. It was not often that the plants were turned out of pots, as such a procedure was considered too risky for getting up the plants in early autumn. I remember in my own home how many of the tricolours were never trusted out of doors at all, but were kept in pots not far removed from the greenhouse roof; and were not allowed to bloom, so that the colour of foliage might be intensified. The foliage was the only thing to be considered. As far as I remember, Mrs. Pollock, with gold and carmine and brown intermingled, appeared to be the one sort from which some of the later varieties sprung. Bronze bicolors were represented by Black Douglas and Maréchal MacMahon. Silver tricolours by such sorts as Dolly Varden and Prince Silverwings. White-edged sorts seem to have been retained in many places, as not infrequently, where summer bedding is practised, one notices Flower of Spring and Bijou. It is some time since I saw in any quantity a variety, the centre of the leaf being green and the edge crimped with yellow, bearing the name of Golden Chain; and Cloth of Gold and Crystal Palace Gem, once to the fore as bedding plants in beds on lawns, appear to be dying out.

Fashions in horticulture—as in many other things — change, and the favourite of one generation is seldom met with in the next, and this is the position of these geraniums possessed of beautiful foliage. Will the pendulum swing again in their favour? Many plants to-day that furnish beautiful flowers are popularised through societies which have been formed —sweet peas, dahlias, roses, for instance. If it were possible to get together a really representative collection of these admittedly pretty coloured-leaved geraniums and exhibit them at one of the principal shows, would there not be many who own greenhouses, and who have never had an opportunity of seeing these plants, be imbued with a desire to grow them? I think so — but there is this against it, their growth is very slow and two, or even three, years in the life of some of them makes little appreciable difference in their size—still, putting this on one side, it is to be regretted that their culture is not more taken up. W. F.

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THE FRUIT AND KITCHEN GARDEN

Summer Pruning and Training of Fruit Trees.

PRUNING fruit trees in summer may take the form of successive shortening of laterals, removal of excess shoots and disbudding, *e.g.*, peaches. The objects of summer pruning are to aid the formation and ripening of fruiting wood, to control the development of the tree and to help the fruit to mature.

Apples and Pears.—There are two methods of summer pruning practised with the apple and pear. One is the cutting back of the laterals to five good leaves and the tipping of leaders at the end of July or in August preparatory to spurring back to two or three good buds in winter, and the other that of restrictive pruning. The latter is more complicated and requires adaptation according to the variety and locality in which it is grown. Essentially it consists in pinching back laterals which have attained the size of a pencil in June, July and August, to two or three good leaves, excluding the basal rosette, with the subsequent pinching of sub-laterals to one leaf. Those shoots which are smaller than a pencil should not be pinched, but merely bent over to check the flow of sap. This will aid the development of the basal buds and help to keep the spurs close to the main branches. Leaders should just be tipped. A point to be borne in mind with regard to training the specialised forms of trees, such as the cordon, the espalier, etc., is that regular and equal development of the sides and the upper portions of the tree may be obtained by an equalisation of the leaf area over both sides and the upper and lower portions of the tree by the removal of some of the excess shoots from the strong growing area and the cutting of others back one half, leaving those on the weaker side unpruned.

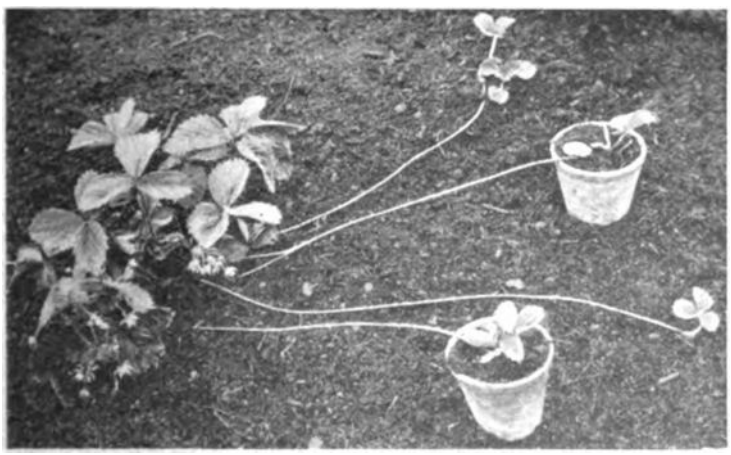
Peaches and Nectarines.—The summer treatment of the peach and nectarine is more one of disbudding, thinning and stopping than one of pruning proper. The fruits are borne on the wood of the previous year, consequently a fresh supply of shoots is required each year. All that is required for summer treatment is the rubbing out of the lateral leaf buds on the fruiting lateral with the exception of the terminal bud and one or two at the base of the shoot. Finally, only one basal shoot is left, the present fruiting shoot being removed to this basal shoot when the fruit has been gathered. This basal shoot should be trained into position as soon as possible. Any excess laterals may be removed if they are not required for extension purposes, or shortened back if a balancing of growth is required.

Plums.—The plum fruits on last year's wood and on spurs, so that it is not possible to treat all growths in the same manner as for the apple and pear. Shoots which are required for extension purposes should be trained in place. Shoots from spurs may be pinched back to five good leaves after they have attained the length of 9ins. to 10ins., stopping sub-laterals at one lead. Weaker growths may be left unpruned.

Cherries.—With cherries trained on walls the balancing of growth is of great importance, the tendency with sweet cherries, which fruit principally on spurs, being to grow more from the spurs at the top of the tree than at the base. Consequently, pruning must take the form of equalisation of leaf area by thinning. As a rule, little summer pruning is required, but if shoots tend to become overcrowded they may be thinned, and shoots of 1ft. cut back to 3ins. to 4ins. Morello cherries fruit on last year's wood and require little treatment beyond thinning.

Garden Peas.

I HAVE come to the conclusion that most varieties crop quite satisfactorily when well grown, and so I confine my remarks to some of the points connected with the words "well grown." The roots of the pea penetrate to a great depth; indeed, they must penetrate deeply if the peas are to carry a heavy crop, hence deep cultivation is a preliminary which must never be scamped. Manure should always be liberally used, natural or artificial, and to do its good work properly it requires to be thoroughly mixed with the soil to the depth dug. The manure used should contain little, never excessive, nitrogen, for the peas make their own nitrates and need little from the grower; phosphates and potash always tell, however. The trench system is probably best in all gardens, but more particularly where the soil is not all it might be naturally. Always let the soil preparation be carried out well in advance of sowing, but fork it over once or twice to aerate, sweeten and ameliorate it before the seedlings send their roots into it. Always scoop out a trench the width of the spade and sow evenly in this. Cover with at least 2ins. of soil and see that this covering is firm. Scatter soot on top—and fate will do the rest.—C.

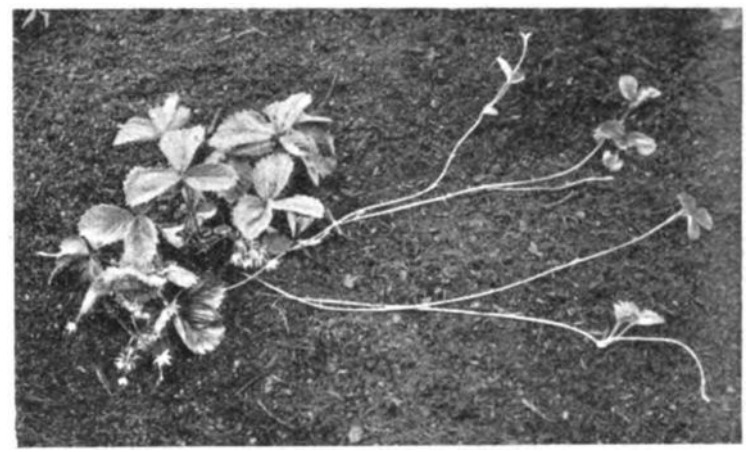


STRAWBERRY RUNNERS LAYERED IN 3IN. POTS

The pots are best plunged in the ground round the old plant.

How to Layer Strawberries.

STRAWBERRIES are increased by means of runners. These runners should be selected from the healthiest plants and pegged down as soon as the fruit is gathered. It is best to take no more than two or three runners from any one plant, the strongest should be selected, the remainder cut off.



A ROBUST STRAWBERRY PLANT WITH FOUR VIGOROUS RUNNERS.

In this case the runners are pegged to the ground.

Runners may be pegged down in small squares of turf, in 3in. pots in a compost of loam plus very decayed manure, or pegged to the ground. The runners will require a little water especially if in pots, but carefully avoid over-watering. Pots should be plunged in the ground round the old strawberry plant. Runners should be severed from the parent plant as soon as they are well rooted. This should occur somewhere about the end of July. As a change of stock is desirable every third or fourth year it will be necessary to take sufficient quantity of runners to replace them. Runners from maiden (one year old) plants are best.—B.

Summer Treatment of Raspberries and Loganberries.

THE summer treatment of raspberries and loganberries may be summarised under the following headings: (1) Cultivation, (2) Manuring, (3) Treatment of Young Canes, (4) Pests and Disease Control.

Cultivation.—The ground between the rows should be kept clean by hoeing and forking very lightly over and to prevent the loss of moisture. A thorough hoeing is as as good a watering, so, for the best results, keep a fine tilth.

Manuring.—During the summer months the plants should be given a watering with dilute liquid manure. This will greatly assist the fruit and the development of the plant. In addition a top-dressing of horse manure, well decayed, placed round the roots of the plants will keep them cool and be of great benefit. Never allow the plants to suffer from lack of moisture. Give a thorough watering when necessary.

Treatment of Young Canes.—Since the young raspberry canes will be the bearers of fruit the following year, their care is of utmost importance. Thinning of canes should continue. Select about six of the strongest canes and tie them in, remove all others, thus directing the energy of the plant into the canes chosen. The number of canes selected will vary according to the variety and the age of the plant. As soon as the old canes have fruited remove them and burn them. This will give the young canes every

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opportunity to become thoroughly ripened by admitting light and air.

CONTROL OF PESTS AND DISEASES.

Raspberry and Loganberry Beetle.—The larvæ of these beetle are hatched in the flower buds. They feed on the fruits and then hibernate in cracks in the bark. Remove the fruiting canes after fruiting and burn.

Raspberry Moth.—The larvæ of this moth bores into the base of buds and into the pith of the shoots, killing them. Remedy as above.

Clay Coloured Weevil.—The damage is done by the maggot, which feeds on the roots of the plant and by the weevil attacking the young fruit buds and blossoms.

Control.—Remove weeds and rubbish from plots and treat the soil with a soil fumigant. Shake off weevils on to a tarred board at night.

Tomatoes in the Open.

EXCEPT in the milder nooks of our country, tomatoes in the open are "a bit of a lottery," but it is well worth trying to grow them where space under glass is not available. Of course, a warm, sunny and sheltered corner is required and soil just right for them; probably more errors are made in regard to the soil than in anything else. The border reserved for them must not be richly manured. It should, however, be in good heart and, above all, it requires to be well drained and porous. Dig it over now, dig deeply; give it a liberal sprinkling of lime in any of its inactive forms and, before planting out, rake in a dressing of artificial manure, including potash (or wood ashes). It is also most important to have strong, sturdy, well advanced plants to plant out now. They should be, when planted out, well forward in growth, showing evidence of or actually carrying the first truss of flowers. Thereafter they are kept to a single stem, fed when the fruits begin to get large and not allowed to grow beyond one leaf above the third truss. Expose the fruit to the sun by pulling aside the leaves and aim at ripening three trusses of fruit rather than growing six unripened trusses.—H. H. A.

Mushrooms Outside.

THE essentials of successful mushroom culture consist in following out the natural conditions of growth as far as possible and the selection of a good grade of spawn.

Good horse manure obtained from corn fed horses and from which the long straw has been removed is best. It is necessary to use manure of the same age for the bed. The manure should be turned every other day for a while and then every three days, completing the turning process in about three weeks or at the period when the temperature has reached its maximum and is receding. Water, if dry.

Any situation will do for the mushroom bed, but under a north wall is best for summer purposes. The beds should be about 5ft. by 4ft. at the base and the ground which should be well drained must be covered first of all with 2ins. of good loam, which has been obtained from a pasture and stacked for some time. The manure should then be placed on top to a depth of 4ins., after ramming firm with a brick or shovel and then 1in. loam, with another layer of manure 4ins. and finally a top layer of ½in. of loam. Each layer should be compressed and the dimensions given are those of the compressed layers.

The beds should be made to form a ridge at the top. When the temperature of the bed is at 70 degrees to 80 degrees and is receding, plant the spawn, breaking the spawn brick into pieces the size of an egg, 1in. deep. In about ten days cover with another 1in. of loam. Keep the bed well watered.

In summer mushrooms should be obtained about six weeks from spawning and a bed should last about three months.

OUR PHOTOGRAPHIC COMPETITION

Some of our competitors seem to be under the impression that the photographs which they submit must of necessity be taken in their own gardens. This is by no means essential. As will be seen from time to time, awards are not so confined. There are beautiful and interesting garden pictures to be found all over the country, in public parks, in the gardens of friends, in wayside cottage gardens, as well as in those of more imposing character, and photographs of these are just as acceptable and likely to be instructive and interesting to other garden lovers. For these reasons they are equally as welcome as those taken in the particular garden with which the competitor is associated, though in the latter case opportunity is afforded of intimate notes of personal experience which in themselves may help other readers.

A few years ago this was a muddy pond; a drinking place for the cattle of the adjoining fields. Gradually it has changed its character by the introduction of various plants. Those proving unsuitable or unhappy have been removed. The remaining plants revel in luxurious growth and show to full advantage against the woodland background. Hardy primulas, gentians, greater spearwort, hepaticas and mimulus border the water, lilies and bog bean have become thoroughly established in the pond and the protecting shrubs include escallonia, spiræa, ceanothus and philadelphus in variety. The approach is by a winding pathway edged with pillar roses and lavender, and dwarf conifers stud the sloping lawn to the house.

The guinea photograph, sent in by A. DEACON, *Stockton.*

This shows an attractive way of planting up an entrance path to the house. A bright display has been obtained over a long period by planting forget-me-nots on each side, with blue and mauve irises and deep red tulips. Every year this border is dug over after the plants have finished blooming. W. F. WAGNER, *Harrow.* Award of 5s.

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This photograph, taken at the beginning of this month, shows a part of our terraced garden, with a dry wall erected just over a year ago. The bank in the foreground is planted with a variety of irises, campanulas, etc., and carpeted with pansies, double arabis and Mrs. Sinkins pinks. The honeysuckle over a trellis screen in the background on the right was planted only three years ago. MRS. P. S. RICHARDS, *Swindon.* Award of 5s.

This is a photograph of my garden and lily pond taken on May 22nd this year. The garden faces south and is situated within four miles of Charing Cross. In size it is 35ft. long and 22½ft. wide and it is of my own design and the result of my own work. The pond is four years old and the dry walls two years. The pond itself is some 7ins. deep and about 1½yds. square and contains water lilies. There are many rock plants on the dry walls surrounding the pond, including aubrietias, alpine phloxes, Arenaria balearcia, thymes, sedums, and catmint. W. S. SANDIFORD, *Upper Tulse Hill, S.W.2.* Award of 5s.

This shows a small portion of a terrace garden built entirely by my husband and myself. The work was only commenced in January of this year and I think it now shows how wonderfully well planted a new piece of rock work, such as this, can look, even in a short time. Once it becomes really established it will gain greatly in appearance. The flowers in the border are aquilegias, geums, aubrietias, tulips, etc., and wallflowers in the main bed. None of these plants was planted until February, and the result is now very gratifying. MRS. E. RICKARD, *Cradley, Malvern.* Award of 5s.

This photograph of a portion of my garden, which is now only in its second summer, illustrates the effect which can be rapidly obtained by the careful grouping of lupins in the mass. They are white, yellow, blue, violet and pink, mostly raised from seed at very little cost. Here and there a tall anchusa is placed to enhance the effect. The foreground round the sundial is what may be called a rock garden in one plane, composed of cushions of white saxifrage (S. Wallacei), pink thrift, blue veronica and pinks. Early in the spring blue primroses cover the ground. This little garden is at the end of the lawn about 18ins. above lawn level. The whole was built up of waste earth and stones. E. CAHEN, *Dunsford.* Award of 5s.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

PROBABLY no other occupant of the garden has suffered so much from the unseasonable weather as roses. Their backward condition is not confined to any particular area or locality, but extends over the greater part of the country. No sooner does the young growth make its appearance than it succumbs to the frost at night-time and subsequent exposure to the sun during the day. These extremes of temperature began in the early days of May and have continued in a more or less degree ever since. To emphasise the absence of summer weather further, ground frosts ranging from one to five degrees were experienced on successive mornings during the second week of June; and the prevalence of a northerly wind threatens a continuance of chilly conditions. This late cold spell had an injurious effect on apples as the fruit which had just set and gave promise of a plentiful crop, was nipped so severely that the thickly clad clusters have disappeared from the branches and provided a brown carpeting on the surface soil underneath. It is all very discouraging.

As some amateurs have a hazy idea regarding the proper time for pruning shrubs, it is opportune to remind them that a number of flowering shrubs should be cut immediately after the period of bloom is over. The extent of the operation varies according to the character and habit of the species, but as a general rule very little pruning is required. This applies particularly to the flowering currant, azalea and berberis, which belong to that class of shrub that only requires any straggling growth to be cut off with the object of improving the form of the bush. Lilac and broom, again, need different treatment. The shoots of the former which have flowered should be thinned out and cut back to within a few inches of the old wood, while the strong growing species of the latter must be pruned annually to keep them within bounds, but they must not be cut back into the old hard wood.

In a recently published work on vegetable gardening the author says that "it is not good management to dig in manure at the time of planting potatoes," and to emphasise the point he adds in italics, "*it is distinctly bad management to line drills with manure and place potatoes directly upon it.*" Singularly enough, I expressed somewhat similar views at a meeting of Mossparк Horticultural Society a few months ago, but the meeting heard a different story from a member of the trade, who stated that the best potatoes he had seen in Dumfriesshire were grown on that very system which was largely and successfully practised in different parts of the country. Theory and practice were at variance, and, as the latter was justified by results, growers will adhere to the old-fashioned methods of culture.

Many readers are familiar with Incarvillea Delavayi, a beautiful hardy perennial with rosy carmine bell-shaped flowers spotted with yellow and brown. It is usually grown in masses or in beds by itself in soil that has been well nourished with peat or leaf-mould; but I was agreeably surprised to find it thriving on a wall in an enthusiastic amateur's garden within the city boundary of Glasgow. Two years ago a specimen of that well known variety was planted in a pocket in the stonework, and from the beginning of June the wall was resplendent with bloom. It would be interesting to learn if any other reader has had experience of I. Delavayi as a wall plant in Scotland, because its behaviour at Glasgow not only testifies to its hardiness, but suggests an increased sphere of usefulness as a garden perennial. Later on, I intend to describe this remarkable garden, which has been created and formed by the owner himself. The pillars and stonework forming an ornamental parapet or balustrade were brought from Hamilton Palace, and, together with a sundial, have been embodied in a scheme that is pleasing and distinct from the orthodox forms of landscape gardening. Moreover, it demonstrates the possibilities of gardening in an industrial city whose atmosphere leaves much to be desired.

Rhododendrons are flowering irregularly this year, and complaints regarding the absence of bloom are quite common on the part of small growers who introduced a few specimens within the past three or four years. It is a usual experience for the plants to produce a profusion of bloom in the first season after planting and fail to flower in successive years. Contributing causes may be traced to the practice of Dutch raisers who export their products when they are liberally clothed with flower buds and to the subsequent non-removal of the seed vessels after the period of bloom is over; but it is more than likely that the disappointing results are due to unsuitable soil conditions. Light loamy ground which is naturally moist and well drained is best suited to the welfare of rhododendrons; but they also thrive in heavy soil, provided lime is not one of the constituents. Leaf-mould is a great help in keeping the root system, usually to be found near the surface, moist and cool, and, being moisture-loving plants, copious supplies of water during dry weather are advantageous if the soil is sweet and suitable. Many of the hybrids are as hardy as gorse, but they do not all flower sufficiently late to escape the late frosts in May, and in our uncertain northerly climate the amateur gardener will obtain more satisfaction by observing the principle of "safety first," which may, in this case, be interpreted as restricting choice to those varieties which can withstand the weather and do not open their flowers before June.

Housewives who are in need of a good room or window plant should try an imantophyllum, an evergreen subject with long, strap-shaped, thick, leathery, glossy leaves which send up spikes of bright orange red tubular flowers every spring. There are several beautiful new hybrids with colour variation which are prohibitive in price, but one of the older and common kinds that cost 3s. has stood in my dining-room window for thirty years. During that long period it has never failed to bloom, and is the very picture of health. Beyond an occasional teaspoonful of Thomson's Plant Culture it has received no special treatment, and, being pot-bound, it requires re-potting in fibrous loam and leaf-mould every second or third year. ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Phlox Laphami as a Pot Plant.

This lovely phlox is not only a plant suitable for the rockery or border, but is most charming for the cool conservatory. I have grown it for several years in pots and its lavender coloured flowers in early spring have been much admired. Take cuttings in June. They will make nice bushy plants for flowering the following spring, providing they are pinched well back (twice will be sufficient, so as to encourage plenty of growths from the base). I strike a few each year and grow them the second year in pots. These make good specimens, after that they can be planted out in the rock garden or border. Ample drainage is essential, instead of crocks I prefer mortar rubble and plenty of grit with the potting soil.—F. W. D.

Seed Sowing in Dry Weather.

Not a week passes at this season without some kind of seeds requiring to be sown, and as they are more liable to fail from heat and drought than they were in the spring from the cold, attention should be given to prevent this. In all cases open drills for the seed. Fill them with water at once and again in two or three hours' time, soaking the ground well before sowing; then sow and cover at once with dry soil. It is astonishing how long this dry covering will retain the moisture, and the seed will germinate and the plants grow freely.—J. P.

Potting Materials.

Now is the time to look out for potting soils for the coming season. It may be difficult and too expensive to get the best loam, but good results can be obtained with any close texture sward, the thing is to get plenty of fibre and not cut more than 4ins. thick, 3ins. is better. If plenty of road or lawn parings can be found, this would be useful; it should be stacked sward side downwards with a layer of leaf soil every 6ins. When this has laid for three months and is chopped down it makes splendid potting material. If this and ashes from the smother fire, charcoal, peat, leafsoil, sand, and moss, both hedge and sphagnum, are in readiness, work can be carried out without delay when the time arrives.—G. W.

A Cheap Weed Killer for Paths.

Nothing makes a garden look so untidy as weedy paths, and yet how often one sees them neglected, mainly because it is a tedious job to keep them clean by the laborious method of weeding. A cheap effective weed killer can be made by mixing a pint of creosote with a gallon of water (preferably hot). Sprinkle it over the paths with a water-can and rose, and it will kill all weeds in less than twenty-four hours. Care should be taken not to allow any of the mixture to touch border plants. A path measuring 3ft. by 75ft. can be done in a few minutes at a cost of less than a shilling. Two applications a year will keep paths absolutely free from weeds.—R. B.

Propagation of Alpine Plants.

To strike cuttings of alpines quickly and safely prepare a small frame or bell-glasses with sand and leaf-mould. Keep the cuttings closely covered in *full sun*, water once or twice daily, and in three weeks or less the cuttings will have rooted, and ought to be uncovered and fully exposed. Few failures result from this treatment.—N. S. C.

Leaky Water-cans.

As an alternative to soldering a leaking can the following is a good method: Spread some thick tar over the parts that leak, and on top of this pour some boiling pitch. When this has dried the can will no longer leak, nor will it do so for a long time afterwards.—J. L.

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WHAT OUR READERS SAY

PRIMULA MICRODONTA ALPICOLA.

SIR,—A plant under this name was put up for a certificate at the Chelsea Flower Show and won an award. It did not appear to me to be the true P. microdonta alpicola, but a cross, having the leaves of P. microdonta and the flowers of P. Florindæ. I had several similar plants on my stand and also one very distinct from the others, which I consider the true P. microdonta alpicola. I wonder if any authorities on primulas saw the plant which won the certificate and what opinion they formed as to its being the true P. microdonta alpicola or a cross.—JOHN MACWATT, *Duns*.

THE BOTTLE-BRUSH TREE.

SIR,—I am enclosing the photograph of a plant of Callistemon speciosus (Bottle-brush tree) of Australia. I purchased this as a small sprig with one bloom on it three years ago, and this spring it displayed over sixty blooms. I am surprised this handsome plant is not more popular, as it is easily grown in a cold greenhouse. It requires an abundance of water, especially while in bloom.—W. N. STANLEY, *Sydenham*.

THE BOTTLE-BRUSH TREE IS A HANDSOME AND EASILY GROWN PLANT FOR THE COLD GREENHOUSE.

CAMELLIAS OUT OF DOORS.

SIR,—In a recent issue of your paper I saw an interesting note on the growing of camellias out of doors. Your readers may be surprised to learn that in our gardens in County Down, about three miles outside Belfast, we have a bright red camellia, a semi-single with white blotches on the petals and a yellow centre, which blooms beautifully every spring in the open air. This tree was planted out several years ago, having previously been in one of the hot houses, and has been most successful. It is in a sheltered spot and there are two or three other camellias beside it, one of these, a lovely pale pink, has also bloomed this year, but the red one has excelled itself this season, being absolutely covered with flowers, and on May 15th I cut a branch from it with six blooms on one stem!

I thought this would be of interest to you and your readers, and this must testify to the mildness of our Ulster climate!—FLORENCE E. HENDERSON.

TRANSPLANTING POPPIES.

SIR,—I was quite interested in an article you published on transplanting poppies. For three years we have been raising annual and perennial poppies for the trade, in wooden boxes or flats as we call them. When the seedlings are large enough, we transplant them into boxes containing heavy soil and later cut them out and set them into the garden without the slightest wilting or difficulty. Our customers have equal success. Our surprise was great at our first success, because we had always believed such transplanting impossible.—MRS. HERBERT S. HICKS, *Rockford, Illinois, U.S.A.*

SLUG REMEDIES

SIR,—Every gardener must be interested in the letters appearing in THE GARDEN referring to the slug pest. Remedies are of two kinds—the one killing the slugs, and the other protecting the plants. This refers to the main practical effect of the treatment—the substances used are all capable of killing slugs if applied in sufficient quantity and sufficiently intimately to the slug.

We know that slugs die when common salt is sprinkled on them. We also know that a ring of fresh soot will protect a valued plant—so long as the soot remains dry, slugs will not cross it. A soluble neutral salt, such as finely ground kainit, scattered over the ground will kill many of the slugs that happen to be on the surface, and the lethal effect is greatly increased when a soluble poison, such as copper sulphate, is added to the kainit. But to kill, these substances must fall on the slug. Slugs underground, or otherwise protected, escape, and rain rapidly dissolves and dilutes the dressing so that it has no lasting effect.

The writer's own experiments indicate that an alkaline solution of copper sulphate and commercial ammonium "carbonate," or the same mixture (Cheshunt compound), applied dry, may be used in greater concentration without harm to the plants.

It is, however, to a different class of compounds that we look, after experiment, for the greatest measure of slug control. These are solid substances, not substantially soluble in water, but having a high vapour pressure at ordinary temperatures. They are of the class known as soil insecticides, or sterilisers. Naphthalene and p-dichlorbenzene are typical. Such substances can be applied to land and worked into the soil, and when this is done they continue to permeate the soil with a vapour for many weeks, killing slugs and other pests, and in the later stages still making the soil so distasteful to pests that plants are not attacked. Reasonable doses may be forked in among growing plants if necessary, without harm to the plants. A number of commercial preparations of this class are on the market. Experiments with one of these ("Sterole") indicate that the preparation may be sprinkled over the ground at the rate of 4oz. per square yard without harm to plants. Ground treated this way was sown with lettuce seed one week after treatment in a slug-infested garden and there was no loss of seedlings. Experiments are continuing, and if results seem of general interest to gardeners, they will be communicated.—J. BERTRAM WARD, *London*.

EXPERIMENTS WITH PRIMULAS.

SIR,—I am conducting an experiment with primulas which I think may be of interest to a few of your readers. It is that of planting a number of primulas in fairly large blocks, with the idea of getting pure seed from the plants in the centre of the respective blocks, and also of testing their hardiness.

They are planted in a small pinetum, so get considerable shade as well as shelter, and the ground is always moist. In fact, the conditions are such as were recommended recently by THE GARDEN, and also, I think, written about by Captain F. Kingdon Ward.

I had made no preparations beforehand to have plants in a similar state; some were old plants broken up, others seedlings, and all the plots may quite well be mixed. Quite a lot of P. acaulis, polyanthus and varieties have been planted to separate blocks of the Candelabra primulas, but I have not taken any note of those. In all, about 2,700 plants were put in.

I give a table of the Asiatic primula planted under woodland conditions, with numbers from which you will see the losses are comparatively small, being on the average under 3 per cent., and some of the deaths were, I think, due to the plants being trampled on during the winter.

I have come across cases of pelorial growth in two species of the candelabra group—P. Bulleyana (F. K. Ward's variety) and P. Cockburniana. They were grown in rich soil with shade. The lower tier of the flower stem developed leaves as well as flowers, the upper part of the flower stem was broken off, and there were quite big tufts of leaves by autumn, with air roots at the base. Those tufts were potted up; they struck readily making strong growth. They were grown on in a cool frame, but, unfortunately, were planted out before the cold snap in the end of April, when they were badly scorched by the cutting wind and frost.

Name.	*Planted.*	*Dead.*
Primula × Ailin Aroon	24	0
Balmakewan hybrid, blotched	42	1
,, ,, striped ..	124	3
Primula Beesiana	29	1
,, Bulleyana (type) ..	66	3
,, ,, (F. Kingdon Ward's form) ..	104	4
,, capitata crispata (type)	89	7
,, ,, Mooreiana type	72	3
,, chrysopa	72	3
,, Cockburniana ..	9	0
,, denticulata (ruby) ..	7	0
,, involucrata	33	8
,, japonica (type) ..	86	1
,, ,, pink form ..	121	0
,, ,, white form ..	320	3
,, Juliæ No. 2	14	0
,, lichiangensis	8	0
,, pulverulenta (type) ..	90	3
,, ,, Bartley strain	15	1
,, reticulata	49	0
,, × Red Hugh	186	1
,, rosea	5	2
,, seclusa	115	7
,, secundiflora	141	1
,, Sieboldi	74	2
,, sikkimensis	101	1
,, Veitchii	71	7
,, vittata	71	1
	2,138	63

Losses 2.95 per cent.—WILLIAM LOW *Mentrose*.

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Summer Treatment of Grape Vines.

This is the first summer in a new greenhouse. My grape vine was thoroughly pruned, but the foliage now is so dense that the other plants, notably the tomatoes, get hardly any sun. Is it wise to cut away some of the larger leaves or shoots when they are too close?—J. B., Sydenham.

Select one good branch on each spur of the rod and retain it, removing all the others. Stop the branch retained at three joints beyond the show of fruit—the bunch of grapes—and afterwards sub-laterals while small, beyond the first leaf. Retain all main leaves intact.

Treatment of Lilacs After Flowering.

I have a number of lilac trees which have been planted about fifteen to eighteen years. Last year they had little blossom, this year they were excellent. What can I do to ensure a good lot of flowers next spring? To what extent (if at all) should I prune them? Some of them are rather shapeless. Round about and in among the main stems or trunks are a large number of small shoots from an inch or two to a couple of feet. Are these seedlings, or are they from the main root? Should I cut them down, pull them out, or leave them?—G. H., Sanderstead.

Remove the old trusses from your lilac trees when the flowers fade. Cut out all thin and weak twigs crowding the middle of the trees. The growths at the base of the trees should be removed, as they are suckers, not seedlings. Carefully dig or pull them up without damaging the roots of the trees. Shorten the longest branches of the shapeless trees to improve their appearance. Thin the new shoots at the ends of the branches if numerous, removing the weaker.

Cutting Back Helianthemums.

When is the right time to cut back helianthemums? I have some very old plants which are now carrying long, leafless, straggling growth from the roots. If I cut them back to the old wood will they break again?—G. I., Sutton.

Cut back to the hard wood immediately after flowering, or do it now if there are not sufficient flowers to make it worth while waiting for the growths to finish flowering.

Diseased Tulips.

I am sending some tulips for your inspection. The foliage of all the tulips in the garden has turned brown like this. Out of hundreds I have only picked about two bunches. We had very severe frosts here the first week of May, seventeen degrees for several nights running, and the gardener thinks the tulips were all frosted; but, since reading the question in a recent issue about "fire" in tulips and your reply, I wondered if these are infected in the same way. I dug up some of the bulbs and they appear quite healthy. I shall be much interested to hear your opinion. The tulips have never been like this before in this garden. I had 300 new bulbs last year which flowered splendidly.—E. L., Lanark.

The foliage of your tulips is infected with "fire." Some varieties are more subject to infection by this complaint than others, and the fungus spreads with great rapidity under conditions of overcrowding and damp atmosphere. The trouble does not enter the bulbs, but they should be carefully examined when lifted, to see that they are not attacked by any other pest. If they appear healthy they should be well dusted with flowers of sulphur before storing. The spores of the fungus may adhere to the outer skin of the bulbs, and this should be peeled off before the bulbs are replanted.

Pinching Sweet Peas.

My sweet pea plants are now from 12ins. to 20ins. in height, and nearly all of them are showing buds (from the seed growth). Only four plants out of fifty have, so far, developed basal growths or side shoots. As it seems to me very early for buds to appear (they were planted on April 21st, would you advise pinching out the buds now showing? They are very healthy-looking, but it is the first season I have known them grow so tall without any side shoots. Of course, none of them has ever been pinched.—G. S., Reading.

The late severe frosts in many districts did much harm to sweet pea plants. It may be responsible for the trouble with your plants. As it is now getting late in the season for the removal of flower buds—advisable in the case of stunted plants—we advise you to cut the opening flowers regularly, water and feed the plants, and no doubt with this treatment they will be satisfactory.

Replanting an Old Border.

Can you give me any suggestions as to replanting an old and very wild border? The border is about 20ft. or 30ft. by about 3–4ft. It is on a slight slope facing south, and is backed with a yellow Scotch briar all the way along, which looks very pretty now it is out; but the border is higgledy-piggledy—masses of cerastium spreading over it, knapweed, perennial iberis, and single rocket and other miscellaneous things. It seems to me that low-growing plants will look best on it; but I do not want to be at the labour of bedding it out each season. It is on one side of a path, with just a narrow grass edge between it and the path. Also, there is a bit of rockery near the house which is a terrible jumble—chiefly feet square of cerastium, with large ferns at the back. What is the proper way of dealing with these very overgrown rock plants? Should I cut away the greater portion after flowering? I intend taking cuttings. Would it be best to root up the whole thing in the autumn and replant with young rock plants? It is also all mixed up with ground elder.—O. W., Windsor.

Directly such plants as the cersatium have flowered, cut them back severely and insert cuttings of all that you like best in a cool border in some other part of the garden. Next autumn and winter dig up the whole of the border and replant. Treat the rockery in the same way, thoroughly clearing it of roots of weeds. The rockery may be replanted next March. Cerastiums should not be grown in a rockery. Raise some seedlings now of campanulas, delphiniums, lupins, pyrethrums, gaillardias, lychnis, Michaelmas daisies, Coreopsis grandiflora, erigeron and Scabiosa caucasica. In autumn sow seeds of antirrhinums—the dwarf and intermediate varieties—and you will soon have stock for refilling the border economically next year.

Insect Pests of Apple Buds.

I am enclosing some apple blossom buds which some insect attacks. All the apple trees are more or less affected. The buds appear all right until they unfold, and this insect then eats into them and ultimately the buds drop off. Could you give me any advice about this? The trees had grease-bands on and were sprayed in winter.—C. R., Yarm, Yorks.

The damage to the apple blossom buds sent for our inspection has been caused by the small caterpillars of the Tortrix moth. These caterpillars are most destructive, eating out the buds almost before they unfold and doing considerable damage later on to young foliage that does appear. The blossom clusters have also been damaged by the apple blossom weevil. To prevent similar damage another year we suggest that you tie a band of sacking or hay round the apple tree trunks now, to trap the weevils. Remove and burn the bands, with hiding weevils, in autumn. Spray the trees in January with a good tar distillate wash, instead of the ordinary caustic alkali, using Mortegg or Carbokrimp. In spring, spray the trees with arsenate of lead, once just as the bloom clusters begin to unfold, and again when the petals have all fallen. The important spraying is that with lead arsenate in early spring, so that bud-eating catepillars are promptly poisoned.

Treatment of Neglected Land.

I am shortly removing into a new house, built on a rectangular site of old market garden, containing 900 sq. yds. It is six years since it was a market garden and my intention is to design it very similarly to that described on page 338 of THE GARDEN *for May 28th. The land is a mass of nettles and rough grass, and I should like your advice on how I should prepare the land before starting the design. I have been advised to dig it 2ft. deep and bury the nettles, etc., or, alternatively, to burn all top growth and use the ashes for mixing with the soil. Another suggestion was to fill the whole site with potatoes.—A. M., Newcastle-on-Tyne.*

It is now too late to plant potatoes, but the advice was good. If it is convenient, take off all growth, weeds, etc., and burn the rubbish, preferably in small heaps all over the ground; the fires will then kill insect pests and seeds of weeds, the ashes enriching the soil. Do not bury roots of nettles or tap-roots of coarse weeds, as, if you do, you will have more trouble. After the burning of the rubbish, trench the ground and remove every bit of weed root that is found. By far the best policy is to devote time this summer to cleaning the ground thoroughly, thus, than attempt to grow any crops, as the season is well advanced.

Silver-Leaf Disease in Plums.

I am sending shoot from one of my Victoria plum trees which appears to me to be attacked with silver-leaf disease, and I should be obliged if you would let me know if this is so. Last year I cut away a branch similarly attacked, but this year it seems to be spreading to other branches, and I should like to be sure of the cause of the trouble before cutting the tree further. Another branch is gumming badly and appears to be dying. Could you tell me the cause and preventive measures? This tree has always been troubled with suckers.—R. F., Dartford.

The plum shoot sent for our inspection is undoubtedly silvered, and all such should be cut out and burned. The "gumming" that has set in on another branch may be due to many possible causes, but as the tree is generally unhealthy it will probably be best to grub it up and burn it. With a combination of silver-leaf and gumming the tree stands very little chance of recovering, particularly as it is of the very susceptible Victoria variety.

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WHAT EVERY GARDEN NEEDS (see page 430).

THE JUL 7 1927

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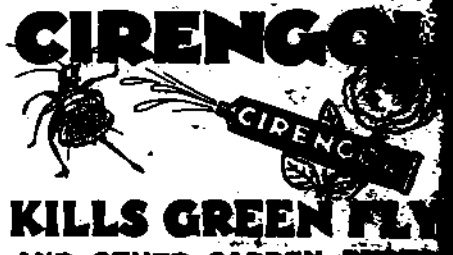

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THE GARDEN

VOL. XCI.—No. 2900. JULY 2, 1927. PRICE TWOPENCE.

FORTHCOMING FLOWER SHOWS

The National Sweet Pea Society.

THE Annual Show of this special flower society, which is to be held at the Royal Horticultural Hall, Westminster, on July 7th and 8th next, promises to be fully equall to any previous show. Earlier in the year the weather conditions were very unfavourable to sweet peas, but the spell of warmth and the more recent showers have improved matters considerably. The society has arranged several new classes for the amateur members. One, which should be popular, is open only to those who have never won a first prize at one of the Society's shows. There is another for members who grow their own sweet peas unaided, while the Novices Division, which is always so popular, has been increased. The new London County class for sweet peas grown within the L.C.C. area, should prove to be very interesting. The annual outing of the Society will take the form of a visit to Reading on July 8th, when Messrs. Sutton and Sons have invited members to see their general trials, as well as the Society's novelty trials. The address of the National Sweet Pea Society is 19, Bedford Chambers, Covent Garden, W.C.2.

Southport Flower Show.

THE schedule for the fourth annual Flower Show at Southport, to be held on August 24th, 25th and 26th next, is of a particularly comprehensive nature, and it is clear that the municipality responsible for the organisation of these wonderful shows is determined to spare no effort still further to enhance the great reputation Southport has already achieved by reason of the amazing success which has attended the three previous flower shows held in that charming garden city on the Lancashire coast.

This year the Flower Show Committee have pleasure in announcing that they have arranged for the British Carnation Society to hold their thirty-third show in conjunction with the Southport Show. The Society's classes are incorporated in the Southport schedule, copies of which may be obtained, post free, from the Secretary of the Southport Flower Show, Town Hall, Southport.

The total value of the prizes offered at the 1927 Show exceeds £4,000, included among which are many new trophies. The *Daily Mail* £100 Gold Challenge Cup for the best scented carnation registered with the British Carnation Society will again be competed for.

Among the numerous interesting classes in the schedule are the open championship classes for a decorated table of fruit, and for a collection of twelve distinct kinds of vegetables.

Rock and water gardens have always been a great attraction at the Southport Show, and it is anticipated that, with the additional ground which is being specially prepared for non-competitive formal gardens this year, the Gardens Section of the Show will be better than ever.

In addition to the Great Marquee—which will be still further enlarged, and will occupy about 11,000 square feet more than at the 1926 Show—there will be two auxiliary tents.

The section for the exhibition of horticultural sundries and appliances has become a very important part of the Southport Show, and, in view of this, it is interesting to note that at the forthcoming Show, gold and silver medals and certificates of merit are offered in thirty interesting classes.

Blackpool Flower Show.

THERE is no doubt that the organisers of the first annual Blackpool Flower Show, which is to be held in the new Stanley Park on July 20th, 21st and 22nd, have been successful in compiling a schedule of classes and prizes for amateurs sufficient to induce them to exhibit there in large numbers. Included in the 324 classes are 200 specially for amateurs with over 600 substantial cash prizes and a number of silver trophies, and gold, silver and bronze plaques of an original and unique design.

Traders are keen in their support, and we are assured that there will be a record number of entries in the rock garden classes, while the non-competitive entries comprise several entirely new features never before seen at any provincial show.

We are reminded that the latest date for receiving entries is July 9th.

A Gardens Guild for Manchester.

READERS of THE GARDEN already know of the work which is done by the London Gardens Guild in encouraging residents in the congested and gloomy parts of London to brighten their houses by the growing of flowers. This great social work has now been extended to Manchester. A Gardens Guild is now being formed to carry out definite propaganda and organisation activities. An inaugural meeting for the inception of the Manchester and Salford Gardens Guild will take place at the Athenæum Club, Princess Street, Manchester, which has been kindly loaned for the purpose, on June 29th at 3 p.m. Our Manchester readers are invited to link themselves up with this movement by attending this meeting. The secretary is Mr. W. G. Ayres, N.D.H., and the headquarters are the Athenæum Club, Manchester.

This Week's Work

For Gardens in the South and Midlands.

Feed with liquid manure and soot water, sweet peas, dahlias and border chrysanthemums.

Continue the summer pruning of apples, pears and morello cherries.

Protect bush fruits from birds by throwing nets over the trees.

Sow cinerarias and herbaceous calceolarias.

Stake border carnations.

Thin the bunches of grapes and layer strawberries.

Plant out celery, winter greens and cauliflowers.

Top-dress tomatoes and cucumbers.

This Week's Work

For Gardens in Scotland and the North.

Earth-up main crop potatoes.

Transplant leeks for winter use.

Continue planting Brussels sprouts as ground becomes vacant.

Net strawberries and raspberries against birds.

Shorten side shoots of red currants and burn cuttings.

Give annuals their final thinning out.

Complete the planting of begonias and other late bedding subjects.

Sow short-horn carrots for winter use.

Pinch apple and pear shoots back to six leaves.

Thin French beans to 9ins. apart and water freely.

Thin polyanthus seedlings and bed the thinnings.

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SUMMER-FLOWERING TREES AND SHRUBS

THE great blaze of colour in the shrubbery comes in spring with the generality of the brooms, most of the barberries, the double gorse, the lilacs, the laburnums and flowering cherries and apples, to mention only a few of the more noteworthy. Some of the spiræas hang on a little later and the beautiful exochordas usually blossom along with the Scotch laburnums. After this there is apt to come a blank.

In favoured gardens Buddleia Colvilei is not far behind. In this country in the south and west it is fairly hardy in the open; in colder parts of the country it is surprising it is not more frequently tried as a wall shrub. Where climatic conditions permit, its successful cultivation presents no difficulty, as it is a strong-growing plant and when flowering freely, presents a striking appearance with its flower spikes of small pentstemon-like flowers, which vary in colour from rose purple to a rich dark crimson. There appear to be at least two forms in cultivation; one the lighter-coloured variety and the fine, darker-coloured form which has rather smaller flowers. This buddleia is readily propagated by striking the twiggy side growths as soon as they are firm enough to prevent damping, such shoots rooting readily under a bell glass in a cool house. Success is, however, more certain if a pot-grown plant is introduced to a greenhouse and the young growth secured for cuttings.

Then comes quite a number of the mock oranges, perhaps the very best being the species Philadelphus grandiflorus, which has the merit—as most of us think—of being scentless. P. inodorus is an allied species, though less elegant in flower and foliage. Some of the dwarf-growing Lemoinei hybrids are late to flower, notably P. purpureo-maculatus. Another very handsome (probably hybrid) mock orange is P. insignis, sometimes—especially in Continental lists—catalogued as "Souvenir de Billiard." This, like P. grandiflorus, to which it probably owns relationship, grows 10ft., 12ft. or 14ft. high. The flowers, produced as freely as on the small Lemoinei forms, are cupped and pleasingly, but not strongly, perfumed.

HYDRANGEA PANICULATA WITH ITS LARGE UPSTANDING TRUSSES OF WHITE BLOOMS. *This is an excellent shrub for planting in beds and borders for a showy display this month.*

About this season Romneya Coulteri first begins to expand its satiny, golden-stamened platters, while a great wealth of escallonias helps greatly to keep the shrubbery bright. The great stand-bys in this family are still E. macrantha, E. Philippiana and the hybrid between them, E. langleyensis. There are quite a number of new forms with Philippiana and macrantha blood—edinensis, newryensis and Donard Seedling, for instance—and these are useful additions to the shrubbery, but if I were confined to two escallonias, the sorts selected would still be macrantha and langleyensis, and probably if three were wanted, Philippiana, deciduous though it be, would be the third.

Escallonia rubra, somewhat in the way of macrantha as far as general appearance goes, is a taller grower, ultimately attaining a height of 15ft. or so. It is fairly hardy in most localities, but less handsome in flower than E. macrantha; nor does it, like that species, flower the year round. The only other kind useful for the general run of inland gardens is E. exoniensis, a hybrid of rubra parentage sent out by Messrs. R. Veitch of Exeter. This easily attains a height of 15ft. and the flowers are white or blush white. This, like E. macrantha, is a continuous bloomer and, given open weather, it is quite possible to pick sprays in mid-winter.

The ceanothuses of the americana and azureus clan, including the invaluable Gloire de Versailles, provide cloudy blue colouring at this season and, like the escallonias, they will see that the shrubbery is not devoid of blossom until late in autumn. Another beautiful shrub with the same estimable trait is the scarlet and yellow Desfontainea spinosa, which, alas! stands our winter outdoors only in favoured gardens. There is quite a batch of late-flowering brooms of which the blossoms last into July, but there is matter here for a separate article. The Spanish or rush broom, Spartium junceum, is really in a class apart, not only because it has a genus to itself, but on account of its really late-flowering and very distinctive characters. This is the only broom which is at all useful for cut flower. The golden, sweet pea-like blossoms never wilt when placed in water. The spartium is apt to prove none too hardy in bleak inland gardens unless given shelter. It will thrive in the poorest of soil and tolerates half-shade.

The hydrangeas are all summer and autumn flowering shrubs. The kinds usually met with in shrubberies are paniculata, including its sterile variety grandiflora, and arborescens, which produces masses of greenish or yellowish white trusses. A new sterile form of this, H. a. grandiflora, has pure white flowers, but, as in the typical plant, the trusses have a tendency to "go over" at the neck, especially after rain. The weakness of the footstalk is certainly a serious detriment to this hydrangea, which otherwise has many good points. Hydrangea Bretschneideri, which is earlier to flower than most, reminds one irresistibly of the wild Guelder Rose, Viburnum Opulus, when in blossom. It is quite hardy, but to enable

THE MOCK ORANGE (PHILADELPHUS) IS ONE OF THE BEST OF SUMMER FLOWERING SHRUBS. IT IS AT ITS BEST DURING THE PRESENT WEEKS.

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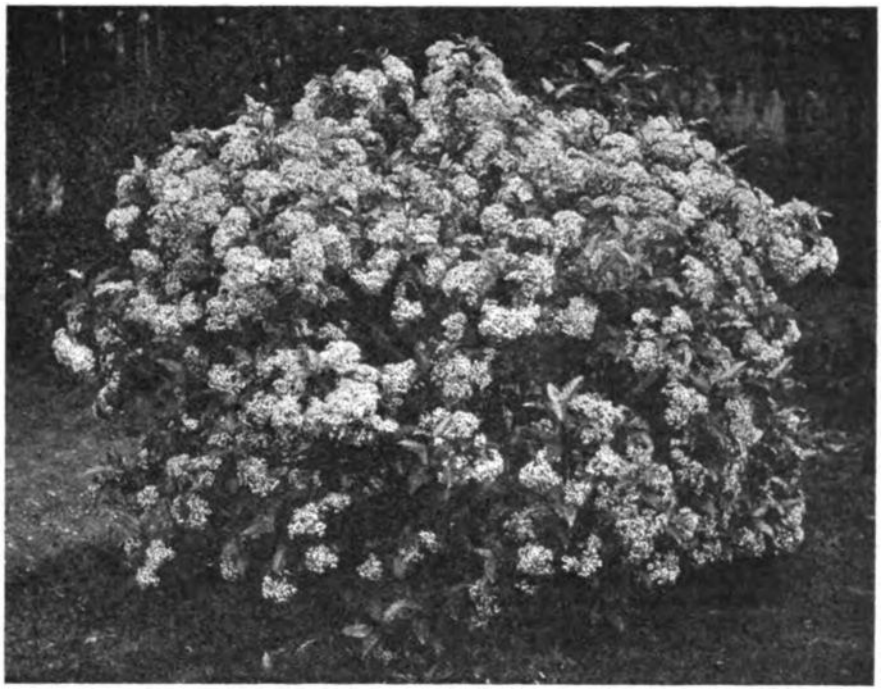
t to flower freely, should have a sunny corner.

Hydrangea hortensis is hardy enough anywhere near our seaboards, and may be seen outdoors in many a cottage garden in mid-Sussex—to go no farther afield—but is unreliable at Kew. Where the type plant stands outdoors the fine variety Mariesii should also be grown. The marginal flowers of this variety only are sterile and of pleasing mauve pink colouring. Comparatively few in number, they are rendered conspicuous by their size, being often 3ins. across. There are, however, at least three forms of Hydrangea hortensis—or, at any rate, very closely related species—which will stand outdoors in many of the more favoured inland counties. These are called acuminata, Lindleyi (or japonica) and stellata, the two former with sterile flowers only at the corymb margin and the last named with curious "double" flowers.



OLEARIA MACRODONTA IS ONE OF THE BEST OF SUMMER FLOWERING SHRUBS.

The great glory of the late summer and early autumn shrubbery, however, is Buddleia variabilis. This was not always a highly esteemed shrub, and for its neglect there are two explanations. In the first place, the forms originally introduced from China were really not comparable to those collected a few years later mainly by Mr. E. H. Wilson; secondly, the necessity for hard pruning, if really fine trusses are desired, was probably not, at first, so well understood. The best forms in cultivation are (in their order of commencing to flower), Veitchiana, magnifica and superba. There is usually a week or ten days between Veitchiana and magnifica, and a good fortnight between the latter and superba. Veitchiana and superba are of much the same lilac and orange colouring, though the latter makes a finer spike. Magnifica, however, has flowers of richer colouring, a deep but bright violet purple, contrasting well with the orange at the throat.

No reference to summer-flowering shrubs would be complete which overlooked the olearias. The species illustrated on this page (O. macrodonta) is not only quite the handsomest, but one of the earliest to flower. It stands outdoors—away from a wall—in some of the midland counties, and is much hardier than is generally supposed. The same may be said of O. stellulata and the very similar, but rather laxer and larger-flowered O. Gunniana. The tenderness of the "Daisy-bush" family is largely legendary. Some of those considered most tender are at the present time hardier than many cistuses which are habitually grown outdoors, though the beautiful O. semidentata will not, at the time of writing, stand outdoors except in specially favoured districts. The fact is that it is unwise to accept evidence of a newly introduced plant's tenderness as final. Many species at first proved tender have in the long run acclimatised themselves, and this is particularly so with the olearias. A light, well drained soil and a sunny aspect should, of course, always be afforded the choicer ones. Olearia nitida, the curious semi-succulent O. nummularifolia and the truly remarkable O. insignis, which in its younger stages looks herbaceous, all stand outdoors in such inland counties as Warwickshire.

There are other families of plants which yield flower at this season, but, except the veronicas—the most useful of these is salicifolia—and the clematises, which are climbing shrubs, we have mentioned the showiest and most important, though mention should certainly be made of caryopteris and indigofera.

YELLOW DAISIES FOR THE BORDER

THE doronicums or leopard's banes are among the easiest of hardy herbaceous plants to cultivate. They are not at all particular as to the nature of the soil in which they are planted, although they favour a rather rich medium, more especially if the situation is a dry one. As for situation, that also is relatively unimportant, the doronicums being plants which will thrive in sun or shade. Every second or third year they should be lifted, divided and replanted, after digging over and manuring the ground. This operation should be performed directly the plants have passed out of flower, and showery weather should be chosen for carrying out the work, if possible; failing this, a good soaking of water should be given to the newly planted roots.

Given this simple treatment, the cultivator will be rewarded with a profusion of brightly coloured flowers during the early spring and summer months—blooms which are not only valuable for enhancing the beauty of the garden, but are also, by reason of the long rigid stems, eminently suited for cut flowers.

The propagation of leopard's banes is effected by division of the roots and by seed. Division is performed immediately after the plants have flowered; each single crown will form a good plant for the following year, and the strong growths from the outsides of the clump are the best to select for replanting. Seeds may be sown in shallow drills in the open ground from April to June inclusive. So soon as the seedlings have developed their first pair of rough leaves they must be carefully transplanted on a piece of prepared ground at a distance of about 4ins. apart. In the autumn they may be put out where they are to flower. They are useful subjects for filling flower beds, lifting them and removing them to the reserve garden when the summer bedding plants are put out.

THE LEOPARD'S BANE IS A USEFUL EARLY FLOWERING YELLOW PERENNIAL.

The following kinds are to be recommended as suitable for the great majority of gardens:

D. caucasicum.—Attains a height of from 6ins. to 18ins. and is very pretty both in flower and foliage. It flowers very early and is exceedingly hardy, being a splendid plant for shady situations, although it succeeds better in a position where it obtains the benefit of the sun.

D. austriacum.—Grows a little taller and is, perhaps, a slightly coarser plant than either of the preceding kinds. It thrives under similar conditions.

D. plantagineum excelsum.—Perhaps the best known and most useful species. It is taller growing than the foregoing kinds, and favours a rich soil. This plant usually produces a second crop of its delightful yellow blossoms in the autumn. A fine plant for the second row of the herbaceous border.

D. Pardalianches.—Grows to a height of 3ft. or even more, and produces its large yellow flowers during the summer. It is an excellent plant for naturalising in the wild garden.

T. H. E.

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WHAT EVERY GARDEN NEEDS

A few simple pieces of garden furniture of good design form a valuable asset to every garden. Apart from their value in providing comfort in the garden they lend beauty to the surroundings if they are well placed.

CHARM is achieved in a garden by a variety of means that should be complementary to one another in order to gain harmony of effect. Much is determined by the choice of flowers and plants, but no garden can be considered complete without well chosen and—what is more—well placed furniture.

Choice should be governed by suitability and the question of permanency. Light garden furniture is not, for instance, suitable in a position that demands some degree of permanency, such as a seat at the end of a garden path. Broadly speaking, therefore, garden furniture falls into two groups—permanent and occasional.

GARDEN FURNITURE IN A PLEASANT SETTING.

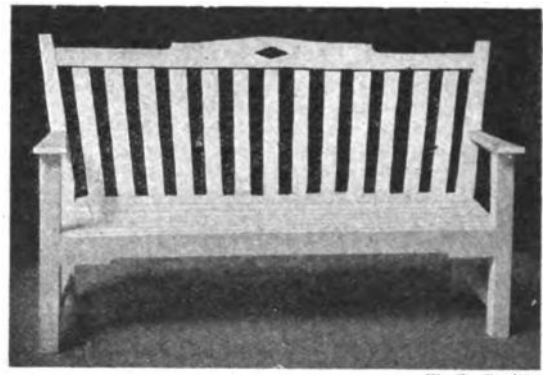
Chairs, a table and an umbrella for shade are all that is necessary to give that air of friendliness to a garden that is one of its chief charms.

In considering permanent furniture one is faced by a choice of two principal materials—wood and stone. Of the two, wood is, perhaps, the more generally preferable, as it is inviting as well as decorative. Ornament is the principal function of stone, which acquires an added attraction as time passes through the staining action of weather and the growth of moss and lichen.

Where permanent wooden furniture is being considered, we have the choice of three most suitable woods. Oak, teak and deal are thoroughly serviceable. The first two have a natural colour and grain that are attractive, and will not suffer from the effects of weather. Some people like to oil seats of these materials, but the writer's own feeling is that, in the case of oak at least, this method imparts a yellowness of tone that is displeasing.

If deal is used, it should most certainly be painted. White is the best colour to employ, more especially if the situation has a dark background; but light colours like pale yellow or blue have their place, and green of a suitable shade is always good. Seats of this kind may be obtained in shapes and styles to suit different positions. Those most in vogue are of three types—the straight, semi-circular and circular. Do not be satisfied with a piece that shows bad workmanship. "Any old thing" will not do for the garden. Furniture of indifferent character and poor manufacture is not only unsightly, but after a few years becomes unsatisfactory from the point of view of comfort.

Without doubt oak and teak are the best materials to use for wooden chairs, tables and seats, but deal falls only a little short. It is best to give seats a solid foundation on which to stand, preferably one formed of square paving, as then they are in some measure protected against the effects of damp. Although wood has its special merits, it should not be considered when stonework would look better. Stone seats may not be so inviting in appearance, but they are more durable and are generally wrought in architectural character and antique design. They are particularly suitable for corners into which they can fit snugly, or at the end of vistas, inset in a hedge of yew.



W. T. Revitt.

A WELL MADE SEAT OF SIMPLE DESIGN.

All wooden furniture should be painted white to blend in with the garden scheme.

We pass from garden furniture of a permanent character—or semi-permanent, if one prefers to keep wooden seats under cover during the winter—when we consider chairs and tables. They should be of light construction so that without much trouble they may be transferred to the house or some near-by shelter. As with seats, their design should be simple, and, as far as possible, they should conform with the former.

Chairs are to be obtained in a number of styles and materials. There are the collapsible kind, for example. These are exemplified by the plain deck-chair, which is the simplest of all. Then there are others that have arms of

Ernest R. Smith and Co.

Hugh Lane and Co., Ltd.

TWO DIFFERENT SETS OF MODERN GARDEN FURNITURE BOTH SUITABLE FOR USE IN A SMALL GARDEN.

Rustic furniture made of osier branches. *Cane furniture is both serviceable and attractive.*

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good width and sturdiness, on which tea-cups and ash-trays may be laid, while an air of slight formality is imparted by a straight back. It is advisable to have flexible backs and seats of such chairs made of weatherproof material that preserves the bright striped colourings which can be obtained, and lend a gaiety to the effect.

Tables, of course, can be bought of plain design in wood, but for those who have no shady trees in their garden beneath which to set furniture in hot summer, it is well to draw attention to those tables that have a hole in the centre through which the central stake of a large umbrella may be driven.

Hammocks belong to the subject under discussion, but the ordinary sort are hazardous affairs, and it is better to consider the purchase of a swinging awninged settee.

Finally, one should consider furniture of cane and woven fibre (the latter made in gay colour finishes). Though now obtainable of excellent design and manufacture, in respect of the garden it may be put in the "occasional" category, for, obviously, it would be unsuitable to have a cane seat as terminal feature to a garden vista. But it has the advantage that it may be equally well used indoors, or in the garden house. Both in form and colour it is delightful.

Smith and Ellis, Ltd.

A COMFORTABLE FOLDING CHAIR.

Although there is a wide variety of patterns and makes of garden furniture, it would be difficult to define anything so suitable as that made from English willows. The charming autumn tints of the natural wood harmonise with the garden and in no way appear to be out of place. A few points concerning willow garden furniture might be of interest; the furniture does not require painting or varnishing. It may be left out of doors all the summer, but must be packed in a dry place during the rest of the year. To those desiring a coloured scheme, the furniture can be peeled of the bark and stained any colour. There is now a wide variety of patterns of chairs, tables, settees, etc.

SEEDLINGS AND THEIR TREATMENT

ANYONE who has raised half-hardy annuals, biennials or seedling perennial plants, knows that the seed is sown fairly thickly in boxes or special seed pans. In due course the majority of these seeds germinate, where, unless the seed was very thickly distributed, the seedling plants do not suffer from undue overcrowding if they are allowed to remain until they have made their first pair of true leaves. If, however, such a pan or box of seedlings is allowed to remain after this stage is reached, and not pricked off, the crowding which would ensue would eventually cause the whole of the seedlings to become drawn and weak in their fight for light and sustenance. Strong plants will never result from such seedlings. In fact, the formation of the pair of true leaves should be an indication that the correct time has come for the process known as "pricking off." Pricking off simply consists in giving the seedling plants a shift into other quarters, usually larger boxes or pans, in order that they may be permitted to have more room for development. The space at which the plants should remain in the boxes after this pricking off largely depends upon the type of seedling, and whether frame space is valuable. The nurseryman is rather apt to crowd seedlings in the boxes when pricking off, because he has to produce plants by the thousand, and every inch of frame space is valuable. The amateur, however, should always err on the side of too much space rather than to crowd the seedlings together. Provided the pricked off seedlings are to be given another shift into boxes before finally planting out into nursery rows, or the open border, the seedlings can be placed closer together than would be the case if they were to remain undisturbed until planted out. When a second move is to take place, the seedlings may be inserted at a distance of an inch apart, allowing 3in. each way when they have to remain in the boxes until large enough to take their chance in the open ground.

It is not usual to make nursery rows of half-hardy annuals such as asters, etc. These are pricked off in boxes, allowing sufficient space for development, and planted direct into their flowering positions. Dahlia seedlings, germinated in heat, may require as many as three moves into boxes or pots before they are planted out. The same applies to hollyhocks and similar flowers when treated as annuals. It is such things as forget-me-nots, wallflowers or other biennial plants, together with all the perennial plants raised from seed which require to be planted in nursery beds. The nursery row simply consists of any part of the garden where the plants may be planted out in a line at distances which will permit of full development without crowding. Space can usually be found at the foot of the early rows of peas, which will come off shortly after the seedling plants have obtained a root hold on the soil. Or a row or two, or every alternate row, of early potatoes may be lifted, and the plants placed in the well cleaned soil thus rendered available.

The illustration shows two such nursery rows, one of seedling violettas, and another of seedling hollyhocks, growing in ground from which, a week or so previously, crops of early potatoes had been lifted.

THE TWO NURSERY ROWS TO BE SEEN ARE EACH FIFTY FEET LONG.

The double row of seedling violettas is the produce of a small packet of seed and contains over two hundred plants.

Even with so common a flower as the wallflower, it is surprising what an improvement is seen in plants which have been lifted and planted out, over those left to mature undisturbed in the seed bed. Forget-me-nots, too, are greatly improved by such a move, there being no comparison between the plants resulting from this little extra care and those left partially starved in the original seed drills. In passing, it might be mentioned that wallflowers when planted out in nursery rows, should have their centre shoot pinched out when the seedlings have got hold of the soil. This will cause the plant to break, keep it growing in a bushy habit, and will be devoid of the "leg" so often seen in wallflower plants besides throwing twice the quantity of bloom that will be given by a plant which has been allowed to grow away naturally.

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THE BUSY MAN'S PAGE

July Reminders.

PROPAGATE carnations and pinks by means of layers and cuttings.

Sow biennials, such as Canterbury bells, etc.

Transplant wallflowers, pansies, forget-me-nots and other plants raised from seed for outdoor flowering in the spring.

A final sowing of sweet peas for late flowering may be made.

Divide and replant polyanthuses.

Stake the flower spikes of liliums, hollyhocks, dahlias and any other plants needing support.

Mulch and water frequently such plants as sweet peas, dahlias, hollyhocks, phloxes, etc.

Remove fading flowers from plants generally to encourage the production of fresh blossoms.

Keep all surfaces on bed and border freely stirred with the hoe.

Cuttings of all kinds of hardy plants may be taken, and these will root freely under a hand-light in a shady border.

The budding of roses may be carried out as soon as the bark parts easily from the wood.

Trim evergreen hedges and box and other live edges to borders. Prune overgrown shrubs.

Plant celery, and earth up the early crop.

Plant winter greens of all kinds.

At the beginning of the month sow peas for a late crop, and at the end of the month sow cabbages.

Sow parsley and early varieties of carrot.

Sow lettuce and endive twice during the month.

Plant cauliflowers for autumn use.

Make the last sowing of French beans at the end of the month.

Sow a crop of turnips.

Thin out fruits where trees are too heavily laden.

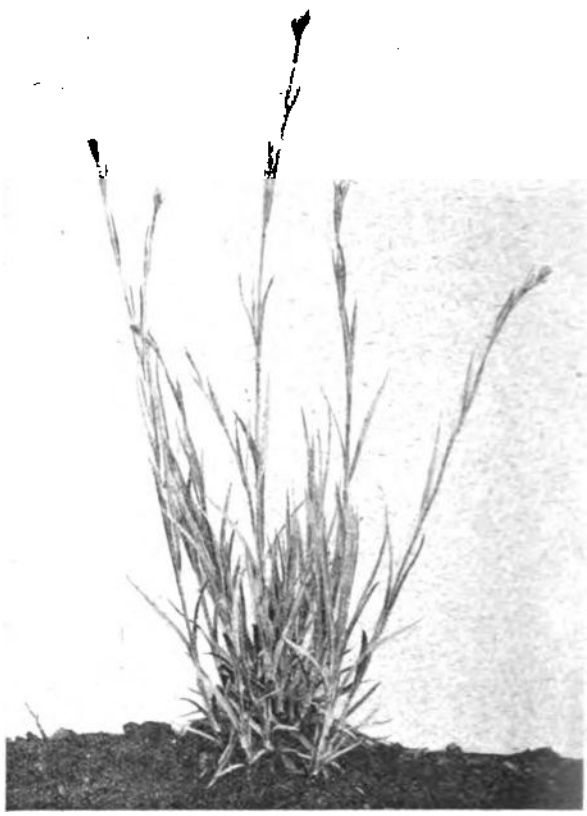
Thin out and atop the over-vigorous growth of fruit trees. This summer pruning should be done in stages, and may, with advantage, be spread over some weeks.

Many fruit trees will need mulching and watering in a dry season.

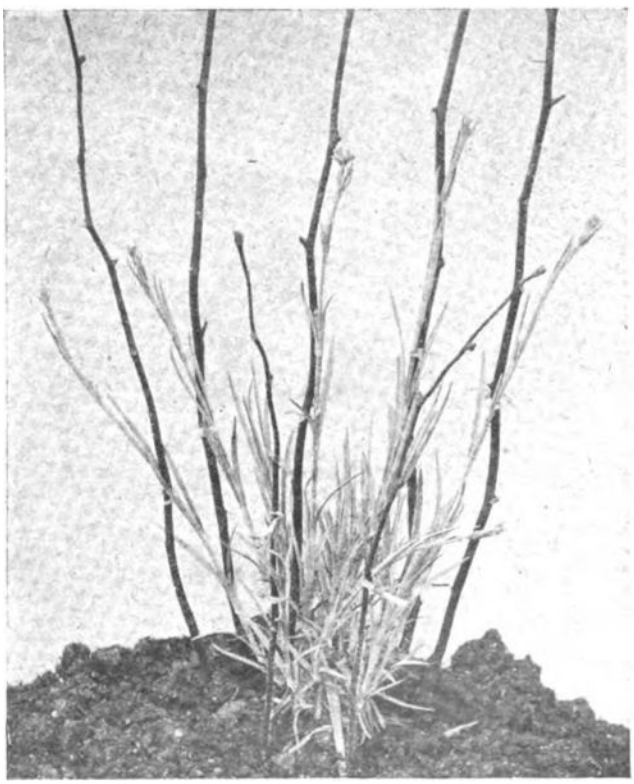
Keep a sharp look-out for the early runners from strawberry plants and layer these as soon as possible. Start the preparation of the new strawberry beds and remember that deep cultivation and a generous addition of well rotted manure to the soil will help much towards the securing of a good crop.

Staking Border Carnations.

IT is most essential that border carnations be staked as early in the season as possible, and that the stakes used do not detract from the natural beauty of the plants. Light twigs, old raspberry canes, green and natural bamboos all serve well; these are inserted close to the plant, but opening out upwards and cut off at a reasonable length. Fairly stout wire, coiled round a broom handle and then pulled out into a spiral stake, is a favourite method and quite useful where tying is objected to. Modern growers generally employ one or other of the patent carnation supports now sold, on account of their simplicity and permanence. However, the old plan, as illustrated, in which twigs are cut from the shrubbery and used, is still one of the best, because it does not destroy the natural effect of the plants and serves the purpose as well as any. As the stems extend it is, however, necessary to keep them tied, lest a storm break them off.



A BORDER CARNATION REQUIRES STAKING.
This work should be carried out at once.



LIGHT TWIGS USED FOR SUPPORTING THE GROWTHS.
These twigs can be trimmed off at the top.

Hanging Baskets.

HANGING flower baskets are always an attractive feature for the porch or veranda during the summer months. Baskets made of galvanised wire are the best, on the whole, for these are cheap and will last for years. The simpler these are in design the better, for one does not want to have the actual basket too much in evidence. Before putting in the soil the baskets should be well lined with moss to prevent the mould dropping between the wires. Rather a thick layer of moss is to be recommended, as this will help in conserving the moisture. In a general way, practically any good potting medium will do for the baskets, although very light composts are to be avoided because these will part with their moisture too quickly. It is a very good plan, after putting in the moss, to place a small saucer in the bottom of the basket. This will keep back a little of the water and prevent that sudden drying up which is so harmful to the occupants of the flower basket. Suitable subjects for the baskets are fuchsias, the ivy-leaved pelargoniums, the creeping campanulas, musk and creeping jenny (lysimachia). Care should be taken not to overcrowd the plants in any basket, and on no account must the baskets be placed straight away in their permanent positions. Until the plants show signs of having settled in, keep the baskets in some sheltered position where they will not be exposed to drying winds and strong sunshine.

How to Control Red Spider.

RED spiders are really small mites which attack the foliage of plants, both inside and outside the greenhouse. They are not easily seen, but close examination may reveal myriads on a plant and their little nests of fine web under which they live. These mites pierce the soft tissues of the leaves, suck sap therefrom, and gradually lower the energy of the plant or tree; under attack the leaves assume a woebegone and unhealthy appearance and the plant may die. Lack of moisture, bad ventilation, hot, fiery conditions, all lead to virulence of attack. Plenty of moisture and coolness are the first steps towards a cure. An insecticide also helps to hurry their departure; or soapy water, containing an ounce or two of fine sulphur per gallon, can be used; indeed, sulphur in any form is the best remedy, but liver of sulphur may also be used, 1 oz. in 2½ gallons. Always spray with force to penetrate the fine web; repeat two days later, and thereafter water and syringe the plants regularly.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Making a New Rock Garden.

NATURE planted the first rock gardens. They can be seen on any hillside. Some of the finest examples are to be found on the limestone hills of Yorkshire, where the weathered limestone forms cunning hollows in which highland plants can take shelter. Whole races of plants have adapted themselves to the conditions of a rock-strewn hillside. Saxifrages, rock roses, gentians and others are quite at home there. Artificial rock gardens find favour with many for the following reasons: The plants are all in miniature, and a large number of pretty varieties can, therefore, be grown in quite a small space; the appearance of the natural stone gives a picturesque and unconventional appearance to the garden; the succession of flowers, which can be obtained by a suitable selection, is a constant reminder of the hills where the air is clean and fresh.

Almost any kind of stone can be used to make a rockery, and I have seen a really charming rockery made from old bricks and clinkers. There are many types of rockery gardens. At Kew Gardens, the rockery is in the form of a ravine. In the Royal Horticultural Society's gardens at Wisley, the rock garden is on the side of a hill. In a small garden, the rockery can be in a corner, in the form of a mound or moraine. Build the bricks or stones in such a way that pockets of soil are left for reception of the plants. Fill the pockets with rich soil, with plenty of decayed leaves intermixed. Never leave hollows beneath the stones. A new rockery could be planted now with rock cress, aubrietia, London Pride, mossy saxifrage and violas. These will give early effects. Other easily grown rock plants are Arenaria balearica (which creeps right over the stones and bears star-like flowers), Ramondia (best for shade in a fissure), dwarf campanulas, trillium, oxalis, gentians, autumn crocus, sweet woodruff and sedums. Be careful to plant firmly, and water if the weather is dry. Weeds must never be allowed to grow, as they very soon spoil a rockery by robbing the soil of nourishment and smothering tiny rock plants. Go over the rockery every week or so, pulling out every weed, and at the same time removing any dead leaves or flowers.

Path Edges.

IN designing a garden or a flower border, some sort of edging to the path is usually made. It is possible to leave the plants in the border to grow over the edging and on to the path, but it is more usual to make a definite edging to form a frame to the picture. A grass path needs no edging. It should be slightly higher than the soil of the border, and the edge of the grass should be kept well trimmed. The border plants can be grown close to it. Crocuses, snowdrops and such dwarf bulbs are very effective grown just alongside the grass path. Old gardens have often brick edges to the paths. These can be very charming if they are moss-grown, and can be improved by clumps of aubrietia and arabis allowed to creep over them here and there. Glazed brick or tiles, glaring and unadorned, look atrocious, and were I the possessor of such a path edging I should hasten to smother the tiles with dwarf saxifrage or aubrietia.

The idea of an edging is, of course, conventional; nevertheless, a well defined line, particularly if it is a "living" one, sets off the border in a very pleasing manner, and, if it is evergreen, it often relieves the bareness during the winter months. A crazy pathway, edged with dwarf plants which just encroach on to the stone, can be particularly charming. The choice of plants need not be limited to one kind—arabis, pinks, crocus—any such subjects can be used in little groups, and their association with a crazy pavement is most effective.

For a straight edging of one kind of flowers only, there are a great many plants from which one can select a favourite. Pinks (Mrs. Sinkins), aubrietias, cerastium, violas, crocus, snowdrops, armeria (thrift), daisies, gentians, saxifrages—all such plants will make good edgings. It will be necessary to lift perennial edging plants every three years, or sometimes more often, as they overgrow each other. Also the weeds get rather troublesome as they often spring from the centre of the edging plants, and are difficult to eradicate. The best time to renew must path edgings is during showery weather, taking up the whole of the growths, and replanting small pieces with roots attached. They will have time to get well established before the spring flowering season comes again.

Box edging—now less grown than formerly—requires clipping two or three times during the growing season. It is quite a favourite with some growers, and where a new box edging is desired it should be planted now.

JULY IN THE TOWN GARDEN.

WHAT TO DO THIS MONTH.

1. *Spray potatoes as a preventive against blight.*
2. *Deal with woolly aphis—methylated spirit painted over the affected portion is a good remedy, or if the trees are badly attacked spray with a nicotine wash.*
3. *Sow Brompton stocks, forget-me-nots, Silene compacta, wallflowers and biennials, and transplant as soon as they are large enough to handle.*
4. *Layer carnations, clear withered annuals away, and plant out next year's biennials in their places.*
5. *Cut off flowering stems of delphiniums when the flowers fade, to promote second flowering.*
6. *Remove withered flowers from all bedding plants to extend the flowering period.*
7. *Thin out beet, carrots, etc., and keep the hoe going. Bend over tops of onions near the neck of the bulb so as to hasten their development.*
8. *Sow spring cabbage and stump-rooted carrots.*
9. *Water celery in dry weather, and dust with a mixture of lime and soot to ward off the celery fly.*
10. *Cut and dry herbs.*
11. *Sow salads.*
12. *Sow early varieties of peas for a late crop.*
13. *Pinch out side shoots from tomatoes, and keep tied.*
14. *Water vegetable marrows.*
15. *Summer prune fruit trees, and syringe wall fruits well with water as a preventive against red spider. Water copiously where required.*

Fruit in the Town Garden.

Summer Pruning and Training.

WHEN visiting gardens I have often been astonished at the remarkable skill displayed by amateurs in the cultivation of fruit. It is not always in the large garden that the best fruit crops are found. I saw a tiny garden in Ealing which, for its size, was a revelation in intensive fruit culture. Trained along the fence on both sides of the garden were several fine specimens of loganberries and American blackberries. In front of these was a row of bush fruits, including raspberries and black currants. Near the path were cordon apples and pears, and a number of gooseberries were trained as cordons against the wall.

It is often thought that the only important time for giving attention to fruit trees is in the winter when growth is dormant. There is no bigger mistake in the whole sphere of gardening, and for this reason: Shoots during growth are pliable and can easily be trained into the desired position. It is important, therefore, to give some attention at this season to the proper training and summer pruning of fruit trees.

The Desired End.

The object of pruning and training trees no matter what the kind, is to secure (1) an annual crop of well developed fruit and (2) a shapely and healthy bush or tree. Cordon gooseberry bushes, young espalier apple trees, or cordon pears should all have their leading shoots tied in. The laterals should be pinched back to about five leaves. Next week I will give a few hints on the summer pruning of apples and other tree fruits.

Late Dwarf Beans.

AS is well known, the dwarf bean is a rapid grower. Sow the seeds in drills 18ins. apart and thin out the seedlings to 9ins. apart in the rows. Ne Plus Ultra is the best variety for late sowing. Good results can also be obtained from sowings of carrots beet, kohl-rabi, onions, radishes, etc. But be sure in each case to sow early maturing varieties and to sow where they are to grow.

Some Garden Pests.

Onion and Carrot Fly.

Dust along the rows of plants with a mixture of soot and lime to keep the fly away. The same remedy can be used among celery and parsnips to keep away a species of fly which lays eggs that develop into the leaf-mining maggot. Paraffin emulsion is effective for these pests also if sprayed on the plants once a week until the plants are a few inches high.

Destruction of Ants.

Drive a metal rod or stick obliquely into the ground so as to get beneath any plants that are affected. Withdraw the rod and pour 2 oz. of carbon bi-sulphide (highly inflammable) into the hole, afterwards retilling it with soil. Another remedy is to use boiling water.

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NOTES ON THE FLOWER GARDEN

Garden Steps.

Some Simple Types that may be Used in a Small Garden.

STEPS are becoming more common in small gardens, to which they are a picturesque adjunct, even if only in flights of from three to six. The amateur will not find them difficult to construct if attention is paid to a few important points. The following notes apply to home-made steps as distinct from the elaborate stone structures.

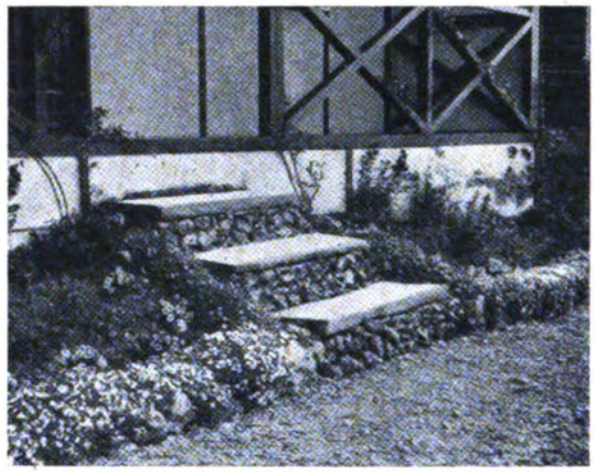
Grass is apt to be considered by the amateur as the easiest medium in which to work; nevertheless, it is not to be recommended for steps that are to be used much, as grass steps break away and subside with use, especially in damp weather, and they need endless attention if they are to be kept tidy and in good repair. If the builder wishes to avoid formality, stone or brick steps may be so constructed as to allow space for low-growing plants, as in crazy paving. All garden steps should be built upwards, the bottom one being the first constructed.

For brick steps old red bricks are the most picturesque. If they are set entirely in mortar, each step should slope slightly forward for water to drain off. Each step should consist of two courses; the lower course is best bedded in mortar, to give firmness, but pockets may be left for small plants, the upper bricks forming the "tread" in front should also be set in mortar, as they have to carry the weight when the steps are used, the back bricks may be bedded in soil to allow root room and moisture for plants.

Informal stone steps may be made from similar paves to those used in crazy paving; 18in. strips may form the tread and smaller pieces the second course, set in mortar, with earth pockets. The ground should be well prepared, and the front of the second step should abut on the back of the first, and so on, to prevent subsidence and slipping.

Picturesque steps may be made from wood, though it is best treated with creosote or some preservative to prevent its rotting rapidly and harbouring filth. If this is not done, larch is best, as it resists decay. It is simplest to use unhewn timber, two poles, about 6ins. in diameter and laid side by side forming each step. They should be laid in a similar way to the stone steps, to prevent slipping, and the crevices should be filled with soil for planting.

The best plants for garden steps are very low-growing ones, which become fragrant when stepped on, and which will survive such treatment without ill effects. It is essential to have such plants for the treads, and among them are the wild thyme, Alyssum montanum, Hypericum repens and Arenaria balearica. Seeds may be sown in fine soil in the joints, and near the back of the steps more erect plants may be used, such as Campanula pusilla and C. alba, Asperula hirta, Dianthus cæsius, small saxifrages and alpines, which are best established in spring. After planting has been done they should be watered freely, except during frosts, but after the first year the plants will need very little attention.—M. J. DEARDEN.



A SIMPLE FORM OF GARDEN STEP.

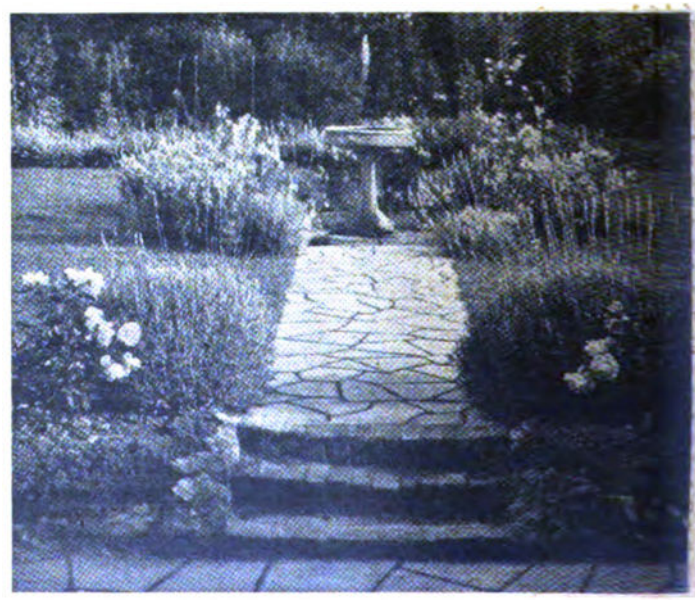
Made of paving slabs supported by cobbles embedded in cement to give a firm foundation.

An Attractive Shrub.

SOLANUM CRISPUM is commonly known as the Potato Tree, and a specimen about 15ft. high has been a source of interest during May and early June. Near London it is recommended as a wall plant; but around Chepstow it succeeds in the open without any protection, and it flowers freely every year. Four years ago a large holly tree appeared to be dying, and it was decided to plant a few pieces of Solanum crispum at the base. Now it is well clothed, and when in bloom it is quite a feature near the public highway. Being of quick and vigorous growth it is well adapted for such positions, and, wherever possible, it should be treated in this way, because it is then seen in all its splendour. Similar situations will occur to the observant gardener: old buildings, where it is allowed to ramble over the roof; and trellis-work; while for colder districts a south or west wall should be provided. Where space is available the plant can be allowed to develop; but if the area is restricted it may be pruned back in November or early spring, before growth begins. S. crispum is a native of Chile, from whence it was introduced about 1830, and although it cannot be compared with the tender S. Wendlandi in size of bloom and colour, nevertheless it is worthy of a place in every garden where accommodation can be found. With us it is nearly evergreen, and the delicate blue flowers are produced in clusters closely resembling those of the potato. The greatest display is in May and June, but occasional flowers appear till September. S. crispum is a loose-growing shrub or climber, and when in bloom it is a beautiful plant. Few, if any, can equal it at this season, owing to its graceful habit and freedom of flowering.

S. jasminoides is another of the same family, with clusters of pure white flowers. It is less rampant than S. crispum, and at Chepstow it is not quite so hardy. Both require similar treatment, and they will succeed in rather poor soil; in fact, a too liberal root run is often the cause of some plants dying during the winter months.—T. W.

INFORMAL STONE STEPS MADE OF SLABS OF PAVING STONES OF VARYING SIZES.



BRICK STEPS LOOK MOST EFFECTIVE WHEN USED ALONG WITH CRAZY PAVING.

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A Fine Aquilegia.

MUCH has been written concerning the long-spurred hybrids of aquilegia, and certainly they deserve a lot of praise, but for sheer beauty and splendour a group of A. glandulosa can hardly be surpassed, especially when it is associated with lemon or orange coloured companions. Here at Castleford it has the double-flowered gorse as a background, and the combination is noteworthy. A. glandulosa is, no doubt, the garden name of this beautiful plant, and it is questionable whether the true A. glandulosa is in commerce, so the columbine under notice is A. jucunda or a variety of that species. It is most generous in its green foliage, and the flower spikes attain a height of 18ins., being at their best about the middle of May. The blooms are showy, large and somewhat spreading, the colour being a beautiful sapphire blue with white centres. When planted in isolated clumps of a dozen or more examples, the brilliancy and beauty of this species is fully revealed, and few members of the genus can excel it for health and vigour. Truly it is a garden plant of more than average merit, and it will succeed in almost any soil, but perhaps would reach its finest development in a deep, rich, cool loam. Fortunately, this desirable plant can be readily raised from seeds, and, moreover, it will reproduce itself true. Seeds may be sown at once, or directly it is ripe, and the seedlings should be transferred to their flowering quarters when small, as better results are obtained than from larger plants. If it is necessary to transplant large clumps such work must be carried out early in the spring, before growth begins.—T. W. B.

THE DAINTY BLUE AND WHITE AQUILEGIA GLANDULOSA, AN ATTRACTIVE COLUMBINE FOR THE ROCKERY.

Purple-Spiked Lavender.

Its Uses and Propagation.

AMONG the many hardy plants which will be dealt with in the coming weeks is lavender, a sweet old English garden herb which never loses one whit of its popularity. Everybody warms to lavender and wants to grow it, but perhaps most people think of it in the summer stage, whereas we should desire to have it in our gardens for its perpetual charms.

Lavender can be used in many parts of the garden with excellent effect. A lavender hedge beside a walk is an old-time garden feature, and as popular now as ever. Formal edgings of dwarf lavender are good, and this low-growing kind, which produces a crowd of heads of deep purple flowers is useful to plant here and there on the top of rockeries and on dry banks. A bush of lavender looks well in the front of a shrubbery—of course, in a sunny position, for the plant is a sunshine lover. Odd sunny corners of a garden may have a bush or two also. Then there is the white lavender, as sweet and generous in flower as the purple, and a most attractive plant.

A sandy loam is ideal for lavender, but it flourishes in any good, well dug garden soil which is properly drained. Increase can be carried out now by pulling off small, sturdy side branches and inserting them firmly in sandy soil in an open position. The soil should be kept nicely moist in dry weather, and when the divisions are rooted they may be transplanted a foot apart to grow on in a nursery bed until required for their permanent quarters. In some soils lavender needs renewing every three or four years, in order to preserve a pleasing appearance. Propagation from old plants for this purpose is easy, and should be practised every year to an extent necessary to maintain a supply of shapely young plants to take the place of the old.

The flowers of lavender are collected in July and August when they are just open, the stalks tied into little bunches which are set up to dry, not in full sunshine. Later on the individual blooms are stripped from the stalks, and they can be utilised in many ways. A useful home preparation is lavender vinegar, which has long figured as a popular remedy in fainting and in cases of fatigue. It is best made in the following way: Lavender flowers are loosely filled into a quart bottle, and a pint of white vinegar added. This is allowed to stand in a warm corner for a week or two, occasionally being shaken up. It is then emptied into a jug, the bottle cleaned out and again filled with flowers. A piece of cotton-wool is then placed loosely in a funnel and the contents of the jug poured through that into the bottle again; only the vinegar passes through, of course, and the infusing for ten days is repeated. After the second or third time the vinegar becomes heavily charged with the perfume and is ready for use. A little is poured on cotton-wool and daubed on the forehead and wrists.

BUSHES OF SWEET LAVENDER ARE PARTICULARLY DECORATIVE WHEN BORDERING THE PATHWAY TO THE HOUSE.

The Lemon-Coloured Rock Madwort.

A CHARMING companion to the well known rock madwort (Alyssum saxatile) is its lemon-coloured variety known as A. saxatile var. citrinum. It flourishes under exactly the same conditions as the better known type, and is altogether a splendid plant for the front of the herbaceous border, the rock garden, dry wall or other similar situation, while its early-flowering character renders it a useful subject for spring bedding purposes. Cuttings inserted in shaded frames immediately after flowering and carefully looked after will make delightful sturdy little plants for the following spring. —T. H.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

SUMMER has come. Of course, the spell of dry, genial weather experienced in mid-June did not suit everybody, for there were arrears of bedding out to be overtaken and without the aid of the watering can no prudent amateur would plant seedlings and other young subjects in parched land and expose them afterwards to the heat of a tropical sun. That way trouble lies. But the change came in the nick of time as it were; rain fell steadily and without intermission from dawn till dark. Alternate periods of sunshine and shower have since created ideal growing conditions, the grumblings of the past are forgotten and for the time being everybody is happy. The passing of the late frosts and the prevalence of seasonable weather have been most welcome, and there are few things in the garden that do not indicate visible signs of improvement. A number of plants that were flagging and whose future had reached an uncertain stage are now standing erect and healthy looking, seedling annuals and vegetables are coming away quickly, and roses are beginning to show bud, but the greatest difference is to be seen in the sweet peas, which are progressing up the canes and stakes by the proverbial leaps and bounds. The growth of the grass and the weeds, too, has been stimulated so that more time must needs be devoted to the routine work of the garden during the remainder of the season.

An outstanding feature of Scottish gardens this season is the promising condition of the onion crops. Amateurs have long since held a high reputation as successful raisers of those large bulbs which reach maturity in autumn, and apart from the numerous entries and keen competition witnessed at flower shows in that particular class, there is evidence of increasing interest being taken in the production of that popular vegetable by small growers. In the gardens which I have visited recently the sizes of the beds ranged from 6ft. by 4ft. to four or five times that dimension, but the area had no relation to the quality of the onions, for all were in a forward state of growth and free from disease and those ominous signs which denote the presence of insect pests. The mining classes in particular take pride in their onion bed, and as a rule they have little to learn in the way of cultural methods. It is the common practice to raise the plants from seed sown under glass early in the year, but where these facilities are non-existent the seedlings are purchased in spring, after being hardened off, from those nurserymen who specialise in that branch of the trade. The secret of success lies in a deep and richly cultivated soil followed by liberal treatment in the form of liquid feeding or fortnightly applications of artificial manure and soot during the period of growth. Such stimulants, however, are generally discontinued by the end of July, otherwise the largest and best bulbs have a tendency to split. Ailsa Craig, raised by the late Mr. Murray, gardener at Culzean Castle, is the favourite variety.

While visiting Pollock Gardens the other day I was favourably impressed with the system of growing annuals in a long border. Instead of growing the varieties in customary rows the varieties were arranged in medium-sized beds. One which attracted attention was devoted to Cynoglossum amabile, a member of the hound's tongue family, which Mr. McTavish, the head-gardener, observed deserves wider popularity than it receives at present. Although biennial by nature, it is treated as a half-hardy annual, and the blue flowers, which are produced freely, contribute to the glory of the garden from early July onward. The plants attain a height of 12ins., and being of a bushy habit, require to be spaced about 9ins. or 12ins. apart. Readers who desire a novelty should make a note of Cynoglossum amabile and give it a trial next season

The craze for the bungalow type of residence and the creation of housing schemes all over the country are in large measure responsible for the formation of strange-looking masses of stone and earth which, by a stretch of imagination, are commonly called rockeries. Some of them are suggestive of a quarry, others are arranged with mathematical precision, while a third type would almost justify the inscription "Here lies John Brown." The initial mistake that is commonly made is the selection of the wrong kind of stone. White or light coloured material seems to be popular, and the besetting sin of the builders is to use double the quantity that is actually required. The effect is impressively garish and so kenspeckle that, as a wag remarked, "the owner should experience no difficulty in identifying his domicile when he returns home late on a dark night." In course of time, when the stonework is clothed or when exposed to the elements it will assume a subdued tone that might have been obtained at the outset by substituting the more common and less expensive dark grey stones usually found in the demolishing of old buildings. Compared with a rockery a rockeried bank is much more easily constructed because it is one-sided in its formation. Good drainage, however, is the foundation for both, and as far as possible the gardener should imitate nature by placing the stones at a slight angle in the direction of their length. Set the stones firmly in the soil and, above all, avoid placing them in an upright position, as stones set on end look unnatural.

Arabis is presently in its full splendour just now and growth is so vigorous that it is difficult to keep the masses of white bloom within bounds. When planted in alternate clumps with aubrietia the colour effect produced by the combination of white and blue is very beautiful. Catmint and aubrietia also associate together and make a pretty edging to a bed or border. The latter was used very effectively in an Ayrshire garden where the scheme was composed of delphiniums and lupins as a background with clumps of campanula, aquilegia and Geum Mrs. Bradshaw in front. It was the occasion of one of the outings of the members of the Glasgow and West of Scotland Horticultural Society, which have become very popular in other parts of the country as well. Dupplin Castle Gardens were visited by Dundee Horticultural Society last month, and recently the Hamilton and District Gardening and Forestry Association spent an afternoon at Neilsland. ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Repairs to Tools.

Tools, the heads of which have become loose, are a constant source of irritation. Repairs often prove to be but temporary remedies, for the heads work loose again in a short time. To make a sound repair plug the hole with an easy-fitting piece of soft wood. Remove the brass collar from the handle and replace by three or four turns of strong wire, say, about 16 S.W.G. Bore centrally with a gimlet to provide a starting point for the spike of the tool head, which is now driven into the handle. Hold the tool head and strike the handle on a firm surface for this operation. This method will be found of value if it is desired to put a different handle on a tool head; as, for example, the long handle to the hand fork mentioned in issue for April 16th, page 256. The preliminary binding with wire is the essential point.—D. C.

A Cure for Disease in Lilium candidum.

The appearance in recent years of disease in the bulbs of the lovely Madonna lily has robbed many gardens of one of its most charming features. Three or four years ago one of the finest beds I have ever seen was attacked, and ruin seemed imminent. Two years ago, however, it was decided to lift the bulbs at resting time and transfer them to a garden some distance away. The bulbs were carefully lifted, cleansed of all surrounding soil, and thoroughly dusted with flowers of sulphur before being replanted in their new home. The year following there was growth, but no flowers, but this year they were finer than ever before, and give every indication of continuing in robust health.—H. J.

To Keep Wasps Away from Grapes or Peaches Under Glass.

One of the best and surest methods, and the least trouble, to protect grapes or peaches from the ravages of wasps is to plant a few tomato plants in pots and place them in the vinery or peach house. Wasps detest the smell of tomatoes, and if this is done it will be found that the fruit will not be eaten or disfigured by the insects which are such a source of trouble to the gardener.—G. J. J.

Scum on Exposed Masonry.

Ornamental masonry often becomes covered with a green scum. This is unsightly and difficult to remove by ordinary washing. Obtain some hydrophioric acid, and make solution in four parts of water, and wash with this. Keep the acid clear of polished surfaces. Afterwards wash with soap and water. Sandstone, marble, polished granite and fancy stones are best painted with a paste of chloride of lime and water. First wet the stone. Then allow paste to dry on afterwards brushing it off.—T. H.

A Lawn Hint.

Where the lawn runs alongside the house wall or tennis boundary net, etc., one often sees a ragged line of grass which is difficult to deal with, as the mower will not reach it. Far better than laboriously clipping this is to remove a strip of turf about 3-4ins. wide along the walls, etc., so that a hoe can be run along periodically, thus maintaining a neat appearance always, with the minimum of labour. —F. T.

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THE FRUIT AND KITCHEN GARDEN

July in the Fruit Garden.

Strawberries.—Runners which have been pegged down into pots or turves will require water in dry weather. When the roots have reached the base of the pot, sever the runner from the parent plant and stand the pots in a cool, shady place for a few days. Clean the strawberry beds that have finished fruiting. Collect the straw, remove superfluous runners and hoe in between the beds. A light dressing of stable manure will greatly assist the development of the crowns upon which fruit will be formed next year.

Raspberries.—Water well if the weather is dry and renew the mulching, if necessary.

Apples.—Apply sack or grease bands to the apple trees early in the month to trap the caterpillar of the codlin moth. Look out for apple blossom wilt fungus and destroy all rotten apples.

Morello Cherries.—Tie in shoots for next year's crop and remove those not required by cutting away close to the main branches.

Netting.—The nets which have come from the strawberry beds will soon be required for throwing over the currant and gooseberry bushes. Raspberries should also be protected.

Summer Pruning.—Summer pruning which was started last month should be continued. All laterals which develop from the pinched shoots should be themselves pinched at one leaf. Trained trees can be balanced by the removal of growths and leaves from the stronger growing area, thus making for uniform development.

Watering.—If the season is dry, all wall trees will need constant attention with regard to water. A good soaking when the ground is dry is better than a number of partial waterings. Grass cuttings, make an excellent top mulch for the soil round fruit trees and help to conserve the moisture.

Mussel Scale.—This pest attacks all fruit trees and if the lice are present spray with a nicotine soap wash or weak paraffin emulsion early in the month.

Outdoor Vines.

ALTHOUGH in this country open-air grape culture is not carried out extensively, a good many people have a vine trained up a wall or, perhaps, growing along a veranda. It is to be feared that, in the majority of cases, the fruit secured is not very satisfactory, and it is certain that matters might be much improved by careful attention to a few points. Summer pruning should never be neglected, and this should be carried out before the growths have become too much entangled. In a general way one should leave only as many shoots as can be accommodated on the wall, or whatever the position may be, without overcrowding. It is best to stop all shoots one or, at most, two leaves beyond the bunch and to rub away all side shoots. Many outdoor vines are allowed to overcrop, and no spur should be permitted to carry more than one good-sized bunch. It is worth while thinning those bunches which look the most promising. The removal of a number of the inferior berries from a bunch will result in an increased size on the part of those that remain. Many outdoor vines suffer badly owing to want of water in the summer. Loosen the soil well round the main stem of the plant, and then saturate the ground with water quite often. Mulchings and the application of liquid manures will also be very helpful in swelling the fruit. Mildew is the only serious trouble which is likely to affect the outdoor vine. A common cause of this is extreme dryness at the roots, and here the remedy is obvious. Another cause is found in an ill drained position, and here the only thing is to lift the roots in the fall and to open up a trench to some depth in the bottom of which drainage material (stones, broken bricks, etc.) is introduced. Now and again an attack of mildew is brought about by uncongenial weather, and here dusting with dry sulphur over the affected parts will quickly put matters right. There must be no delay in applying the remedy, for mildew spreads rapidly and with disastrous results.

Summer Treatment of the Tomato.

Pinching and Stopping.—All laterals which arise in the axils of the leaves on the main stem should be pinched out as soon as they are formed. (The points where these young shoots arise are indicated in the illustration by the arrows.) For tomatoes outside no more than four fruit trusses should be allowed to form. When four fruit trusses have appeared, pinch out the terminal bud. Keep all side shoots pinched out as they appear. For

A STURDY YOUNG TOMATO PLANT WHICH WILL SOON NEED PINCHING AND STOPPING.

tomatoes inside, the number of fruit trusses carrying fruit may be greater. The number will depend upon the variety and the time of planting, *i.e.*, the length of time available for maturation of the crop.

Pollination.—To assist pollination go over the plants with a rabbit's-tail brush, gently brushing the blossoms.

Tying.—All plants should be carefully tied to their stakes as they grow, and when the fruit is maturing a supporting tie to the bunch is desirable.

Manuring and Watering.—Keep the tomato plants free from excessive moisture, as this is injurious to them. On the other hand, they should not be allowed to become dry. When the fruit has set, a top-dressing of well decayed stable or cow manure will be beneficial, and this may be supplemented by a top-dressing of nitrate of potash applied to the soil round the plant and watered in. The tomato needs a large amount of potash. The finest top-dressing to give tomatoes in pots or boxes is a light one consisting of chopped loam, cow manure and bone-meal. Too much nitrogen results in a soft tomato.

Feeding Tomatoes.

TOMATOES in full growth, carrying a large number of leaves and fruits are gross feeders, but it is most unwise to start off the seedlings in a rich soil medium. In such a case there is a distinct tendency towards the formation of luxuriant but comparatively fruitless growth. The best compost is mainly of good loam; this, with firm planting, means short, stubby growth and a good "set." In July, when the plants are growing fast, a top-dressing of a rich nature should always be given. This may be manure alone, or manure and soil in about equal parts, or soil enriched with artificials. Any seedsman will supply a good mixture for the purpose. Liquid nourishment may also be given and, when such a plan is preferred, the top-dressing may be reduced to a soil compost without manurial matter of great importance. Weak liquid from natural manure twice a week is a good average rule, or liquid food made by stirring 1 oz. up to 2 ozs. of fertiliser per gallon. Probably the best plan is to use natural and artificial "drinks" week about. Do not apply liquids to a dry soil; water first and several hours later feed. Do not feed, of course, for several weeks after applying a rich top-dressing.

Winter Spinach.

WHERE once the average gardener contented himself by growing a supply of the round or summer spinach only, and leaving the winter sort out of his purview, he now looks upon it as an asset, and provides accordingly. In mild winters one may have many pickings, and after a severe time it is so hardy as to recover quickly from any setback when milder conditions prevail. From July to September is a suitable period for seed sowing. This should be in drills, and may follow on ground occupied by summer spinach or early peas. Rows ought to be from 15ins. to 18ins. apart, and thinning out of the seedlings to 6ins. apart should be the rule.

From a July sowing one may gather many useful pickings in November, which will be found a change from winter greens.

I have noticed with interest during the last few years that many amateurs with quite small gardens contrive to find room for a row of winter spinach, and this is to the good; but sufficient should be grown to admit of a few leaves being picked from each plant at a time, without denuding them too much. On heavy land, a July sowing is best.—C.

A Second Crop of Broad Beans.

WHEN there is no special hurry in the matter of clearing the ground a second crop of broad beans may be secured in this way. After the final gathering of the first crop, cut the stems of the plants to within 4ins. of the ground. Loosen the surface soil round the plants well and, if the weather is dry, a few good soakings with water will be appreciated. In a very short while there will appear large numbers of new shoots which flower freely and set pods well. The beans produced in this way are on the small side, but they are very tender and sweet and in flavour are rather like green peas. If the pods are closely picked a good many dishes of beans can be thus secured almost to the end of the growing season.

Growing Fruits and Shade.

IN any summer pruning that may be carried out on fruit trees, care should be taken to leave plenty of foliage for the protection of the developing fruit. It has been shown that apples, pears, plums, etc., are very much

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harmed if they are suddenly exposed to strong sunshine. The intense light and heat has the effect of hardening the tissue and reducing the elasticity, so that the power of extending in response to the action of the sap is reduced. Any young fruit exposed to the full sunshine will be smaller than one shaded by leaves because the skin will be hardened, and it is not possible that the sap can swell the specimen in the proper manner. When the growth of any fruit is complete, the matter takes on a different aspect. After arrival at full size great benefit will arise from full exposure to the sun, as this will impart flavour and colour and also bring about a perfect ripening.

OUR PHOTOGRAPHIC COMPETITION

Some of our competitors seem to be under the impression that the photographs which they submit must of necessity be taken in their own gardens. This is by no means essential. As will be seen from time to time, awards are not so confined. There are beautiful and interesting garden pictures to be found all over the country, in public parks, in the gardens of friends, in wayside cottage gardens, as well as in those of more imposing character, and photographs of these are just as acceptable and likely to be instructive and interesting to other garden lovers. For these reasons they are equally as welcome as those taken in the particular garden with which the competitor is associated, though in the latter case opportunity is afforded of intimate notes of personal experience which in themselves may help other readers.

In spite of the poor, sandy soil and the north-westerly gales, this garden of blue and mauve flowers flourishes on the outskirts of a large city within a mile of the Liverpool Docks. During the past few weeks it has been a blaze of colour, with the iris, lupins, lilacs and bluebells. The beds were deeply dug and prepared some years ago, and they are periodically top-dressed. The common flag iris has been thinned out and replaced with the newer varieties with a view to prolonging the flowering season. The lupins were grown from Messrs. Downer's seeds, and young plants are grown annually from seed saved from the best blooms. The bluebells are planted in masses under the trees in the border by the busy high road.

The guinea photograph sent in by MISS HOBBS, *Waterloo, Liverpool.*

This little corner of the garden makes a study in white and blue. The white iris throws up its strong heads above a plant of white saxifrage on the left, and the gentian blue Lithospermum prostratum on the right. In the background is a clump of purple aubrietia. The combination of colour tones is a most happy one and the plants have been given positions on the wall where they would look most effective. There is a secret in clothing such walls with plants so that the wall itself will gain in appearance while the plants will be shown off to advantage. The small retaining wall was built three years ago with bricks which were available from the house when alterations were being carried out. MRS. MOLESWORTH, *Crawley Down, Sussex.* Award of 5s.

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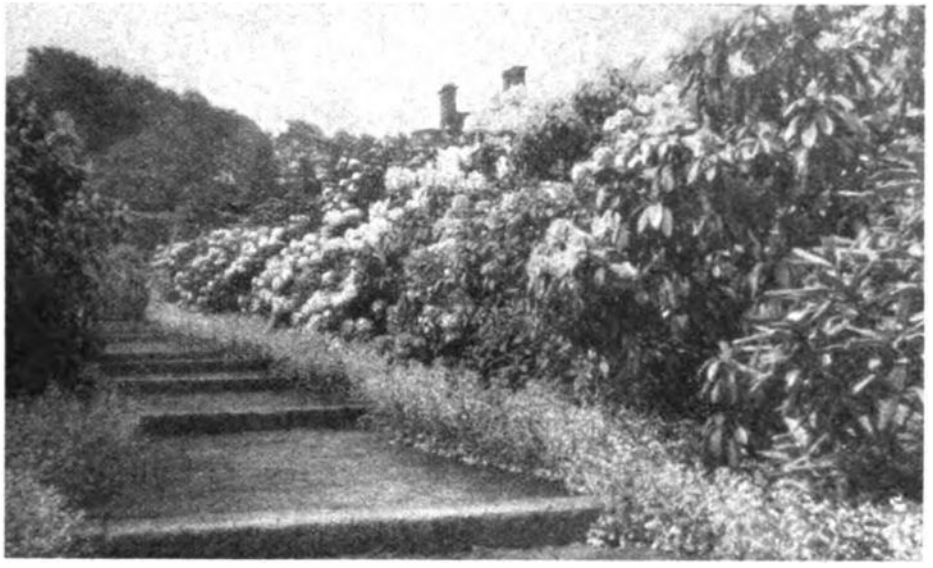
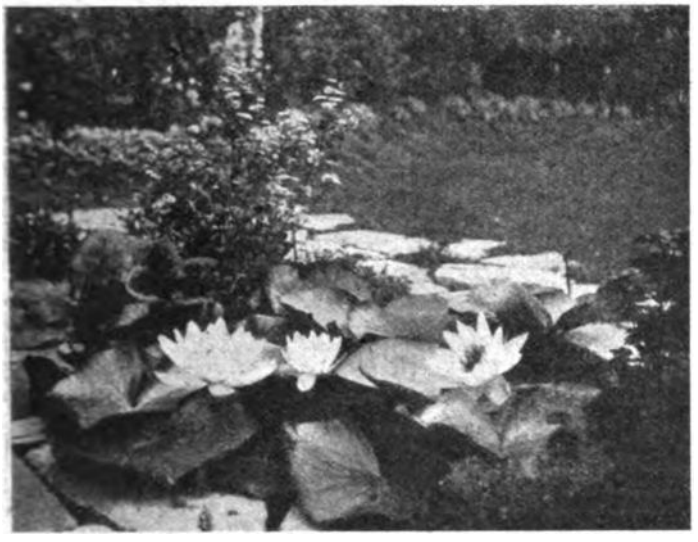


This photograph illustrates the value of mass planting of rhododendrons. During May they form a perfect riot of colour and greatly add to the beauty of the pathway, which they border with their handsome trusses of flowers of all shades of colour. They make a particularly fine display. London Pride has been planted as an edging to the path, and its feathery sprays of blossom look particularly attractive in front of the rhododendrons. T. HOWARTH HEAPS, *Keighley.* Award of 5s.

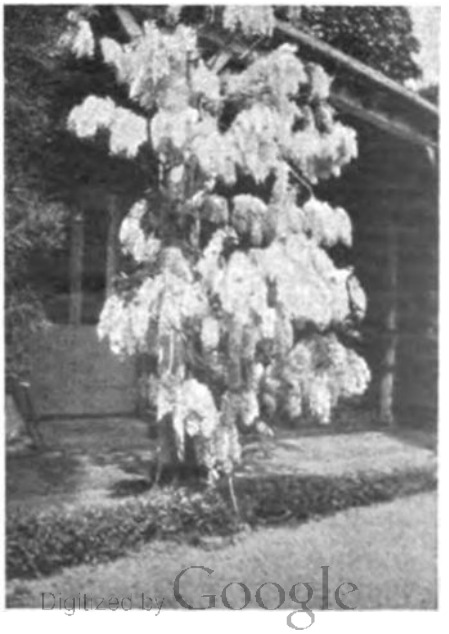


These water lilies are planted in a wire basket and placed in half a barrel with charcoal at the bottom. This is kept full of fresh water and the lilies have been most satisfactory. There are three of these barrels surrounded with paving stones and choice little moisture-loving plants. It is an idea which many amateurs may like to carry out in small space. MISS E. WINGFIELD, *Exeter.* Award of 5s.

The photograph shows a small group of plants which we call cultivated hyacinth bells. They are like an ordinary bluebell to look at, only these are in pink and white shades and require no cultivation whatever. They are exceedingly useful for filling up any gaps in the shrubbery where nothing else will grow successfully. In front of a greenhouse they are exceedingly attractive. MISS SMITH, *Ecclesall.* Award of 5s.

These two photographs illustrate different ways of draping a rustic pole, or the front of a veranda. On the left is seen Clematis Nellie Moser with individual blooms some 6ins. to 7ins. across. It looks very attractive surrounding a cordon plum. It is one of the most decorative of clematis varieties. The plant is now three years old. C. C. UNDERHILL, *Canterbury.* Award of 5s.

On the right is seen a very fine plant of Wistaria covering one of the uprights of a veranda in the front of the house. There are few more useful subjects for adding beauty to the house wall than this elegant shrub. MRS. K. CLARK, *Rye.* Award of 5s.



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VEGETABLES FOR WINTER USE

IT may appear out of place or at least premature to write about winter crops while summer has only begun, but it is one of the elementary principles of a gardener's life and work that he has constantly to be looking ahead and anticipating the wants of his household in respect of the food supplies that are produced in the garden. From a purely economical point of view it is even more desirable to raise vegetables for winter use, when market prices are usually high, than to grow them in summer when they are more plentiful and cheap. It may, however, happen that the limitations of space prevents many amateurs from participating in the late culture of vegetables to the extent that they would like, but in many gardens the ground is not utilised to its full capacity, for there is much that may be done in a practical way by double cropping the land, which simply means growing a late crop of vegetables on the ground previously occupied by early cabbage, potatoes, peas, etc.

In the selection of vegetables for winter use, consideration must be given to family tastes and prejudices. For instance, there are people, young folks especially, who do not like leeks; savoys and kale are not so popular as they used to be, and broccoli is an uncertain crop in certain parts of the country. But be that as it may, the gardener will require to make up his mind at once as to the kinds of vegetables that are to be grown, as sowing and planting are obligatory, at the very latest, in the early days of July, and no time must therefore be lost.

Brussels sprouts are not only popular, but they are a profitable winter crop. Seed sown outside in spring will have produced hardy young stuff that is ready to be transplanted, or plants may be obtained from a local nurseryman. The distance between the rows should not be less than 2ft., and 18ins. between the plants is sufficient space for most varieties. In common with other members of the brassica family, they like a good, rich soil, but it must not be heavily manured, otherwise there is a tendency on the part of the plants to produce loose instead of firm buttons. Keep the ground moist in hot weather, and any stimulant in the form of nitrate of soda or manure water should be given sparingly and at fairly long intervals.

Kale is similarly treated. As there is a great difference in the quality of this vegetable, try to obtain a dwarf, curled variety. Tall-growing sorts are sometimes distinguished by coarse leaves, which are not suitable for table use.

When sown late, carrots are less liable to the attack of the carrot fly maggot. The ground should be deeply dug over and, as the winter roots are larger when they reach maturity than those intended for summer use, thin out the seedlings to 3ins. Always retain the strongest specimens and make the soil firm after it has been disturbed in the process of thinning.

The leek is one of the most wholesome and hardy of winter vegetables, and its food value is approximately the same as the onion. Strange to say it is not prized so much in the south of England as it is in the north and also in Scotland, where it is grown to perfection by amateur gardeners, both for exhibition and culinary purposes. Leeks crop well when transplanted in ground previously occupied by a crop of early potatoes. After forking the soil and removing the weeds, dibble a series of holes to a depth of 6ins., in rows sufficiently wide to permit of the free use of the hoe, and allow a space of 3ins. between each plant. When the plants are put in, do not fill up the holes with soil, but give them a good watering instead. This treatment serves a two-fold purpose. It supplies moisture to the roots and carries down sufficient soil to establish the plant, leaving the remainder of the space to be filled up gradually by the summer rains. Occasional applications of manure water stimulate growth, but care must be taken to produce medium sized leeks that are preferred in the household to the bulky specimens with coarse green leaves. In a series of trials at the Norwegian Vegetable Research Station, near Oslo, which extended over a period of three years, it was found that there was some relation between flavour and frost resistance, on the one hand, and the colour of foliage on the other. Varieties with grey blue foliage had a milder flavour and withstood winter conditions best. Those with green or yellowish-green foliage have a stronger flavour and are less resistant to frost, but this may be mitigated by earthing up. Of the leeks on trial, Suttons' Prize-taker headed the list, and the others which proved superior were Dobbie's Champion and Lyon Selected. These are all good for autumn and winter use.

Every housewife values parsley, and as it is liable to be injured by frost a pinch of seed sown in summer will provide plants that can be transferred to a frame in late autumn. An alternative method is to select a few plants from the main crop in the garden and winter them under glass.

Like all other members of the cabbage family, broccoli takes a lot of nouriahment out of the soil and the ground should, therefore, be deeply dug and liberally manured. Planting may be done in July, and as the leaves flag readily in warm weather the operation should be carried out on a dull day and when the ground is moist. Firm planting and plenty of moisture are essential to the welfare of broccoli.

The garden swede is a useful winter vegetable that is being more generally cultivated by amateurs. This type is smaller than the field-grown swede and is not so coarse in the texture, while the flavour is considered to be superior to the ordinary turnip. Seed may be sown as late as the beginning of August in ground that was previously occupied by early peas or potatoes. After the soil has been got into a good tilth by hoeing and raking, draw out drills 2ins. deep and from 15ins. to 18ins. apart. As turnip seed germinates freely the seed should be scattered lightly, otherwise considerable waste will take place when the seedlings are thinned out to 9ins. or 12ins. apart. A point to remember is that while sunshine suits the turnip, a dry soil is the chief cause of failure. During periods of hot weather, such as is experienced towards the end of August and early September, it must have moisture and this can best be provided, not by simply watering the surface, but by a good soaking of water plus frequent hoeings between the rows.

Other winter vegetables, such as beet, parsnip and celery may also be grown if there is space available. K. G.

WHAT OUR READERS SAY

THE POISONOUS PROPERTIES OF PRIMULA OBCONICA.

SIR,—With reference to the poisonous properties of Primula obconica, it might interest you to know that I am one of the "few supersensitive individuals" who suffer without actually touching the plant. Finding it caused a bad rash on hands and arms, lasting from ten to fourteen days, I wore gloves next time I had occasion to handle the plants and was careful not to let them touch my face. Next day my whole face was covered with a rash—ears, neck and chin included, and one eye nearly closed up with swelling. I had twice to go to the doctor, as my eye was swollen and inflamed for over a week.

This surprised me the more in that hitherto I had considered myself immune from the irritation, so think they are poisonous in the spring, in the height of flowering time.

I find that Vaseline rubbed in on face, neck and arms affords complete protection, as I have since handled the plants with perfect safety.—(MISS) ROSAMOND DOWDING, *Lancs.*

SIR,—In the Service Bureau column of the June 18th issue, you answer a query about Primula obconica. May I relate my personal experience of its terrible effect which occurred some years ago? I became attacked by a rash that was most irritating upon my chin and neck. This broke out into large blisters which, besides being painful, were most disfiguring. After consulting several doctors in vain, I learned the real cause from a gentleman whom I met accidentally and who was a botanist. He told me that the whole trouble arose from the fact that I had around my rooms many Primula obconica plants, the flowers of which I occasionally pinned in my dress near my neck and chin. After every plant was destroyed, I became quite free from my misery, but the scars from the blisters have remained till now and will never disappear.

I relate all this to your readers, for no doctor ever suggested the real cause, and the trouble cost me, in money to doctors, etc., over £20, and in pain and irritation and sleepless nights much misery and ill temper to all around me.—A "GARDEN" READER.

ALPINES IN SMALL GARDENS.

SIR,—There are no plants out of which the possessors of small gardens can obtain more pleasure and interest than the alpines, but, unfortunately, so far as my observation goes, the so-called rock gardens are more often eyesores than things of beauty. The name, perhaps, has something to do with this: a rock garden must be a garden made of rocks, and so the said rocks are dumped into a bank wrong way up, or made to form a kind of cairn in the middle of the little lawn.

It would be much better to set apart a small portion of the border, facing south, put in a foundation of clinkers, then a few good rocks and a scree mixture a foot deep, and to grow nothing but the very best alpines, Dianthus neglectus, Saxifraga Burseriana, Viola gracilis, etc.; and if the work is properly done from the start, there is no reason why the owner should not be able to grow the more difficult species which have failed in the gardens of his richer neighbours.—C. G. FIELD-MARSHAM.

[We can only say that we agree with the opinions expressed by our correspondent.—ED.]

A GARDEN WHEELBARROW.

SIR,—I note in the June 18th issue of THE GARDEN a letter signed "C. J.," drawing attention to the lack of a suitable standard wheelbarrow. He requires one that guarantees "a maximum load, ease of filling, ease of tipping, and the weight when full should rest on the point of balance rather than on the arms and shoulders of the person operating the barrow."

About fifteen months ago I constructed such a barrow of English elm sides and English ash wheel and strines. The wheel is quite standard, but the body is carried out over the wheel, the front and tail boards are removable for ease in tipping, and the sloats

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are stub-mortised into the strines, thus avoiding the too common failure of fracture at the mortises.

Very little more than half the manual effort in wheeling the load is required, as contrasted with the older type. In a levelling and excavating job in my own garden I found the trouble of designing and constructing this barrow more than repaid by the ease with which I removed about 120 loads of clay and stones.

I must emphasise, however, that the path to be travelled must be hard and dry, and "C. J." should be warned that this type of barrow, with a full load, is not so manageable when not on an even keel. This is due to the fact that the centre of gravity of the load is farther from the operator, and therefore less under control.—G., *Harpenden.*

ALLOTMENTS MADE BEAUTIFUL.

SIR,—I should like to express my appreciation of the Editorial in one of your recent issues, on the subject of "Making Allotments Attractive and Beautiful." We should claim more public interest in the working man's allotment if those who are in charge of the letting would only take trouble in the selection of suitable tenants and choose those who take a keen interest in gardening. The modern tendency is certainly to have flowers as well as vegetables as in my own case. I grow half and half, and my garden took the first prize last summer out of 600 allotments, which speaks well for this district, when it is remembered that many of the allotment owners work in the mines. We find plenty of enjoyment in cultivating our gardens. Since I started introducing flowers two years ago, there are now about twelve of our members who have a small flower garden and have introduced ornaments and furniture to add further beauty to the allotment ground.

My own flower garden consists mainly of roses—about fifty of them—with sweet peas on either side of the walk to the summer seat, with a bed of gladioli bordered with snapdragons and violas, with an edging of white alyssum, and last year it looked particularly fine.

I may say we run an open show in connection with our gardens. This is our third year, and a very good show we have for a small village. At present it is in a very flourishing position.—B. HALSTEAD, *Thornhill.*

HOW NOT TO GROW DAFFODILS.

SIR,—The note in your issue of June 11th, by an Oxford correspondent headed "A Daffodil Classification," is a little difficult to follow. The only possible way to deal with it is to pick out a point or two and answer them. He says, for instance, that "Weardale" only attains to "perfection" when pampered with all the nurseryman's arts. It requires no "art" to grow Weardale; let your correspondent plant it on a cool, deep soil, enriched with a little bone manure, and it will thrive and give him of its best; it wants nothing more. It is the taking of a little common-sense pains that brings out the best in the daffodil, or, for the matter of that, any flower we grow. In my experience, the daffodil hardly ever goes back, *i.e.*, reverts to something similar in appearance to some of its (inferior) ancestors, unless treated just anyhow and that is, I suppose, what your correspondent means by planting it, as he says, in "natural" conditions and leaving it to multiply. His concluding sentence is so characteristic that it is worth quoting in full. He writes: "It may be that it would take, not thirty, but a hundred years for this retrogressive horticulture to produce interesting results. Even so, it is worth undertaking." I emphatically disagree. Even if, as is sometimes argued, we do too much for posterity, because it has done nothing for us, I fail to see why we should treat it so badly as your correspondent suggests. For myself, I shall endeavour to continue to improve the daffodil, on useful, progressive lines, and with no desire to interest those who come after us in the fantastic and unprofitable way proposed.—F. HERBERT CHAPMAN.

WORK IN THE GREENHOUSE

Cinerarias—The Amateur's Flowers.

IT would seem that it only requires a very short step into complete hardiness, could it be taken by the cineraria, for it will stand a cold temperature that verges upon freezing point and if slightly attacked by frost, the plant will send forth fresh shoots, providing the roots are not injured. Indeed, it is essential that the plants should be grown under cool conditions all the time, introducing them into heat only as flowering is required. The amateur with no heat at command can grow cinerarias providing he can keep out frost from his glasshouse or give the plants sufficient protection from its influence.

As a rule cinerarias are required to bloom in spring and early summer, but flowering is possible at other times of the year, if wanted; a batch of seedlings may be pushed ahead or held back as desired. The seeds, however, are usually sown during June and July; the amateur would do well to sow early, taking advantage of a warm spell to get the seeds to germinate—there is no difficulty about that, nevertheless, but a good start is a factor of success where "cool" culture is the rule.

Sow the seeds in well drained pans of light, rich, peaty soil, covering the seeds but lightly. When up, prick out the seedlings, or pot them up into the smallest size pots, and shift on as required. All this should be done in a greenhouse or frame that is not exposed too much to the sun. In many localities the seeds may actually be sown out of doors in July, if care is taken to pot up the plants in September.

The after-care of the plants consists chiefly in keeping them neither too moist nor too dry—the latter is probably the worst trouble, for a well drained pot will prevent excess of moisture. Although necessary for their well being, cinerarias cannot stand the too direct attentions of the sun, and show signs of great distress if the sunshine is allowed to fall upon them for a length of time. Greenfly is one of the chief pests of this plant.

As a pot plant for table decoration, the cineraria is excellent, for it stays in good condition of flowering for quite a long time. For this purpose, tall, much branching plants are not desirable, but well grown compact specimens should be aimed at. This is all to the advantage of the person who has little or no heat at command in his greenhouse, for he can ensure the steady, continuous growth that will make the moderately-sized plants necessary for indoor decoration. Never allow the plants to flag or receive a check through neglect. Keep them under shady conditions without depriving them of light and plenty of air, and for several weeks under management, a succession of blossom in mass formation will be the result during May—earlier or later, as desired.—H. A. DAY.

A FINE DISPLAY OF CINERARIAS IN AN AMATEUR'S GREENHOUSE.
Seeds should be sown this month for next year's show.

Summer Treatment of Perpetual Carnations.

First Year Plants.

ALL perpetual-flowering carnations intended for winter blooming should be in their flowering pots by the beginning of July. The size of the pot will depend on the variety, but it is rarely necessary to use a pot larger than 7–8ins. The compost for the final potting should be: 4 parts good lumpy loam, 1 part leaf-soil, 1 part manure, ½ part rubble, ½ part burnt ash, with a 5in. potful of bone-meal per barrow-load of compost. Crock the pots well and pot firmly. Do not bury the stem.

Place the pots in a frame where they can be protected from heavy rain. Do not water

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on dull days, and encourage growth as freely as possible. Allow plenty of space and a free circulation of air. The plants should not be watered unless they are dry, when the pots should be filled to the brim with the water.

Stake the plants as required. Syringe forcibly under the foliage daily, if fine, at about 4 p.m., to keep down red spider. Feed about once a fortnight with dilute manure water, and also give guano or some recognised brand of carnation manure. Pinch back to six pairs of leaves the shoots thrown up from the first stopping. Do this at different times to obtain a succession of bloom.

OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Cutting Back Tree Lupins.

Will you kindly tell me whether tree lupins should be cut back. I had a very fine yellow specimen which was a mass of bloom 5ft. high last summer, in the autumn it was cut back to the root and this year it has only grown about 2ft. and borne a few miserable spikes of bloom, besides looking very unhealthy. Also I should be glad to know when planning a new border of lupins, delphiniums, Michaelmas daisies, etc., whether better results are obtained if new plants are planted in the autumn for blooming the next summer, or whether in spring for blooming the same season.—T. G., Streatham Hill.

Tree lupins are cut, of course, but such drastic pruning as that to which you refer would have very bad results. Herbaceous subjects are best transplanted in the autumn. Delphiniums should be transplanted early in the autumn or late in the spring. Do not plant them in the winter time.

Old Rhododendron Bushes.

I have two rhododendron bushes in my garden. Both are very twiggy, with foliage or flowers only at the ends of long, crooked twigs; one is bearing flowers fairly well, though some of the buds are decayed; the other has only one bloom, and gives signs of putting forth only poor leaf. Can you tell me what pruning, manuring or other treatment they require, and when.—R. C., Ilkeston.

Early April is the best time to cut rhododendrons very hard back into the old stems. All that can reasonably be done now is to shorten the longest of the straggling branches to improve, at least, a little, the appearance of the bushes. Pick off the old flowers when they fade. Clean the ground beneath the bushes now and lightly prick over the surface soil. Do not dig it, as that would destroy the surface roots. Give a mulching of leaf-mould and water once a week for about eight weeks with Peruvian guano dissolved in rain water, or at least, lime free water.

Propagation of Berberis stenophylla.

The enclosed cutting is from a bush of Berberis stenophylla, which is about 10ft. high. Will you please inform me how I can increase the bush. That is, what sort of cuttings should I take? I have no greenhouse or frame. Also, when should the cuttings be taken? Flowering finished about two weeks ago.—B. H., Waltham Cross.

Cuttings should be made about 2ins. to 3ins. long of this year's new shoots, taken off with a very thin heel—or skin—of old wood, just at the point of union with last year's growth. The cuttings should be inserted in a box of sandy soil in August or September. The box should be at least 1ft. deep, allowing 4ins. for drainage, 4ins. for soil and 4ins. at the top for the cuttings, above the soil. Cover with a sheet of glass to keep the cuttings close and moist.

Plants for a Shady Greenhouse.

I have a large greenhouse at the back of my house. It is very light, but the sun does not reach it until late in the evening. Could you give me a list of plants, flowers, etc., to grow in boxes and pots in this non-sunny position? I could make arrangements to have it heated for the winter.—T. F., Newcastle-on-Tyne.

You will find the following kinds of plants very useful for the position you mention

Our Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xi, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following date of publication.

Tuberous begonias, fuchsias, calceolarias, cyclamen, cinerarias, primulas, heliotrope. Nerium Oleander, streptocarpus, mignonette. A few azaleas, spiræas, Deutzia gracilis and of course, bulbs, such as narcissus and hyacinths for autumn and winter use, would keep the structure bright all the year round.

What to Plant Under Fruit Trees.

Could you inform me what could be planted with advantage in a light, dry soil under fruit trees—in the flower or vegetable line—everything I have tried so far "bolts." Also what is the best time of year to re-arrange an herbaceous border? Autumn or early spring?—R. H., Reading.

Gooseberries and black currants do best between rows of fruit trees, also lily of the valley, some irises, turnips, radishes, lettuce and spinach. It is not wise, however, to have any crops nearer than 2ft. of the fruit tree stems. The re-arranging of the herbaceous border should be done in the autumn if the soil is light, but early spring would do quite well if the soil is heavy. If you like bulbs, narcissi, would do well under the fruit trees. They should be planted in the autumn.

Anemone apennina in a Town Garden.

Last autumn I bought bulbs from a well known firm and planted them early in October in my rock garden and herbaceous border, both facing south. Most of the bulbs flowered very well, but Anemone apennina, after a lusty show of leaves, only produced one flower from a dozen bulbs. Can you give me any hints for next season? My garden is in the town, but Gentiana verna flowered well.—M. H., Nottingham.

Anemone apennina, like most other varieties thrives best in a compost in which there is a lot of rotted leaf-soil. The plants are surface-rooting, so that portion of the soil should be good. A covering soil one inch deep is sufficient. So treated the plants should do well, and if you can get clumps properly established they would flower most profusely.

New Plants at Vincent Square

THERE were so many plants and flowers before the two sections of the Floral Committee at the Royal Horticultural Hall, Westminster, on June 21st last, that the large room was almost a flower show in itself.

To the garden lover, perhaps, the best new plant was the Alstroemeria hæmantha B. Ladhams. Quite a number of good seedlings from the Chilian species have been raised during recent years, but none more beautiful than this lovely soft pink coloured variety which was shown by Messrs. B. Ladhams, Limited. Lilium concolor Dropmore variety was a close second to the alstroemeria. The normal flowers of the Chinese orange lily are somewhat rusty in colour, but this new variety is a glowing orange-red. We were told by Mr. Amos Perry, who showed the spikes, that it was raised by a lady in Manitoba, who, having an affection for the Buckinghamshire garden which is famed for its collection of coniferous trees, named it Dropmore variety. It is of comparatively dwarf habit, for Mr. Perry's plants were only 2ft. in height.

Calceolaria sp. A.C. 405 requires a specific name. It was raised from seed recently collected in the Andes by Mr. Coomber. Mr. Clarence Elliott told us that several plants withstood last winter quite unprotected, so it is comparatively hardy and should prove to be valuable for summer bedding and for the lower parts of the rock garden. Although it has a certain superficial resemblance to Calceolaria amplexicaulis, this new species is distinct in its large ovate leaves and harsh texture and in the bright yellow flowers, having lobes around the pouch. It is evidently a very free-flowering plant. Two very good single-flowered herbaceous peonies received awards. Globe of Light, shown by Messrs. Kelway and Son is a large flower of soft pink colouring, rather paler at the margins and has a large cluster of pale yellow filaments. Orion, shown by Mr. W. B. Cranfield, is a little smaller, but substantial and rounded. The petals are of rich ruby colour and it has a compact cluster of golden filaments striped with ruby.

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HOW TO GROW FINE IRISES (see page 446).

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THE GARDEN

VOL. XCI.—No. 2901. JULY 9, 1927. PRICE TWOPENCE.

GROW MORE IRISES

IN this number readers will find a few pages devoted to irises and their cultivation, and it is hoped that this special iris number will encourage many of our readers to take up the growing of this fine garden plant in real earnest. Within recent years, owing to the untiring efforts of such pioneers as the late Sir Michael Foster and the late W. R. Dykes, the iris has been greatly developed and improved, till to-day there exist varieties and different types of the graceful *fleur de luce* suitable for every taste and almost every situation in the garden. We have not as yet reached finality in the development of the flower. Much work is at present being done by many of our large nursery firms which specialise in iris culture, and from year to year new sorts appear which outshine their predecessors.

There has been one aim in this development of the iris, and that has been to make it an attractive and easily grown garden plant fit to take its place alongside of our most beautiful summer garden flowers. That aim has been accomplished. It is now a plant to be grown by every amateur who desires his garden to look its best during the summer months. It is handsome in flower and foliage, offers a wide range of the most beautiful shades of colour, and in addition, what is probably of more importance to the beginner in gardening, it is a plant of simple culture. There is no place in the garden into which the iris will not fit. Varieties can be found for the general herbaceous border, others for moist situations, along the banks of a small pond or stream, while still more make first-rate plants for the rock garden or for edging a small flower border. While they are particularly decorative in the garden either growing by themselves or in association with lupins, they are most effective when used as a cut flower for house decoration.

As regards cultivation, readers will find detailed instructions given in the cultural article, but a word as to the time of planting may not come amiss here. Many authorities advocate July planting, and the advice is excellent provided good growing weather could be guaranteed after planting. There are few plants, and the iris is included, that can withstand a period of drought and heat after planting and come through successfully. For this reason therefore, let the planting, transplanting or division of the iris be governed largely by weather conditions, and as these are often uncertain, it will be found better to withhold planting until later on in the summer, say, at the end of next month or during September, the earlier the better. At this time the weather conditions are more favourable for the plants becoming readily established in their new positions. If this happens to be a wet summer season, then planting may be carried out earlier. Order now to ensure early delivery of the plants, but plant at the end of next month or the first or second week in September. You will find that success will lie that way. The question of soil and situation is important, and the intending grower would do well to pay careful attention to the remarks on page 446. There has been a prevalent idea with many gardeners in the past that because our native iris, I. Pseudacorus, grows in boggy places and along the edge of streams, that all irises want abundant moisture. Such is a mistake. There are certainly a number which revel in moist places, but there are others such as the section of the bulbous irises that will only succeed in light well drained soil.

When one comes to sections and varieties it is manifestly an impossibility to make a choice. Every gardener has his own ideas and tastes and a selection is best left to the grower. But for those amateurs who may find a suitable choice of varieties of irises for their garden a matter of some difficulty we give the following list of good all-round standard sorts that will succeed in every garden if the cultural hints given elsewhere are followed. These are all inexpensive, and we understand that stocks are available of each kind. They may be planted from now on until September. The colours and time of flowering are given to assist the grower in the planting and arrangement of each individual variety so that the very finest display will be obtained next season.

May-flowering.—Albicans (pure white), Chateaufort (a fine deep claret), Argus (violet and purple, a great improvement on the old blue flag), and Zwanenburg (glistening bronzy fawn and old gold.

June-flowering.—Varieties with white standards and blue or purple falls: Nakomis, Miss Willmott and Rhein Nixe. Varieties with lavender to purple standards and mostly rich purple falls: Alcazar, Archeveque, Monsignor, Perfection, Radiance and Tamerlane. Soft blue and lavender to rosy crimson varieties: Astarte, Caterina, Crespuscule, Ed. Michel, Her Majesty, Lohengrin, Oriental, Rhodda, Ringdove and Wyndham. Varieties with standards soft blue to purple and falls crimson, rose or purple shot with gold, all beautiful: Eldorado, Grevin, Le Vesuve, Mary Garden, Mount Penn, Marian Loat, Prosper Laugier, Quaker Lady and Queen Mary. Varieties with standards in shades of yellow, falls mostly crimson and bronze: Lorelei, Marie Corelli, Minnehaha and Mrs. Neubronner.

This Week's Work

For Gardens in the South and Midlands.

Layer border carnations and strawberries.

Make a final sowing of dwarf beans, stump-rooted carrots, endive and parsley.

Plant out cabbages, Brussels sprouts, broccoli, and earth up late potatoes.

Continue summer pruning of apples, pears and bush fruit.

Remove spent flowers from rhododendrons, lilacs, spiræas, herbaceous perennials, sweet peas, etc.

Keep the herbaceous border well hoed and all plants securely staked.

Top-dress cucumbers in frames and thin out the growth.

Cut back aubrietias, arabis and other early-flowering rock plants.

Spray potatoes with Bordeaux mixture to keep disease in check.

This Week's Work

For Gardens in Scotland and the North.

Increase saxifrages by cuttings or division.

Sow seeds of herbaceous plants in border or frame.

Give perpetual carnations that are to bloom in November a final pinching.

Plant violets in a moist shady border.

Thin or cut back philadelphus as soon as the flowers fade.

Mulch young plants of raspberries, currants and gooseberries with manure.

Sow East Lothian stocks for spring or summer bloom.

Transfer pot roses that have finished flowering indoors to a sunny spot in the garden.

Plant broccoli in very firm ground.

Dress asparagus beds with agricultural salt or seaweed.

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AN IRIS GARDEN FOR EVERYMAN

EVERY garden lover who has kept in touch with recent developments in horticulture must have been attracted by the expansion of possibilities for garden enjoyment offered by the advance that has been made in iris culture.

Twenty years ago the iris was a plant that was introduced into one's garden with little enthusiasm, or omitted without regret. To-day the genus takes its place with those flowers that one must have, such as roses, carnations, delphiniums, etc. Moreover, such a wealth of material is offered and such a wonderful range of colour and form, owing to the progressive efforts of the hybridist, that there is a justifiable inclination to devote some portion of the grounds mainly or exclusively to the cultivation of irises. Such efforts will, naturally, be in proportion to the total area of the garden, but there are few so small that their owners will wish to be without an iris corner.

To the specialist, that is, the man who grows irises simply for themselves, a rectangular border will suffice; but to the gardener who desires to use his plants in such a way that he will get the maximum of pleasure out of them by associating them with other subjects in such a way that each derives some added attraction from the other, something more is necessary.

They can, of course, be used freely in the herbaceous borders or in sunny open spaces in the front of the shrubbery (providing such spaces are not too full of roots). Indeed, they should always be included in such planting schemes.

If, however, it is desired to achieve the most satisfactory results, it can only be done by devoting some part of the garden mainly to their cultivation, wherein the irises are the main *motif*, and such other subjects as may be used are merely background, colour complements, or plants used to redeem the area from a sense of dullness during the period when the irises are not in flower.

Having chosen the spot, and this can be anywhere where it gets a sufficiency of sunshine, the next thing is to consider the design. The best effects are obtained by adopting lines of an informal nature. The tall June-flowering irises are intolerant of restriction

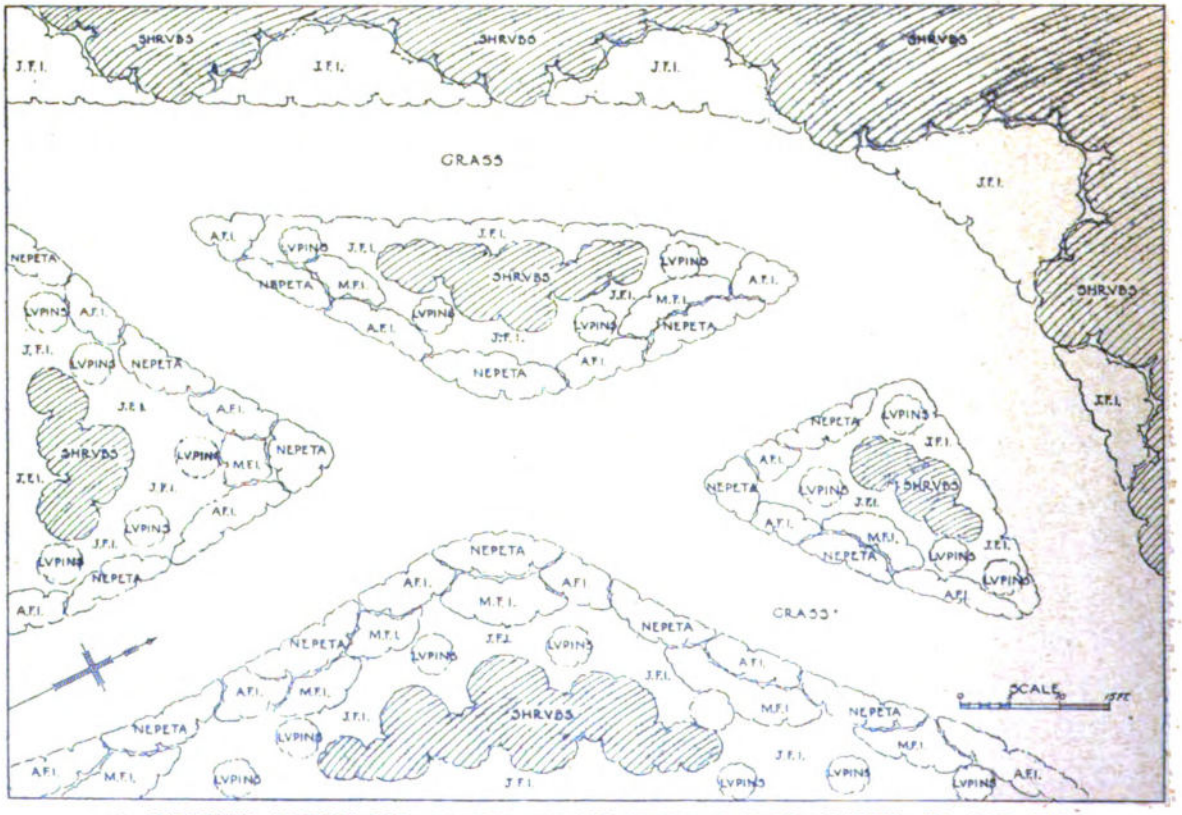
IRISES AND LUPINS MAKE A PLEASANT COMBINATION.

to rigid lines. They will spread themselves out and throw up flower spikes as and where they choose. The accompanying sketch plan indicates a treatment that can be applied to practically any site and enlarged *ad lib.* to almost any proportions. The actual development of the design consists merely of arranging the path system and thus dividing the actual planting areas into more or less irregular spaces or mounds. The word "mounds" is used intentionally, because, for both cultivation and æsthetic effect, it is best to valley out the paths, depositing the top soil so removed on the planting spaces and thus creating undulating contours over the whole areas. Incidentally, this also assists in draining the beds, and good drainage is essential to the best cultivation.

Then it will be as well to consider the chemical constituents of the soil. If it contains lime or chalk, little need be done beyond ensuring that there is a sufficiency of organic matter to produce free, healthy growth. If, however, it contains little or no lime, this should be added, either by introducing lime, chalk, superphosphate, or one of the agricultural or horticultural preparations easily obtainable, such as Limbux.

Next, consider what shrubs or plants will associate well with irises, and three examples must suffice, but there are many others equally desirable. Prunus Pissardi makes a fine background; lupinus gives wonderful colour combinations; and Nepeta Mussini (catmint) creates a cool-coloured grey-blue carpeting effect if used in bold masses between the irises and lupins.

One thing must be remembered, and it is, that, having introduced lime into the soil, such plants and shrubs that dislike it must be avoided; for instance, Erica carnea could be planted in groups as a fringe to the iris plantings, and would make an interesting splash of colour when the irises are at their very worst; but the equally attractive Erica Tetralix mollis would not tolerate such conditions. There are, however, hundreds of shrubs and plants that are indifferent to the presence of lime, which can be used effectively. Another point that must be remembered is that in the irises themselves there are certain sections that object to lime.



A SUGGESTED SCHEME FOR AN IRIS GARDEN WHICH CAN BE ADAPTED TO ANY SIZE.
A. F. I.—April flowering irises. M. F. I.—May flowering irises. J. F. I.—June flowering irises.

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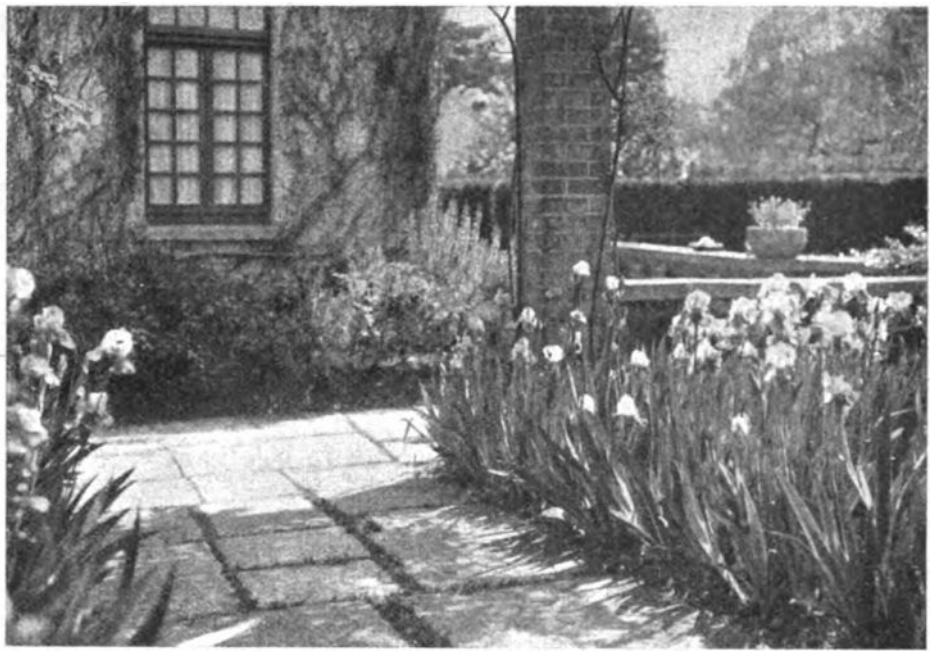
All the bearded irises are safe—April, May and June flowering. Many of the bulbous varieties will do quite well under the conditions described; but Iris Kæmpferi and a number of the fibrous-rooted species object to lime. Most nurserymen make this distinction quite clear in their catalogues.

It is impossible to review the whole genus for examples of what can be grown, so I will restrict the present suggestions to the April, May and June flowering bearded irises. All the April-flowering varieties are of dwarf habit, and should, therefore, be planted in little groups in the front of the borders: Azurea, sky blue; Excelsa, yellow; Orange Queen, with a fine orange "beard"; Formosa, violet and very fragrant, are some of the most useful. None of them grows more than about 9ins.



IRISES ARE PARTICULARLY ATTRACTIVE IF PLANTED ALONG THE PATH TO THE HOUSE.

The May-flowering or "Intermediate" varieties grow taller, from 18ins. to 2½ft., and one of the oldest, cheapest and best is the deep violet Kharput. Blue Boy, a free-flowering violet blue with a blue beard; Etta, cream; Florentina, fragrant white; Yellow Hammer, a bright amber yellow; Zwanenburg, silver grey and old gold; Kochii, dark violet; and Purple King, a rich red purple, are all worth growing. Now we come to the June-flowering varieties, the best of all irises. These can be purchased at from anything between 6d. and £20 each, but there are a few sterling varieties of moderate price that will form the nucleus of a collection and encourage further ventures when their wonderful beauty is realised. If I had room for only twelve varieties, I think the following would be my selection from those of moderate price:

Alcazar, tall and branching, standards blue, falls velvety red purple with bronze veining.

Ambassadeur, very tall, late flowering, standards reddish violet, falls a deep ruddy brown of velvety texture.

Asia, very tall, standards a curious but beautiful mixture of lavender and yellow, falls violet to purple, with a distinct reddish tint towards the edges.

Colonel Candelot, medium height red bronze standards and crimson mahogany falls.

Dream, tall, one of the best of the series usually described as pink. In reality it is a soft rose with an underlying suffusion of pale violet.

Flaming Sword, medium, a combination of deep maroon and varying shades of yellow.

Iris King, medium, old gold and velvety crimson.

Lord of June, a giant in all ways, standards pale lavender, falls bright violet blue.

Ma Mie, medium, ivory white with blue reticulations on margin.

Pallida dalmatica, tall, deep lavender, wonderful glaucous grey foliage.

Prosper Laugier, medium, standards pale brown mingled with heliotrope. Falls violet, in which is mingled a warm brown tint.

Souvenir de Mme. Gaudichau, tall, rich deep violet throughout, unique among the June-flowering irises.

The preceding collection is weak in what are known as blue-purple bicolors, but there are plenty that can be added.

GEO. DILLISTONE.

BEARDED IRISES WORTH GROWING

The bearded iris is undoubtedly an amateur's plant. Its cultural requirements are simple, while its period of flowering, wide range of colour, especially if many of the more modern varieties are grown, and its decorative effect in the garden, make it an invaluable plant for every garden, large or small. In this article a selection of varieties is given suitable for growing in all gardens, either in the north or in the south.

IRIS SOUVENIR DE MME. GAUDICHAU OF A DEEP VELVETY PURPLE COLOUR.

"IT resembles nothing but itself. There mingle in its upright and broad frills all pale shades of auburn, sepia and rose. The beard is of light gold. I have haunted the magnificent thing for a week and yet know not how fittingly to describe its beauty." Thus Mr. Eden Phillpotts, in writing of Isoline, one of Vilmorin's bearded iris creations, which any gardener can possess for the modest sum of 1s. 6d. Readers who have grown this elegant flower, with its falls and standards of fine form and substance, together with the association of fascinating art shades, will appreciate the novelist's difficulty in reproducing a pen picture that does justice to its charm. Other and newer irises may excel it in novelty of colour, texture etc., but there is no other example that is better suited for a small collection, such as is becoming popular in the amateur's garden of to-day.

I can, however, recall the time, and that not so long ago, when the amateur's experience of iris cultivation in Scotland was confined to the German, English and Spanish types. The first named pair were familiar subjects in old country or cottage gardens and were held in high esteem but it was more by good luck than good guidance that the plants managed to exist and flower regularly in early summer as they were left pretty well to look after themselves.

IRIS DOMINION, ONE OF THE BEST OF MODERN BEARDED VARIETIES.

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The introduction of the Spanish iris and its rapid advance in public favour is of more recent date. The planting and lifting of the tiny bulbs involved a little more labour and attention than that usually bestowed on the German and English species. To the keen gardener with limited space at his disposal, the culture of Spanish iris has presented a perplexing problem, for the poor man's orchid flowers well into June and thus interferes with summer bedding operations. Not only is the bed required for other subjects that are to provide a succession of bloom, but the decaying foliage presents an untidy appearance that is seldom in keeping with the rest of the garden. Every year I have a bed of Spanish iris in rows of distinct colour varieties and these difficulties have been overcome by spacing the rows sufficiently wide as to enable the bed to be interplanted with chrysanthemums. By this arrangement the irises are not disturbed and the presence of the early-flowering chrysanthemums serves as a screen which hides the withered foliage until such time as it can be removed.

Within the past four or five years the bearded iris has obtained a measure of popularity among amateurs in Scotland that is expanding as the merits of the hybrids become known. Their rich and wonderful colourings reflected in the harmony or contrast of the standards and falls command unusual admiration and among their other attractive qualities, fragrance is present in a varying degree of strength.

The cultural requirements of the bearded iris are simple in the extreme. Any good garden soil meets their requirements, but if it is deficient in lime, a light dressing may be forked in preparatory to planting in August or September. Before winter sets in a mulch of rotted manure on the soil surrounding the plant is beneficial, while a covering of ashes will serve as a protection against slugs, which damage the young growth in spring. As the rhizomes have a tendency to rot when put deeply in the soil, shallow planting should be the rule. Care should therefore be taken that the junction of the leaves with the rhizome is just above the surface. Irises appreciate moisture during the period of growth, but after flowering they require dry conditions.

As regards the selection of situation, some authorities advocate a partially shaded position in preference to one fully exposed to the sun, the reason being that the flowers remain longer in bloom in the former site than in the latter. This probably represents the difference in the conditions existing in northern and southern latitudes. Judging from the experience of the past two years, such a precaution is quite unnecessary in Scotland and as the iris delights to bask in sunshine especially after the flowering season is over, a nice sunny place should be chosen.

New irises of distinctive colours are introduced annually and the number of varieties in commerce offer a choice to suit every taste, position and purse. The following list, arranged in accordance with the classification scheme of the Royal Horticultural Society, is prepared in the interests of small growers who can form their own collection by choosing varieties that range in price from 1s. to 2s. 6d. each.

Class I: White.—May-flowering, Ingeborg, 2ft. June-flowering, La Niege, 2ft.

Class II: White, feathered with purple.—Jean d'Arc, 2ft. Dimity, 3ft.

Class III: Standards, white; Falls, purple.—Tristram, 2ft. Richard II, 1½ft.

Class IV: Purple bicolors.—Oriflame, 2½ft. Alcazar, 3ft., or Lord of June, 3½ft.

Class V: Purple selfs.—Ed. Michel, 3½ft. Pallida dalmatica, 3½ft.

Class VI: Standards of shot shades.—Isoline, 3ft. Iris King, 2ft., or Jacquisiana, 2½ft.

Class VII: Standards, yellow; Falls, blue, red or purple.—Romany, 2ft. Dusky Maid, 2½ft.

Class VIII: Yellow selfs.—Eldorado, 2½ft. Sunshine, 2½ft.

To the more ambitious grower who desires a more up-to-date collection of moderate priced varieties, the following will be found representative of the best:

Ambassadeur (Vilmorin).—Standards, reddish violet, suffused bronze; falls, deep violet crimson; scented, 2ft.

Asia (Yeld).—Standards, silvery lavender, suffused yellow at base; falls, violet purple, paler at edge; bright yellow beard; scented, 4½ft.

Ballerine.—A new heliotrope self, flowers waved at margin and sweetly scented.

Crusader (Foster).—Standards, lavender blue; falls, violet blue; orange beard; strongly perfumed, 3½ft.

Corrida (Millet).—Violet blue self, the falls being just a shade deeper, scented, 3ft.

Flaming Sword.—Standards, deep yellow; falls, purple, edged gold; very effective, 3ft.

Souvenir de Mme. Gaudichau (Millet).—Deep velvety purple bicolor, one of the best of modern introductions, scented, 3½ft.

Magnifica (Vilmorin).—Standards, light violet blue; falls, dark reddish violet, striped brown at base; scented, 3ft.

Shalimar (Trojana seedling).—Standards, almost a true blue; falls, violet; shading lighter at the edge; scented, 3ft.

Lent A. Williamson (Williamson).—Standards, lavender violet; falls, velvety purple, edged violet. One of the best varieties raised in America, 3ft.

To complete a dozen, I would recommend Dominion and Aphrodite to those amateurs who do not require to consider cost. The former is admittedly one of the most beautiful irises in cultivation, while the latter is regarded as the best of the so-called "pink" irises and each of these are now purchasable at less than a pound. J. Y.

How to Grow Fine Irises

In this article full details are given as to how to attain success in the growing of irises. All the necessary information as regards culture, time of planting, and choice of situation is divided up according to the different groups which go to make up this attractive genus of garden plants.

THIS beautiful genus has always been deservedly popular, including, as it does, so many beautiful species and varieties. Many of them are so easily cultivated that there are few, if any, gardens in which they may not be successfully grown.

The Flag or German Irises.

In recent years the raising of many new and attractive varieties in the tall bearded section, generally known as German or flag irises, has resulted in almost a craze for the acquisition and cultivation of these beautiful plants. The common early purple flag iris, I. germanica, as well as many of the strong-growing varieties in the June-flowering section, will grow almost anywhere except in shade and in very poor soil, and on this account are ideal for town gardens, I. germanica specially thriving in very poor soil in hot, dry positions.

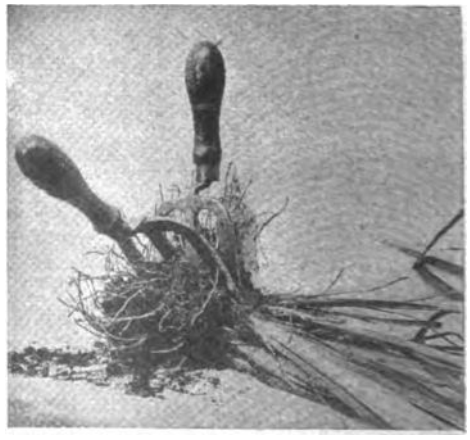
A clump of the Siberian iris now ready for division immediately after flowering is over.

Cultivation.

We will now consider briefly the cultural requirements of this large and popular class of bearded iris. Although they will thrive in very poor soil, a good medium loam may be considered ideal for them. Too heavy, cold and wet soils are unsuitable. In such situations it would be wise to grow them on raised beds or banks, as warmth and free drainage are very essential for ripening the rhizomes. In preparing the beds or borders avoid the use of fresh manure. Well decayed farmyard manure should be dug in deeply so that it does not come in contact with the roots of newly planted irises. In this connection it is well to note that fresh loam is of more importance than manure; in fact, where large collections are grown it is necessary to give the plants fresh soil or move them on to new ground occasionally if attacks of disease are to be prevented. Lime is essential to this section, and in lime-free soils a good dusting should be forked into the surface before planting. If it can be obtained, lime rubble is excellent for this purpose, and on heavy soils may be used with advantage to keep the soil open and porous. Basic slag applied at the rate of 6 oz. to 8 oz. per square yard may be used instead of lime. Although best applied during the autumn, it may be used at any time when the beds are being prepared. Bone meal or steamed bone flour may also be used at the rate of 6 oz. to 8 oz. per square yard.

Time to Plant.

They are very accommodating plants, and may be successfully planted any time



When dividing large clumps it is best to do so with handforks, discarding the central portions.

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during the autumn or spring, and even during the winter when the conditions are favourable. There is, however, no doubt that the best time is from July to September or, indeed, as soon as possible after they have finished flowering. This gives them plenty of time to form new roots and get established before winter, with the result that there should be little loss of flowering the following season. Shallow planting is very important, the rhizomes being covered with no more soil than what will hold them in position, as naturally they grow on the surface of the soil, which indicates the importance of growing them in open positions well exposed to the sun. When dividing large clumps for replanting, the strongest portions should be selected, discarding the weaker portions from the centre of the clump. Old and useless portions of the rhizome should at the same time be cut away. If the planting is done during July, it may be necessary to keep them watered if a dry spell should intervene.

Grouping.

For practical purposes we shall consider the flag irises in three groups, roughly divided by their flowering period. In the first or April flowering group we have the Iris pumila and Chamæiris varieties as represented by such sorts as alba, atroviolacea, azurea, Excelsa, Orange Queen and Snow Cap. They are all dwarf growing and are well suited for the rock garden, also for making edgings to beds and borders. The second group of intermediate bearded irises flower during May, and are derived mainly from crosses between the dwarf I. pumila varieties and the later flowering germanica varieties, and includes such fine varieties as Blue Boy, Cretan, Ingeborg, Kharput, Margaret and Dolphine. Here we must include the sweet-scented I. florentina, the source of orris-root. The third, or June-flowering, group is the largest and most important from the standpoint of the cultivator, and in recent years many fine new varieties have been added to this group, which includes the pallidas, variegata, squalens, amœna, neglecta, plicata, junonia and trojana varieties. We can, however, only consider them collectively and out of a bewildering list indicate a few of the outstanding varieties that are reasonable in price, *viz.*, Albert Victor, Alcazar, Asia, Black Prince (very late), Camelot, Lord of June, Lady Foster, Gold-crest, Dimity, Isoline, Mrs. Neubronner and Souvenir de Mme. Gaudichau. Intending planters should, however, see them in flower and make their own selection.

Iris sibirica and its varieties also flower during June, and although they can be successfully grown in beds and borders like the larger flag iris, they are, however, specially suited for planting in masses near the waterside, as they succeed well in moist situations. Their successful cultivation presents no difficulty. They may be replanted after flowering during autumn and spring. There are several fine varieties, such as Perry's Blue, George Wallace, Snow Queen, Ariel, Maxima and Baxteri.

Iris Kæmpferi is another group of moisture-loving irises which love a warm, sunny position by the margin of ponds and streams, although they can be grown perfectly in beds or borders where they can be occasionally flooded during growing and flowering season. Planted in such situations one must remember that they must be high and dry during the winter. They enjoy a rich root-run and, like all the groups already dealt with, are best replanted after they have finished flowering. Other irises suitable for planting by the waterside in full sun are I. aurea, Delavayi, Monnieri Monspur, ochroleuca and our native Pseudacorus. With the exception of the last they are all worth growing in an ordinary well cultivated border.

Iris stylosa and its varieties flower during the winter and spring, and on account of their sweet scent and freedom of flowering should find a place in every garden where they can be planted in poor soil at the foot of a hot, sunny wall. This iris is best replanted during March after it has finished flowering. It may also be successfully planted during September.

THE WINTER FLOWERING IRIS, I. STYLOSA, FLOURISHES AT THE FOOT OF A SUNNY WALL.
This species is best planted in March or early September.

IRIS TINGITANA, ONE OF THE MOST BEAUTIFUL OF ALL OUR BULBOUS IRISES.
The bulbous or tuberous rooted varieties should be planted in late September or October.

Bulbous and Tuberous-rooted Irises.

Beautiful and useful as the so-called flag irises are, it is in the section under consideration that the most exquisite gems of a wholly beautiful genus are to be found. They are ideal for growing in pots and pans for the furnishing of the alpine or unheated greenhouse. Most of them are also suited for choice situations in the rock garden, or they may be grown to perfection in narrow borders at the foot of warm walls. Their cultural requirements are quite simple, the essentials being a light to medium, warm, well drained soil. As the small, choice species and varieties are usually grown in small quantities, it is easy to prepare special sites for them if the original soil is at all unsuitable. They should all be planted during the autumn as soon as they can be procured. Generally speaking, October is the best month for planting. This section includes such well known and beautiful species as I. alata, Danfordiæ, histrioides, orchioides, persica, reticulata, tingitana and Vartani.

The bulbous section includes what one might term everybody's irises, *viz.*, the well known and popular Spanish and English irises, which are unrivalled in their many beautiful varieties for a supply of cut flowers and are so reasonable in price that they can be used in quantity for this purpose or for furnishing beds and borders in the garden. There is also a new section known as Dutch irises. They resemble the Spanish varieties, but bloom at least a fortnight in advance of them. They all enjoy a warm, well drained medium loam, and should be planted during October.

J. C.

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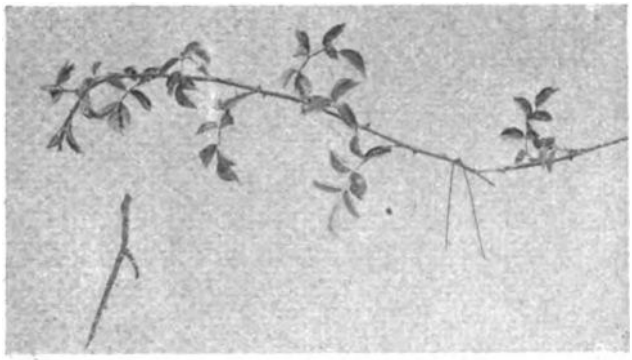
THE BUSY MAN'S PAGE

Layering Roses.

ROSES can readily be propagated by layering, which may be carried out at any suitable time now. Select a well ripened growth coming from near the base of the bush or so placed that it can readily be bent down to the ground. At the spot where it touches the soil make an incision to one-half of the thickness of the stem in



A ROSE SHOOT PREPARED FOR LAYERING.

a slanting direction up towards the tip of the shoot and always through a leaf-joint, the leaf having been previously removed. Scoop out a shallow depression in the soil underneath where this wound has been made, gently push the shoot into this, bend the tip upwards a little so as to leave the incision gaping, then pin firmly in position, with a bent wire or a V-shaped twig or with a proper layering pin. Cover up with soil in such a way that a depth of some 3ins. is placed over the incision, press firm and see that all is secure. In many gardens no further attention is required, but should the soil be a porous one, then daily waterings are necessary to keep the soil moist and to encourage rooting. In very sandy loams some leaf-mould or fine lawn mowings may be laid on top for a similar purpose. By spring roots will have formed; the new plant may then be severed from the parent bush and planted elsewhere.

Plants During Holidays.

IF holidays do not extend over a prolonged period, readers may easily provide for their pot plants without anticipating any harm or even deterioration during the time when they are away. First of all, let us state that the plants must not be kept in darkened rooms, nor must the pots stand in water; water in the saucer, too, is to be avoided, as it tends to sour the lower soil in the pot and destroy the roots of the plants. Let the plants stand in full light, but not in direct sunlight. To keep the soil moist, pack the pots round with wetted newspapers in a box, or plunge them in a pail containing wet sawdust, soil, peat or fibre. Aspidistras, palms, araucarias and many other plants will be better in the open for the period; indeed, they come in, after a spell outside, refreshed and vigorous. Scoop out a hole under a tree or in semi-shade beside a bush, drop in a handful of ashes, place the pot in this, fill soil all round it, water well and leave it alone for a month or two. Plunged in ashes in semi-shade they are almost equally well provided for. Window-boxes, tubs and plants in boxes should be taken to a shaded corner, well watered and then packed round with leaves, ashes, wet bags, fibre ora nything else which will keep the soil inside the receptacle cool and moist. It is impossible, however, to provide in any effective way for a greenhouse collection, and readers must be obliged to a neighbour or to a jobbing gardener—who, please note, should be given explicit directions.

Rose Leaf Diseases.

BLACK spot is a parasitic fungus appearing on the foliage as purple blotches which rapidly darken and become black. Leaf scorch differs in appearance, the pale yellow spots gradually darkening and having a purple margin. Blotch is a brown infestation which also attacks the soft new shoots and buds. Unfortunately, it is not possible to do very much in the way of eradication; spraying with liver of sulphur, 1 oz. in 3 gallons of water, or with any fungicide which does not discolour the leaves or leave a white deposit, like Bordeaux mixture, should be practised, however, to prevent the diseases from spreading and to keep them somewhat in hand. Mildew, on the other hand, can be cleared away by any of these fungicides, and, as it is much more destructive and crippling to the bushes than is generally supposed, we urge every grower to treat it with respect and eradicate it. Rust is seldom harmful to any extent on garden roses. In all cases rake up and burn or bury deeply the fallen foliage in autumn, a most essential point in the case of the spot, blotch, scorch and rust, and give the soil a dressing of slag and potash salts, equal parts of each, applied as soon as mixed, at the rate of ½lb. per bush. Spraying with formalin in winter and spring is also advisable where spot, blotch and scorch are known.

Watering Hints.

STRICTLY speaking, in every garden there should be the means for the storage of rain-water. Where no such facilities exist or the supply of rain-water is exhausted, arrange to have a tub or a tank in an open position and fill this from the main. The action of the sun and air on the water will have a softening effect, and supplies drawn from the tub will be almost as good as rain-water. The receptacle can be easily filled by means of the garden hose.

Of course, much may be done by the use of the hoe to help plants to withstand a dry spell; but, if the rainless period is prolonged, watering will have to start. It is most important that this should be done thoroughly on well loosened soil. The idea is to apply the water so that it will penetrate to some depth; if the moisture only gets down a few inches the fine roots of the plants are encouraged to come too near to the surface instead of penetrating into the soil as should be the case.

On the whole, the evening is the best time in which to water, and, during hot weather, many plants benefit greatly from being sprayed all over with cool water. Overhead watering during the day is not so harmful as is commonly supposed. In this connection it may be pointed out that days in which showers alternate with bright, hot sunshine are often experienced without harm to the plants. Probably where scorching occurs after overhead watering the trouble is due to the use of cold, hard water. If soft water, taken from a tub fully exposed to the sun, is employed, there is very little fear of damage to foliage.

Plants that grow against walls or fences, or close to large shrubs and trees, will have special need of moisture in the summer. These never get the same amount of natural moisture as the subjects growing in more open positions. Wall fruit trees often suffer very much indeed in this way, and fruit dropping and a generally poor development is the result. The dryness may be prevented by a loosening of the surface soil, followed by a good soaking of water as required. Follow with a mulch of leaf-litter, grass cuttings or any similar material.

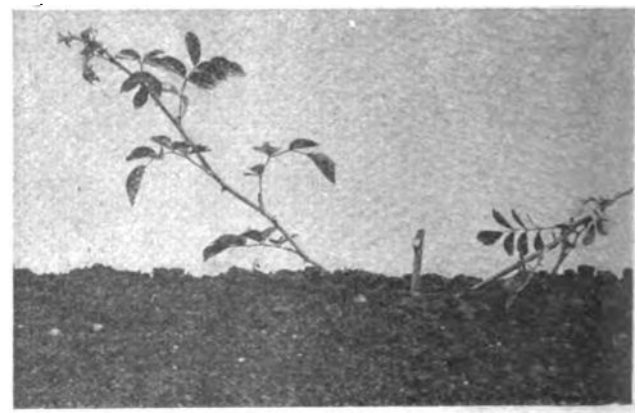
A long dry spell often affects shrubs (particularly rhododendrons) very badly indeed. It is a very excellent plan to dig a shallow trench all round the specimen which can be filled right up with water. Roses will also be helped by a similar arrangement.

Ants on a Lawn.

A COLONY of ants on a lawn will often make a very unsightly patch, and it is difficult to deal with the pest without damaging the grass. A very excellent plan by means of which all the ants may be trapped is carried out in the following manner: Get a large empty flower-pot in which the hole has been stopped, and then invert this over the opening that the ants have made. Ants will always build their nests in the driest possible positions and they are sure to go up into the pot. The removal is hastened if, after the placing of the pot on the ground, the outside is well soaked with water on a few occasions. When on looking through the hole in the pot, it is seen that the interior contains the nest, push a spade under the pot and drop the whole thing into a tub of water.

Gathering Roses.

THE condition of the blooms when taken from the plants largely determines their lasting qualities afterwards. Gather the buds, then, just as they are on the point of opening.



AFTER LAYERING: THE SHOOT PEGGED DOWN IN THE SOIL.

Early morning is, perhaps, the best time for cutting the buds. The next best time is late evening. Always secure a good length of stem; three or four buds at the base will produce sufficient shoots for a plentiful crop of blossoms in the autumn. Besides, length of stem has a great deal to do with the arrangement of the blooms. A word as to the actual cutting: a keen-edged knife is undoubtedly the best implement to use, as it makes a perfectly smooth, clean cut.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Training Gooseberries.

I WAS at Wisley last week, and was greatly impressed with the care that had been bestowed on the training of bush gooseberries. The trees were about ten years old. From a central stem branches had been trained to radiate, and kept pruned so that there was plenty of room between the branches to gather the fruit. This desired condition has been gained by thinning out the shoots and disbudding during the summer. When once a tree is developed into the right shape, all the treatment required is to thin out the young shoots where these are too crowded and to shorten the side shoots four "eyes" to form fruit spurs, and to regulate the leaders to retain the symmetry. The illustration shows a well grown gooseberry trained as a five-stemmed cordon. Any number of shoots can be trained in this way from one plant, although seven is generally the maximum, and frequently only two leaders are allowed to grow from one plant. This method of training bush fruits, such as gooseberries, red and white currants, is especially commendable in the small garden.

Late Seed Sowing.

IN some parts of the country brought has been a severe set-back to the vegetable crops. Peas, green crops and salads have been the worst sufferers.

It is not generally known that excellent vegetable crops can be grown from seeds sown in July. The secret lies in sowing the seeds where the crop is to stand; in other words, avoid transplanting. Sow thinly, and single out the plants at the earliest possible moment. Seeds germinate rapidly in summer because the soil, which has for the past few weeks been storing up the sun heat, is warm. Suppose a row of peas has failed. There is no reason why another sowing should not be made in the same trench.

It is essential to sow early varieties, such as Little Marvel. Pods should be ready for gathering in seven or eight weeks. Lettuces, both of the cabbage and cos varieties, can be grown to maturity before the winter comes on. They, too, must not be transplanted, or they will not heart until spring. Round or summer spinach is the best kind to sow for a quick crop of this vegetable, and this can follow the early potatoes. If the land was manured in spring no further manuring need be done.

The Problem of Staking Tall Perennials.

UNFORTUNATELY many of our most beautiful garden flowers require support of some kind. Delphiniums are a case in point. They grow quite 6ft. tall, and bear heavy spikes of blossom. When these are weighted with rain, and blown by the wind, it is not surprising that they fall over unless given some support. The most artistic method of giving this is by means of inch square wooden stakes, painted green. Each clump will need three stakes placed trianglewise round it. Fairly stout string is essential to hold the weight. In placing the stakes, leave one stem loose by each, so that it can afterwards be tied to the front of the stake. When the work is completed, each stake should be hidden, and after a few weeks of growth it should look as though no staking has been done.

The Gardener's Friends and Foes

Big Bud on Black Currants.

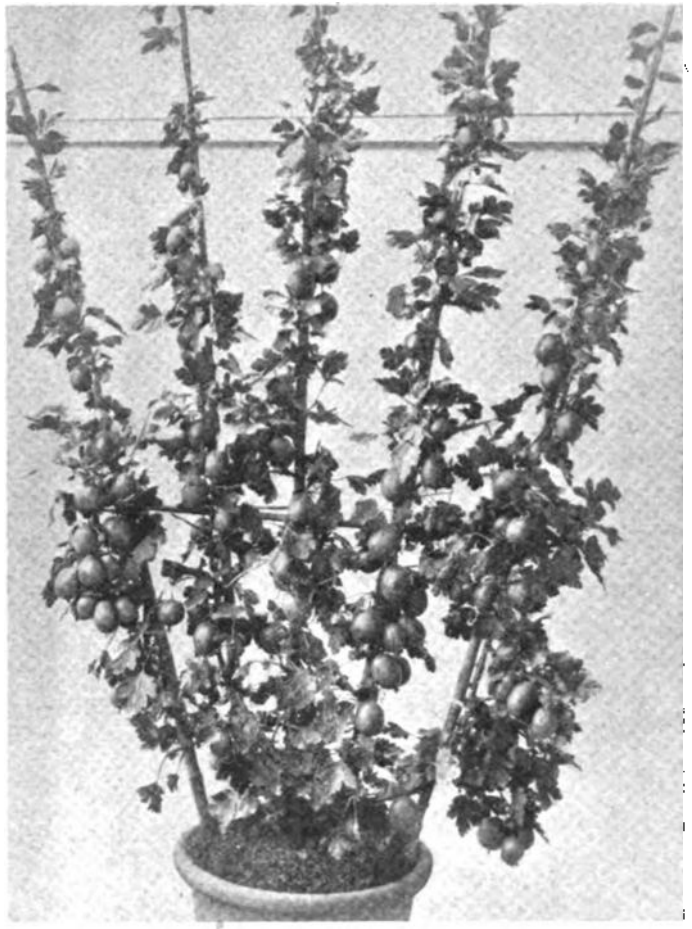
WE can now easily detect the presence of big bud on black currants. If, instead of shoots, the buds form round knobs on the stems, it can be assumed that the big bud mite is present. Cut one open, and the mites will be seen as tiny white specks. This is about the only serious pest of black currant. The remedy is to burn all badly affected bushes, and hand-pick the swollen buds and burn them. This is but a temporary measure, and in districts where the mite is common replanting with a variety such as Seabrooke's Black, which is almost immune, is advisable. Young wood should be encouraged and old wood cut away after fruiting.

Cabbage Butterflies.

The whitish butterflies over the cabbage patches in early summer are themselves harmless enough, but as they lay eggs which hatch out into caterpillars we must make war on the butterflies. Invert bottles on sticks so that the bottoms are above the leaves of the plants. On each put a few pieces of broken brimstone. This should keep the butterflies away. Should caterpillars appear, spray with a solution of common salt in water—as the cabbages are natives of the seaside they do not mind salt.

Garden Friends.

Many insects are our friends. Spiders destroy flies, moths and swarms of aphides. Glow-worms destroy snails. Hover flies and lace-wing flies and ladybirds feed on aphides. Some ground beetles (generally those which are very active on their legs) live on insects and snails. And in the animal world, birds (especially the song birds), frogs and toads are also our comrades in the war on troublesome insects.



A WELL GROWN GOOSEBERRY BUSH TRAINED AS A FIVE STEMMED CORDON.
Several shoots can be trained in this way from one plant.

Summer Pruning.

"SPARE the knife and spoil the tree," might well be the fruit-growers' motto. Hardy fruit trees and bushes always make an abundance of growth during the summer months, even while the fruit is still on the trees. This growth is essential, as upon it depends next year's crop.

Usually, however, a plant will make more growth than is needed, and it is necessary to summer prune in order to reduce the formation of sappy growth, to encourage the formation of fruit spurs, and to allow a free access of sun and air to the centre of the tree.

Apples, pears and plums should have in-growing shoots cut away, as well as any dead or diseased wood. Take away all weakly side shoots and shorten strong ones to about four leaves, allowing the leading branches to remain until autumn. Note trees that are growing too strongly and root prune them in autumn.

A few varieties of apples (Lady Sudeley, Irish Peach, Golden Noble, Waltham Abbey and Devonshire Quarrenden), and also the Jargonelle pears, fruit chiefly on the ends of the shoots, and their summer pruning should be limited to thinning out weak or overcrowded shoots. Cherries with the exception of the Morello bear their fruit on spurs, and the less the wood of one year's growth and upwards is pruned the better, for fear of setting up gummosis—a bleeding of gum from the wound, which causes much injury. The Morello cherry (which is one of the best fruits for a north wall), bears its fruits on the previous year's growth, consequently the young shoots should be retained. After the the fruit has been gathered, cut out shoots that have borne fruit, and if the tree is trained on a wall or fence, tie in the growing shoots. If grown as a bush, thin the side shoots to prevent crowding.

Treatment of Loganberries.—A phenomenal grower, the loganberry makes huge shoots before its fruits are ripe. As soon as the fruit is cleared the old wood should be cut away, and the young shoots trained in their stead. In the meantime, a temporary tie, either to a stake or the fence, should be made, to prevent the tender shoot from being broken by high winds or other agencies. Also, cut away the old canes of raspberries as soon as the fruit has been gathered.

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WORK IN THE FLOWER GARDEN

Seed Pods on Rhododendrons.

NOW that the bulk of the flowers are over, time should be found to remove the seed vessels, as, if allowed to remain, next year's crop of blossoms will be much reduced. The best and earliest varieties should be dealt with first, but none should be overlooked if they can possibly be attended to. Generally, nice young buds are to be found in process of development at the base of the seed pods, and a certain amount of care is needed when picking off the latter, or injury to these buds will result. Future displays must be considered.—J. C.

Antirrhinums.

Mid-season Duties.

ANTIRRHINUMS are becoming increasingly popular every year, and will grow well in most districts and soils, and anything which can be done to help their duration of flowering should not be omitted. During the next few weeks much assistance can be given. If the weather be dry and hot, it will be an advantage to hand-fork about them, but not too near the roots, and spread over the surface a mulch, either of old rotted manure or leaves. This will conserve a deal of moisture and save much labour of watering. As with sweet peas and violas, the secret of a continuity of blossoms lies in keeping spent flower stalks cut. With antirrhinums, the presence of seed pods should be a danger signal that ought to be observed. Every week, at least once, if not twice, they should be gone over, and all decaying flowers cut away. In the case of the tallest, it is wisest to give each a stake, tying them to prevent their being dashed by heavy rain or wind. At the time of their flowering, one may administer a little fertiliser every week, in the shape of bone-meal, forking it in. Watering is best done at night. The idea should be to prolong the present display for as long as possible, and therefore seed formation should be prevented. If one desires to perpetuate some particularly good sorts, this can be done by taking cuttings in late autumn and planting in a cold frame; but there is nothing gained in a small garden by allowing plants to go to seed and stopping the development of other spikes.—W. F.

M. VIOLACEA WITH VIOLET BLOOMS.

A Fine Summer-Flowering Shrub.

Fabiana imbricata.

AMONG flowering shrubs during the month of June, the evergreen heath, Fabiana imbricata, is most conspicuous, and here, in

A HANDSOME SUMMER-FLOWERING SHRUB FOR A POSITION ON THE LAWN.

the Chepstow area, it has proved hardy in the open border. In some districts it is reputed to be somewhat tender, but there are many readers of THE GARDEN who would succeed with it in the open, or as a wall plant with a south or south-west aspect. Fabiana imbricata attains a height of several feet and is somewhat spreading, and when in blossom it is very effective. The large, waxy white, tubular flowers are thickly set around every shoot, giving the effect of a long raceme of bloom, and at this stage it is a most beautiful shrub. It enjoys a light soil to which a little peat and sand have been added. Small plants flower freely, and as a pot subject for the cool greenhouse it has much to commend it. This charming shrub is readily increased by cuttings, and young shoots soon form roots during August and September if placed in a cold frame or hand-light. If desired, plants can be kept small by fairly hard pruning and pinching immediately after flowering.—B.

Two Blue Poppies for a Bed or Rockery.

BURMA is not generally regarded as the home of alpine plants, but in the extreme north, where the Irrawaddy rises, are snowy mountains covered with flowers, such as primula, gentiana and meconopsis.

Among the latter are two fine species, a form of M. Baileyi, and a new species called M. violacea. The first to flower is M. Baileyi, a sky blue meadow poppy, which at low altitudes (10,000ft. to 11,000ft.), flowers early in June, but which may be found in fine bloom as late as August at 12,000ft. and over. The steep alpine meadows, where the soil is a rich loam, overlying gravel, are blue with its floppy balloons at the end of June. Ample moisture, good drainage and a fairly rich soil of leaf-mould and sand are required. Unlike typical M. Baileyi, this variety—which comes nearer M. betonicifolia—dislikes shade and grows right out in the open. But it must be remembered that in its native country it gets almost no direct sunshine, and that unless it gets plenty of water, an English summer sun will burn it. So long as the roots are kept moist, it will suffer no ill effects, however. It is quite hardy and perennial. A full grown specimen stands 3ft. to 4ft. high and it will no doubt come as easily from seed as M. Baileyi itself.

M. violacea flowers later. It is not found below 11,000ft. and scarcely opens its topmost flower before the end of June. When the snow is melting you will find big rosettes of this plant, which have passed through the winter preparing for the season. The leaves are very big, almost pinnate (actually very deeply divided) and covered with golden yellow hairs. Soon the tall flowering stem begins to rise from the centre and it rapidly shoots up, bearing small leaves from the axil of each of which a silken flower hangs out like a flag. The flowers are of a beautiful shimmering violet, with the texture of Japanese silk, and in the centre of each is a sheaf of golden stamens. The leafy column of buds and nodding flowers is very effective.

The plants grow singly, two or three together sometimes, but never massed, on steep alpine meadow slopes, where the rough stony soil is very wet, but well drained. If you dig up a plant, you find that the carrot-like root goes down 3ft. or 4ft. into the loose, slipping earth. A light soil composed of at least half sand is recommended for this plant, and it must have sufficient depth for the root to descend, and sharp drainage. It is biennial, but will probably seed itself. Throughout the summer M. violacea continues to grow, unfurling flower after flower and in spite of their apparent flimsiness, they last long enough to accumulate six or eight in bloom at the same time. Eventually the plant attains a stature of about 6ft. Its nearest ally is probably the yellow-flowered M. robusta.—F. KINGDON WARD.

A BEAUTIFUL FORM OF M. BAILEYI WITH NODDING BLUE FLOWERS.

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A Good Wall Shrub.

COROKIA COTONEASTER is a remarkable and interesting shrub from New Zealand, from whence it was introduced about 1875. For a number of years it was considered rather tender, but time has proved it to be fairly hardy, and even in less favoured parts of the country it would probably succeed as a wall plant without any further protection. As a wall shrub it has much to commend it, and, moreover, in such a position its quaint system of contorted branches, with numerous similar twigs, could be readily examined, and these never fail to arouse the interest of all plant lovers. The tiny evergreen leaves are spoon-shaped, and the leaf stalks, which are flattened, are also an additional attraction. We have examples planted against a south wall and in the open ground; both flower freely each May, but so far the plants have not set any fruits. These it is stated are small, red, and oblong in shape.

The blooms are yellow, star-shaped, and about ½in. across, and a specimen when in full flower is quite a decorative shrub. C. Cotoneaster is rather slow in growth, and specimens 4ft. to 6ft. high are usually seen, although it is said to attain a height of 8ft. This plant may be increased by cuttings in July and August.—B.

An Excellent Trellis Plant.

POLYGONUM BALDSCHUANICUM is one of the best possible climbers for covering trellis, etc., and of recent years it has appeared in many gardens. The vigorous growth shown by this polygonum is often astonishing when a specimen has become really established. Those who have newly planted examples should note that during the first year of growth the climber benefits enormously if the ground about the roots is well soaked with water in dry weather. In succeeding years no attention of this kind is ever likely to be needed. From a foliage point of view, P. baldschuanicum is attractive, but when its masses of white flowers are produced the effect is really very fine indeed. As a rule, the flowers begin to appear about midsummer, but the season of blossom may be much prolonged if a little summer pruning is carried out. During the growing season the climber develops large numbers of new shoots, and as soon as the plant is well in flower some of these shoots should be cut back to about half their length. The pruning might be done at intervals of about a fortnight. It will be found that the stopped shoots break into flower at a later date and a good display of blooms is thus maintained until well into the autumn.—L. B.

Work in the Rose Garden.

ROSE beds should be kept free from weeds, and the hoe should be kept working the surface soil, preventing it from becoming caked. This helps to prevent excessive loss of water by evaporation. A top-dressing of partially decayed farmyard manure will greatly benefit the trees and will keep the soil round the roots cool and moist. During the blossoming period the roses should be given a good watering once or twice a week with dilute liquid manure. The liquid manure may be made by placing a bag of sheep manure into a tub of water, and after this has soaked for a few days, using a quarter of a can of this solution, filling up the can with water.

Ramblers.—The new growths that are springing up from the base of the plant should be tied in and any weak ones or those in excess of the number required for next season's flowering should be cut out.

Disbudding.—For choice flowers disbudding should be practised, leaving only one bud per shoot. This should be done as soon as the lateral buds are large enough to be seen, when they can easily be removed by pinching out with the finger and thumb or breaking off.

Pests and Diseases.—Green Fly: This insect pest of the rose often spoils the shoots and gets on the young growths and the leaves. A good spraying with soft soap and nicotine is a sure remedy for aphis; while pure water, if applied with sufficient force, will control them to a large extent.

Mildew.—Mildew on roses can be combatted by spraying with lime sulphur, summer strength 1 in 60, or by dusting with flowers of sulphur. Certain varieties are particularly susceptible to mildew, *e.g.*, Lady Waterloo, and should be sprayed as soon as the disease occurs.

Achilleas for Every Rockery.

THE achilleas are worthy subjects for any rock garden, and particularly are they of interest to the enthusiast who wants something which is showy and, furthermore, not too difficult of cultivation. Not to the flowers alone is the attraction of achilleas confined, for those which have the silvery leaves are very ornamental at all times, and there are also sorts having pleasingly scented leaves. As a whole, these plants require a sunny position with light porous soil to which, if you wish, you may add a little lime, though this does not seem absolutely essential. Following are a few which any enthusiast may try with every hope of success:

Achillea argentea, which is usually one of the first to flower, is a silvery-leafed plant of neat habit, producing white flowers arranged on a 5in. or 6in. high umbel. Another with silvery leaves and white flowers which ought to be included in any collection is A. Clavennæ.

A. Kellereri is not so generally known, but is a very deserving plant. Its bluish grey leaves are about 4ins. long and finely divided. The flowers are white, and the whole impression is that the plant is very distinct and a tidy grower.

A. Letisii, a comparative newcomer, is to be particularly recommended, in that its sulphur yellow flowers provide a welcome change of colour. Other points in its favour are that it is easy of cultivation, is not exacting in its requirements and, what is of great importance, has a long flowering season.

A. Portæ commences to produce its white flowers early in the season, and its abundant supply of silvery grey leaves provides a pleasing effect at all times.

Perhaps one of the daintiest of the achilleas is *A. rupestris*. This has white flowers and silvery leaves which are slightly scented.

A. tomentosa, with its green ferny leaves, is also to be considered. Though not such a good winter furnisher as some of the foregoing, it is by no means to be despised, and its head of yellow flowers seen in mass are very effective.

A. Wilczekii is a plant differing from most of its tribe in having broad leaves which are slightly downy and saw-edged. It is a free-grower, producing 9in. high umbels of white flowers.

Those mentioned are but a few of a fairly long list of good achilleas, but if the writer has succeeded in arousing any measure of interest in the reader then he has achieved his purpose.—W. H.

ACHILLEA KELLERERI IS NEAT AND COMPACT IN GROWTH.

An Easily Grown Veronica.

UNFORTUNATELY, Veronica gentianoides does not appear to be cultivated to nearly so great an extent as its undoubted merits deserve. It is a most excellent subject either for the rockery or herbaceous border, although it is as a plant for inclusion in spring bedding schemes that this veronica excels. As a groundwork for a bed of tall Darwin or May-flowering tulips it is particularly striking. The racemes of greyish-lavender flowers are from 6ins. to 1ft. in height, and are produced with great freedom.

V. gentianoides is of very easy culture, and it will succeed quite well in a sunny open position in any ordinary garden soil. It is readily increased by means of division immediately after the flowering period.

The Staking of Dahlias.

AS the side shoots develop, secure them to the stake by a piece of raffia looped around the branch and then to the stake. As the plants grow, place three or four other stakes so that their bases form a triangle or square round the central stake, and loop twine around these to keep the plants together.

The plants will make numerous shoots and some of the weaker of these should be removed to obtain best development. Seven to eight shoots may be left. When the plants are blooming freely occasional watering with diluted liquid manure water will be found beneficial. The beds may be top-dressed with partially decayed stable manure, and this will keep the roots cool and act as a fertiliser.

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ORNAMENTS FOR THE GARDEN

Empire Stone Co.

To even the smallest garden an ornament, whether it be a vase, a sundial or a bird's-bath if well placed with due regard to its surroundings and the design of the garden, will add beauty and interest.

THERE are few people who will deny the necessity of ornaments if a garden is going to have that finish which emphasises the owner's love of it. Beyond remarking that restraint and appropriateness should be cardinal principles in the decking of a garden, one cannot generalise on this subject without becoming merely verbose. It is better, therefore, to pass forthwith from the general to the particular and to direct attention to certain matters that should especially be borne in mind. Consider the sundial. This is a feature that can be introduced with good effect in any garden. It looks best when given a special position—at the end of a vista, or at the junction of two intersecting paths, or in the centre of a lawn or garden enclosure. Elsewhere it is apt to look lost and inappropriate. For the pedestal, most people will incline to stone for the material, and the baluster shape has much to commend it. A brickwork pedestal has the merit that it may be specially designed to suit individual taste, and brickmakers have moulded bricks which assist to this end. For a birds'-bath it is well to choose some place in the garden where this feature not only has some definite value as ornament, but also one where it can be seen from the windows of the house. To watch birds taking their bath is a constant delight. Another position that recommends itself is one where it is in view from a garden seat, and for this position a birds'-bath of basin form, set in the grass, is well suited. The pedestal type has much the same decorative effect as the sundial, and, accordingly, the positions suitable for it are much the same as those first indicated.

A GARDEN ORNAMENT HAPPILY PLACED. "Sussex" Garden Ornaments Co.
This bird's-bath is made of reinforced imperishable stone.

Then there are garden figures. These look well at the end of a path or grass walk, or ensconced as the genii of nooks, more especially when they have a background of clipped yew; but they can be equally effective in the centre of a lawn or as the dominating feature of a fountain pool. In the tangled growth of a garden wilderness it is engaging to create the surprise of a figure of Pan.

Tubs and boxes have a certain rotundity about them which is pleasant, more especially when they hold the earth for some exotic plant which has to be protected from the cold. To weather well, they should

Rhyaney Quarries.
A form of bird's-bath which can also be used as a fountain.

Sanders and Co.
A sundial of simple design is a feature that can be introduced with good effect in any garden.

Arthur H. Moorton, Ltd.
A pedestal bird's-bath is decorative as well as useful.

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Horsecombe Quarries.

ORNAMENTS AND FURNITURE OF BATH STONE.

Usually they are designed to be set on terrace pedestals or walls, but there is no reason why they should not be judiciously placed, for example, at the four corners of a lawn. They are made in great variety of shapes and their materials may be lead, cement, terra cotta or stone. Large earthenware jars, those first cousins of the vase, can be used with excellent effect as garden ornaments.

There is a lively charm about a dovecote which furthers its claims to be considered as an ornament of the garden, for it combines decorative value with interest. Generally speaking, the less elaborate the design of a dovecote the better the effect.

Well-heads, water-butts and cisterns all have their place as garden ornaments. The first-named, however, demands a special setting, and not every garden offers this. Water-butts and cisterns can be set in any ordinary surroundings; and whether one prefers the "tubby" wooden plainness of the one or the beautiful designs in lead to be obtained of the other, they serve equally a practical purpose, by conserving rain-water which would otherwise be washed into the drains. The water, it is true, is apt to get dirty, but it can be filtered through sand when it is wanted for personal use and not for the garden plants. J. G.

be made of oak or teak. In a similar way, barrels can be used bored with small holes in the side and filled with earth, wherein such gay trailers as nasturtiums may flourish. Vases are, of course, entirely formal.

Bromsgrove Guild, Ltd.

A SMALL BIRD-BATH SUITABLE FOR PLACING ON A LAWN.

WHAT OUR READERS SAY

WATER HENS AND GOLDFISH.

SIR,—With reference to the article (page 381) in THE GARDEN of June 11th, 1927, I may mention that in our garden we thrice put goldfish into a securely closed pond and yet the fish have always disappeared. Water hens occasionally visit the pond. Can they have taken the fish? We have not seen them do it, but there are no other intruders to the pond. A leading ornithological authority informs me he never heard of water hens taking fish, and he is quite sure they would not swallow them. However, I saw one of the fish dead with a wound in its side.—ROSYTH.

THE WINTER DAFFODIL.

SIR,—In connection with the notes on Sternbergia lutea (winter daffodil) in your May 28th issue, I quite agree that this plant should be more known, as it is quite easy and multiplies well in a sunny place in sandy soil. It flowers at a time when flowers are scarce, and, moreover, it stands the buffets of bad weather very well. I enclose a photograph taken last autumn. Each group represents a single bulb planted two seasons previously.—W. STEWART WACHER.

PROTECTING FRUIT TREES WITH NETS.

SIR,—Your correspondent "S. L. B." in THE GARDEN of June 18th recommends tying nets over fruit bushes to protect them from birds, but there are two drawbacks to this plan. One is that the birds can help themselves to a good deal of fruit through the mesh of the netting, the other, that if they *do* discover a gap large enough to get through, they will not only eat the fruit, but may entangle their claws in the netting and, not being able to get free, die from fright or thirst. Since finding a dead blackbird caught in one of our nets we have given them up. This year we are having an enclosure of wire netting made to protect most of the fruit, and, for outlying bushes, are using old lace curtains, and old mosquito net, etc.—G. F. J., *Berkshire*.

PRIMULA MICRODONTA ALPICOLA.

SIR,—I bought a plant of this name at the end of the Chelsea Show last month. I was told that Captain Kingdon Ward had seen the plant and formed the opinion that it was not the true P. microdonta alpicola, but a hybrid, probably between P. microdonta and P. Florindæ, as Dr. Macwatt suggests.—R. BEVAN, *Harrow*.

THE GOLDEN-HOODED ARUM.

SIR,—Reference was recently made in THE GARDEN to this remarkable arum (Lysichitum camtschatcense) having been exhibited at Vincent Square. It may interest readers to know that I have grown the plant for several years at the edge of the water and found it in every way satisfactory. It appears to be perfectly hardy and not at all fastidious, any moist soil and fairly open position suiting it admirably, but some shelter from cutting winds and spring frosts may be advisable in some localities. I first saw this handsome aroid in its native bog (near Victoria, B.C.) and shall not forget the wonderful golden spathes rising to about 15ins. in height and the splendid glaucous, or cabbage-green leaves which follow, these latter alone being sufficiently ornamental to afford this species a prominent place among kindred subjects. Here L. camtschatcense never fails to flower freely, usually at the end of April. The blossoms are followed by bold clubs of seed which, when mature, sink to the ground and ripen in a mass of transparent jelly, like frogs' spawn. These seeds germinate in the open and the ease with which plants can be thus raised makes it the more surprising that such a fine subject is not more widely grown.—A. T. JOHNSON, *N. Wales*.

FLOURISHING CLUMPS OF THE AUTUMN FLOWERING STERNBERGIA LUTEA.

HOLLYHOCK RUST.

SIR,—In your answer (June 25th) to "M. M.," of Sevenoaks, you state that there is "no cure" for Puccinia malvacearum. I should like to point out, however, that I grow a considerable number of these beautiful late-summer hollyhocks, both in beds and borders. While "rust" sometimes makes an appearance, I invariably find spraying with liver of sulphur very effective in checking the disease. I mix 1 oz. in about 3 gallons (a bucket) of rain water and syringe the plants hard with a fine spray. It is, of course, advisable to burn all highly infected matter.—G. N. S., *Carshalton*.

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REMEDY FOR BIG BUD MITE.

SIR,—In a number of gardens big bud is the cause of great loss among black currant bushes. Numerous remedies have been recommended and tried without effect.

I had given to me, about two years ago, half a dozen two year old black currant bushes, which were rather badly affected with the mites. I tried picking and spraying with lime sulphur solution, without any improvement.

When syringing my apple trees last January with the tar oil wash Carbo-Krimp (1 to 10), I also gave the black currant bushes and ground around them a thorough washing with Carbo-Krimp, using the same strength wash as for the apple trees. I expected the bushes to be killed, but was agreeably surprised to find them unharmed when growth commenced in spring. The malformed buds gradually died off and the bushes are now clear of big bud mite and bearing a crop of black currants. I would recommend those whose bushes are affected with big bud to try the above remedy.—T. V. C., *Uxbridge*.

PRIMULA OBCONICA: A REMEDY.

SIR,—Having read in THE GARDEN for June 18th about Primula obconica and its poisonous properties, I send you a remedy for the rash which I found cured it, and may, therefore, be of use to other of your readers.

The following is the remedy, to be applied as soon as the hands have come in contact with the primula leaves: Bathe affected part with very hot water containing 1 teaspoonful of boric acid powder; then apply methylated spirit with a sponge, which will take out the irritation.—M. A. NEWINGTON, *Sussex*.

OUR PHOTOGRAPHIC COMPETITION

We have already called attention to the fact that the photographs that are likely to be accepted are those which will prove instructive and interesting to other garden lovers. On this occasion we publish a photograph showing what may be done in the way of beautifying an unsightly corner in the garden. There are many such existing in almost every garden, as for example, along a tradesman's path, a garage entrance, a drive round the back of the house and so on. We feel sure many of our readers have found ways of making these unsightly places attractive and that photographs exist showing the result of their efforts. These, if published, with the experiences of the reader given, would prove most instructive to those of our readers who are faced with the same problem. In view, also, of the article published in last week's issue on garden furniture the illustrations shown on the opposite page are interesting. They indicate how garden shelters and garden seats of simple design can be placed in the garden to distinct advantage. They lend that air of friendliness to the garden that is one of its chief charms. Doubtless many other readers have attractive pictures of furniture and ornaments used in their gardens which would be most welcome if accompanied by personal notes.

This border of forget-me-nots and tulips has been particularly effective this spring. The border, which is quite a narrow one, runs down the right-hand side of our back drive, by the stables. Delphiniums and other summer blooming perennials have been planted behind the tulips and when the latter have finished flowering, these plants take their place. In this way a succession of blooms is obtained over a long period.

The guinea photograph, sent in by MISS M. HUGHES, *Lea Hall, Mollington, near Chester.*

This photograph shows a corner of my rockery. In the foreground can be seen flourishing clumps of Linum arboreum and Aster alpinus. The linum, which is three years old, has made a fine bush; it is a mass of yellow bloom and is quite hardy. On the right near the asters are mauve and purple aubrietia and stachys. C. UNDERHILL, *Canterbury*. Award of 5s.

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This snapshot of our rock bank was taken quite recently. The dry wall and crazy steps in the foreground were erected by us just a year ago and in such short time they are well clothed with plants. They have been a picture since February. Several varieties of aubrietias, anemones, bulbs, Nepeta Mussini, cerastiums, have all flowered well and some are still in bloom. At the foot of the wall is a row of St. Brigid anemones, raised from seed two years ago. MRS. P. S. RICHARDS, *Swindon.* Award of 5s.

On the rockery in front of the garden house, maples in copper and green are planted. These form a pleasant contrast to the soft red of the old pantiles which roof the garden house, up which is planted a clematis and a wistaria. MISS BLACKBURN, *Harrogate.* Award of 5s.

Many happy hours are spent in this summer house, which is both light and airy. It overlooks a delightful bed of deep blue forget-me-nots. Stocks in all their many colourings, are growing in the left-hand border; while white double daisies, pinks, saxifrages, etc., flourish in the crevices of the crazy paving on the right. MISS G. DARRAH, *Marple, Cheshire.* Award of 5s.

The raised path, pergola, stone wall and also the summer house, were designed and laid out by me. The large tree on the left is a pear, which is about seventy years old, and I think its placing is particularly effective. It provides just that necessary shade during the summer and does not interfere with the cultivation of the plants. Trees are always to be welcomed in the garden, for if they are placed with regard to their surroundings the garden is made more attractive and inviting. F. TALIESIN REES, *Birkenhead.* Award of 5s.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE old saying that "delays are dangerous," is particularly applicable to the protection of garden plants, and those amateurs who put off to a more convenient season the elementary work of staking and tying will now have reason to regret their dilatoriness, for a summer gale, with characteristic suddenness, swept the country on Midsummer week and left devastation in its trail. Lupins, delphiniums and other tall flowering subjects, suffered most, but sweet peas, dahlias, chrysanthemums, etc., also bore evidence of the damaging force of the wind. This latest example of the vagaries of summer weather in Scotland has further disheartened those gardeners who postulate that it is hardly worth while trying to grow flowers or fruit in such a climate. Admittedly the weather has been exceptionally trying during the first half of 1927, but a true perspective is seldom to be got during transient periods of depression. Plant life in the vigour of youth is endowed by nature with recuperative powers that diminishes with age, consequently annuals and biennials survive the vicissitudes of weather in May and June which would terminate their existence in August. Pessimists seldom make successful gardeners.

Notwithstanding the unseasonable weather, bloom is becoming more plentiful in the garden. My sweet peas are beginning to show colour and in the rose beds Mme. E. Herriot, Mrs. Courtney Page, Mrs. Wemyss Quin and a new crimson raised by Peter Lambert of Trier, are in flower. Growth may not be so vigorous as one would desire, but the foliage, though somewhat scant, is healthy looking and clean. Green fly, maggot and other insect pests have been successfully controlled by systematic spraying and the condition of the buds gives promise of abundant bloom in July.

Mention of sweet peas recalls one or two cultural points on which the inexperienced grower usually seeks guidance at this season. The first refers to the removal of the first blooms. Broadly speaking growers may be divided into two classes, *viz.*, those who do not practise disbudding and those who sacrifice all flowers produced in the early stages of growth. The former represents a fairly large constituency, to whom quantity is more desirable than quality; while the latter are inspired by the desire for superior flowers. Usually the plants begin to bloom when they have reached a height of about 2ft. and at that stage the stems are short and seldom carry more than two or three medium-sized flowers, and for that reason I never hesitate to practise disbudding until such time as the haulm is 3ft. high. This is a good rule to follow, especially in the case of February sown peas, that are not of robust growth. The question of feeding is much more simple, as stimulants in any form should never be given until the plants begin to bloom. Overfeeding, like over-watering, must be studiously avoided, particularly in heavy soils. Where the ground has been trenched and enriched in winter or early spring, and the plants are in a healthy condition and flowering freely, sooty water reduced to a consistency of weak tea may be sufficient to maintain the plants in a healthy condition; but liquid manure is beneficial when the blooms show visible signs of deterioration. Mr. Unwin, in his book, advocates a mulch of well decayed manure or spent hops as a means of conserving the moisture and keeping the surface roots cool.

The inauguration of the Scottish circuit of flower shows is at hand. In accordance with custom, it opens on the 16th with the exhibition of the West Lothian Pansy and Viola Association, which is to be held this year at Linlithgow, while Falkirk Rose Show takes place on the following Saturday. In this connection it is interesting to note that Messrs. Austin and McAslan's annual list of fixtures, just published and distributed gratis, contains a list of over 200 summer and autumn shows, and of that number, sixteen are to be held in Glasgow, irrespective of the Scottish National Sweet Pea, Rose and Carnation Society and the Glasgow and West of Scotland Horticultural Society.

Mr. George Mair, the grand old man of the Scottish nursery trade, has "crossed the bourne from which no traveller returns." He had a striking personality. Something like fifty years have elapsed since he entered into occupation of the then small nursery at Prestwick, which in these early days was a small, unimportant seaside resort and throughout the long, intervening period, he specialised in the hybridisation of the gladioli. Progress at first was slow, but he never lost confidence in the future popularity of the flower or the ultimate success of his work. To-day Mair's hybrids are familiar to every member of the trade and are distributed annually all over the world. His exhibits were an attractive feature of the leading flower shows and in this connection he created a record which is probably unprecedented in the realms of horticulture. During the thirty-six years he competed at Glasgow in the class for twelve vases of gladioli, he only failed on one occasion to secure the first prize award, his successful opponent in that particular year being the late Mr. Campbell of Gourock. As an indication of initiative, it may be related that when war broke out, Mr. Mair began the cultivation of white heather on a large scale and as the emblem of luck formed part of the contents of the parcels sent from Scotland to the various areas of conflict the enterprise was rewarded beyond expectation. As the gladioli trade increased, additional land was acquired and the work will be continued by his sons, who were associated with the father in the development of the business. ST. MUNGO.

GREENHOUSE NOTES

Potting Begonias for Winter Flowering.

THE class to which these begonias belong is now regarded as one of the most beautiful and most useful of all. It is not of much use any amateur attempting to grow the plants well if he cannot command a night temperature of at least 50° during the winter. The young plants rooted last spring will now be in good condition for repotting the most forward ones in their flowering pots, the others in intermediate sized ones. None need be finally potted in pots larger than 6in. ones. Fibrous loam two parts, sweet leaf-soil one part and some well rotted manure one part will form a suitable compost. The sand used to make the compost porous should be coarse, washed and dried before it is added to the bulk of soil. Low houses, or pits, from which the early melon or cucumber crops have been cleared from ideal structures in which to house the plants at this stage. But, of course, failing such houses frames or stages in greenhouses must be utilised. There must be some shade afforded or the soil in the pots will get dry too quickly and the immediate surroundings of the plants too. Quite sound drainage of every pot is essential, and pots and crocks should be clean and dry. Press down the new compost firmly with the fingers, it is not advisable to use a potting-stick. Place the pots on a bed of well washed ashes, ventilate and water carefully.

Propagating and Potting Show and Fancy Pelargoniums.

THESE large-flowered pelargonium are most valuable for the greenhouse, glass porch and conservatory. Old plants and those of one year's growth are partly cut back after the flowers have faded and the best of the branches are divided and cut to form cuttings, which are inserted in just the same way as those of the zonal pelargonium. The earliest batch of cuttings will be nearly rooted by this date, and the batch propagated now will form late-flowering specimens that will be useful on small stages and for placing in small vases in the dwelling-house. All cuttings inserted now should be of the youngest wood, the stem being severed from the harder wood of the parent plant; then the new growth will be free. Good fibrous loam, leaf-soil and sand in equal proportions should be thoroughly mixed and placed in the smallest pots—72's. Insert one cutting near the side of each pot; pack together all the pots containing the inserted cuttings in finely sifted leaf-soil or in coconut fibre in a shallow box, water and place the box on a stage in a greenhouse or in a cold frame. When the cuttings are well rooted they can be potted on without any check to their roots. The old plants that have been pruned and rested should be placed in an upright position in a sunny quarter, watered and allowed to produce some new shoots so that when the latter are about 1 in. long the old balls of soil can be reduced and the plants repotted in smaller pots, to be in due course again shifted to larger pots, when they will soon become good bushy specimens.—HANTS.

How to Fumigate and Vaporise Greenhouse Plants.

AT this time of the year aphides and red spider, also thrips, increase rapidly on the leaves and young shoots of plants grown under glass. These pests suck the juices out of the stems and leaves, thus crippling growth and hindering healthy root action. When the first few aphides are seen they should be killed instantly; a small dose will suffice in such cases better than large ones when the insects get a firm hold on the plants. Suitable materials for the purpose are sold by firms advertising in THE GARDEN, and they may be relied upon if used according to the directions accompanying each kind. I only intend to refer to the way in which the remedies should be applied—time, conditions of plants and weather at the moment. In every case the weather should be calm and the structures must be closed. This can only be safely done after sunset, as sun shining on the house while fumigation is being done, would cause injury to the foliage. If the evening is dull and showery, the glass overlaps will be closed by moisture and thus help to retain the fumes. Fumigation, in moderation, on two successive evenings will prove more effective than one big dose on one evening only. It is important that the ventilation be early and gradual the following morning, especially if the day breaks bright and sunny.—G. G.

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THE FRUIT AND KITCHEN GARDEN

Notes on Strawberry Cultivation.

WHERE it is intended to make new strawberry beds, consideration must now be given to selecting the strongest runners and pegging these down in large 60-size pots filled with some old potting soil or similar material. Attention must also be directed towards the plot the new bed is to occupy, which should be well trenched and manured some time beforehand, working into the top spit a good sprinkling of soot and bone meal.

When the plants have rooted freely in the pots they must be severed from the parent plant and collected in a place by themselves for a week or so until going strongly on their own roots, when they may be safely planted in their permanent quarters. Tread the soil firmly before each plant is put in, make sure that the crowns are well exposed when planting is completed and water them well in. Follow this by the use of the Dutch hoe in loosening the surface soil, thereby conserving the moisture and keeping the soil well aerated and free from weeds. The hoe should be used frequently, and every encouragement given to keep the plants growing freely, removing all runners as they appear.

Spring Cabbages: July Sowing.

THIS is such an important crop that it is always wise to make two sowings, one about the third week of July and the other three weeks later. Prepare special beds for the seeds and distribute them thinly on a firm level base; commence thinning directly the plants are large enough to handle, as sturdy growth is essential to success. If the permanent positions are not ready by the time the thinned plants touch each other, transfer them to nursery beds, planting them firmly, and later set them out. This plan may involve a little extra trouble, but it will often make all the difference between success and failure in the spring cabbage crop.—L. B.

Plant Out Brussels Sprouts.

NO time should be lost in getting the plants of Brussels sprouts sown in March into their permanent quarters. Land which is to be given over to this crop should be fairly rich, and it is most important to have it deeply dug. The ground needs to be firm, and, if it has been dug during a dry spell, it is a good plan to roll or beat it down to make the surface somewhat solid. Brussels sprouts do not produce stout stems in loose soil, and without these the heavy production of close sprouts is not possible. Have the rows about 30ins. apart, and let there be from 20 to 24 inches between each plant. If the land is in very good order more space may be allowed with advantage. Apply a dressing of lime before working up the ground for planting and, if possible, settle the plants in during a moist spell. If the weather is very dry each plant should be puddled in, and waterings at a later stage will be highly beneficial.

How to Grow Fine Endive for Autumn and Winter.

ENDIVE forms a most valuable crop in the garden, but justice is rarely done to the plants. They are hardier than lettuce, but repay the cultivators well if they are properly treated. It is a mistake to grow plants too early in the season. In naturally rich, moist ground the first sowings may be made in June; in a drier, poorer soil the early part of July will be soon enough. For the earliest supplies the fine curled varieties may be grown, as there is less risk of loss in frosty weather in the case of the round-leaved Batavian, and the latter should therefore, be grown to withstand the winter season and the early part of spring. The end of July will be a suitable time for sowing seeds of the round-leaved Batavian. Two sowings will be advisable as stated above. Ground recently cleared of early potatoes will be ideal for endive. It will only be necessary to level and break down the lumps of soil so that drills 1ft. apart can be opened with a draw-hoe. Endive seed is cheap, and where the ground is now available it is more economical to sow the seeds thinly in the shallow drills and thin out the resultant seedlings than to sow in beds or boxes and transplant the seedlings. Transplanted seedlings run to seed sooner than those not transplanted. Firm ground is essential for endive plants, then the outer leaves are smaller and those forming the heart, or centre, larger, thus there is a considerable gain to the cultivator. The curled-leaved should be thinned out to 9ins. apart and the Round-leaved Batavian to 1ft.—HANTS.

Some Vegetable Seeds to Sow Now.

IN some districts cultivators have experienced much disappointment this year owing to a long spell of dry weather preventing the free growth of young vegetables. By sowing now a few rows of early maturing varieties of certain kinds really good tender vegetables may be obtained late in the year, and they will be much appreciated. There must not be any transplanting of seedlings. All plants should be left in their seed drills, being duly thinned out only. Seedlings resultant from seeds sown early in June are now advanced far enough to be thinned out. There should not be any delay in carrying out this important work, as when seedlings become large and are then uprooted their removal unduly disturbs those seedlings retained. When seedlings are transplanted the check given to them causes a month's delay in the maturing of the crop for use. Early in the year we thin out seedlings of beet to 9ins. apart, but now we need only thin them to 6ins. The roots will be smaller but of high quality. The principal seeds to sow now are those of globe beet, stump-rooted carrot, Early Milan or other early turnip, such as White Model or Golden Ball; Broad Batavian endive, kohl-rabi (green for preference) early cabbage lettuce White Queen and Paris Silver-skin onion earliest pea, summer or round-seeded spinach, and turnip-rooted and French Breakfast radish. The best winter and spring crop of parsley is generally raised from seeds sown now. Not only do vegetables grow rapidly at this season because the soil is very warm but seedling weeds also, and these should be destroyed while quite small.—GEO. GARNER.

Treatment of Onions.

THE onion, like the cabbage tribe, is a gross feeder, hence to get the best results the soil should be rich or otherwise well fertilised. A sprinkling of nitrate of soda two or three times during showery weather stimulates growth. This crop also responds well to applications of liquid manure. A simple and practical way of obtaining liquid manure is to suspend a small bag of soot, sheep droppings or other fertilising matter in a tub of water.

The chief difficulties to contend with in growing onions are the onion fly and mildew. There appear to be various ways of coping with this fly pest. Among the simplest and most effectual remedies is elderberry leaves, a decoction from those being applied from a watering can at intervals during the early stages of growth. A successful gardener known to the writer makes a practice of digging in the green leaves of the elderberry in early autumn, by which means the soil becomes permeated with the odour; while another neighbouring gardener sows parsley with his onions.

Mildew, fortunately, is not general, although some districts seem to suffer more than others, it being more prevalent in humid weather. Keeping the ground firm and allowing plenty of room between the plants in order that they may get a sufficiency of sun and air is helpful, the object being to encourage the growth of hardy plants.

The crop should be lifted on the first dry day after the stalks have died down. If the weather is dry, the onions are benefited by a day or two outside, otherwise they should be spread on a dry floor under cover and well dried before being tied up for the winter use.—G. S. T.

Trouble with Peas.

GARDEN peas are, as a rule, singularly free from trouble, but at times one may be severely tried by the appearance of certain pests. A species of thrips may arrive suddenly in warm, droughty weather. These tiny insects infest the leaves in countless numbers, suck sap from them, cause them to flag at first and latterly to become blotched, unsightly and sickly. The application of water twice a day gradually removes them, but an insecticide is speedier and very effective. Always keep the syringe and the watering can going when thrips are about. The weevils are also annoying visitors. The grubs of these weevils live in the ground and attack the roots, while the mature insects nibble away at the leaves, eating little portions from them and quickly reducing their vitality. As they feed at night they are seldom seen, and the tyro wonders what the pest is. First of all tramp the ground alongside the rows, then dust lime or soot, preferably the former, in round the roots. Occasionally in the evening spray with paraffin emulsion or other insecticide as a further precaution and apply a stimulant in liquid form to urge the plants on.—H. H. A.

THE AMATEUR SHOW

THIS, the third amateur flower show arranged by the Royal Horticultural Society, much more nearly approached the ideal. Many real amateur gardeners took advantage of the opportunity to enter into friendly competition with the floral products of their gardens. Perhaps when the new hall is ready the R.H.S. will arrange classes for seasonable fruit and vegetables, and then, judging from the success of this year's show, it will be the ideal amateur show.

Sweet peas were the outstanding feature of the Show. The prize-winning collections were of such superb quality that many really splendid vases were not "in the running." The dozen vases of Youth, Magnet, Constance Hinton, Mammoth, Daventry, Picture and other sorts staged by Mr. F. W. Franks, Loampits, Tonbridge, were of such excellence as to be adjudged the finest individual exhibit in the whole of the Show and, in addition to the first prize, received the Garden Club Cup and the National Sweet Pea Society's silver-gilt medal. Major Krabbe of Calcot Grange, Berks, was a worthy second in this important class. In the other divisions Mr. William Huffey, Boormans, Tonbridge, and Mr. C. W. Renn, Clewer, also had magnificent first prize sweet peas.

Next to the sweet peas we should place the sprays of hardy shrubs. A few of the critical visitors questioned the hardiness

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of some of the genera which were admitted. But hardy is a relative term, and we conclude that any gardener is justified in exhibiting shrubs which survive the winter unprotected in his garden. The leptospermums were mostly instanced, and of these we have seen self-sown seedlings growing around the parent bushes in the home counties. But the show is the thing, and the exhibits of cut sprays of shrubs were passing beautiful. In the principal class the judges could not make up their minds, and so compromised by placing Mr. Lionel de Rothschild and Mr. Gerald Loder equal firsts. The former had Zenobia pulverulenta, Olearia semi-dentata, Magnolia macrophylla, Leptospermum Chapmanii and Carpenteria californica, while Mr. Loder included Leptospermum ericoides, L. Nicholsii, Veronica amplexicaulis and Callistemon salignus.

In appraising the Show, roses should certainly be placed at least third, and in the opinion of the expert judges the quality was much higher than, in view of the season, they expected. That veteran and enthusiastic exhibitor the Rev. F. R. Burnside, Stambridge Rectory, had most lovely blooms of Mme. Mélanie Soupert, Rev. F. Page Roberts, Dean Hole, Ramon de Escofet and Mrs. Henry Bowles. Mr. C. H. W. Maunder showed splendid blooms of George Dickson, Etoile d'Hollande, Augustus Hartmann, Cupid and Lemon Pillar; while Mrs. Ethel M. Wightman, Mr. C. H. Rigg and Mrs. Cribb also had delightful exhibits of roses.

The exhibits of border flowers filled large spaces, and practically all evidenced very good cultivation, but, with few exceptions, they were of the ordinary sorts that are to be seen in the average garden. Mr. Lionel de Rothschild, who won the chief prize, included the beautiful blue Razzia orientalis, Clematis integrifolia cœrulea and the arum lily. To the latter some took exception, but it, and also the Allium giganteum, were definitely allowed by the schedule. Annuals were also well grown, especially the antirrhinums and marigolds. Both of the first prize winning collections of carnations were of considerable merit, and Mr. Fairlie is to be congratulated on his border carnations, while Mr. Morton set up six vases of delightful garden pinks.

The indoor plants were of equally high quality, the miscellaneous groups being most decorative. The first prize was won by Mr. A. P. Brandt, Bletchingley Castle, with a charming arrangement of highly coloured crotons, graceful palms and ferns, liliums and Tydæa amabilis. The exhibit from the gardens of the Cheadle Mental Hospital were a very good second, and this contained the graceful Humea elegans, crotons, dracænas, coleus and liliums. The nine foliage plants which won the first prize for Mr. F. C. Stoop, West Hall, Byfleet, were all excellent specimens. Mr. T. Crawford sent from Bristol six excellent double-flowered begonias.

The classes for new plants introduced since 1920 were interesting but did not contain any epoch-making specimen. The best new species was Calceolaria filicaulis, shown by Sir William Lawrence, Bt. This is very like, but inferior to, the Andean calceolaria, which received an award of merit when shown by Mr. Clarence Elliott a week previously. Colonel Grey was placed second with a greyish-leaved form of the same plant. Mr. Lionel de Rothschild was placed third with Rhododendron didymum, an interesting and attractive Chinese species. It has a good truss of bell-like, reddish maroon flowers.

The best new garden plant was the handsome Disa Pink Domino shown by Colonel Stephenson Clarke.

Strelitzia juncæfolia, shown by Sir William Lawrence, was the best plant "not mentioned in the schedule." It was well grown and interesting, but not of general garden value. Mr. Lionel de Rothschild was second with a large vase of leaves and inflorescences of the New Zealand flax, and Mrs. Carl Holmes was third with Begonia Cathayana, a handsome greenhouse plant.

NEW AND RARE PLANTS.

BOTH sections of the Floral Committee of the Royal Horticultural Society met on the occasion of the Amateur Show, when they considered the merits of a number of new or rare plants and made three awards of merit.

Eucomis bicolor, shown by Mrs. Carl Holmes, The Node, Welwyn, is an uncommon bulbous plant introduced from Natal in 1878. Mrs. Holmes showed a very well grown plant bearing robust, erect, cylindrical racemes of whitish flowers wh have blue-purple filaments. Although a showy plant, it is attractive and interesti and the flowers last fresh over a considera period.

Philadelphus Atlas is a large-flowe mock orange, but, unfortunately, see to lack fragrance. The round flowers op quite flat and the shrub is of grace habit. It was shown by Sir Willi Lawrence, Bt., Burford, Dorking.

Veronica Matthewsii is a graceful lit shrubby species from New Zealand and suitable for planting in the rock garden the front of the chrubbery border. It w shown by Messrs. Wallace and Co., a has plentiful spikes of small white flowers ve lightly flushed with lilac.

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MAKING A FORMAL SUNK GARDEN (see page 460).

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THE

GARDEN

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Vol. XCI.—No. 2902 Saturday, July 16th. 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2902. JULY 16, 1927. PRICE TWOPENCE.

HINTS FOR AMATEUR EXHIBITORS

IT is fairly safe to say that every town and village in the land has its annual show of garden produce. In some districts the show is the biggest social event of the year. Many of them are coming along just at this time, and a few hints as to the points which a judge looks for in the different classes may be useful to amateurs.

FRUITS should be a little above the average size of the variety, the name of which should always be given. The flavour should be good and the colour, form and condition perfect. Uniformity is looked for in a dish of fruit, and the bloom should still be on plums, grapes, apples and such fruit. Defects in fruits are badly shaped specimens, or fruits of enormous size (in the case of dessert apples, for instance), spots, blemishes or bruises.

FLOWERS, at the time of judging, should display the full size and characteristic of the variety. Brightness, true form, substance and healthy foliage are essential. Flowers generally display best with their own foliage.

VEGETABLES must be clean and fresh, free from blemish, of good quality and of a size suitable for table use. Samples in the same dish should be of even size, and in all cases the size should not be too big. Tenderness is the chief point in beans, peas, etc. Common defects are tough and overgrown marrows, thick necked onions and coarseness, the last being due to a desire to show the largest.

READ THE SCHEDULE, or your exhibit may be disqualified. One phrase in schedules provides a snag for the unwary. Distinct "kinds" of flowers means genera like roses and sweet peas. Distinct "varieties" means different sorts of one genus, like Youth and Sunset among sweet peas. Varieties of plants do better in some localities than in others, and the easiest way to ascertain the best fruit, flowers and vegetables to grow in your own garden is to visit the local show.

All flowers and vegetables should be named. This is an important point to remember in exhibiting garden produce. Where two otherwise equal exhibits are entered in the same class, naturally the judge will give the first prize to that which is correctly labelled, as this adds to the real object of the exhibit, *i.e.*, to spread a knowledge of horticulture.

Trials of Roses.

THE question of establishing trials of seedlings under the supervision of the National Rose Society is presently receiving consideration by the Committee of that influential body and as the procedure of testing new introductions prior to the bestowal of honours is essentially sound, it is in the interests of all rosarians, whether they belong to the vast body of amateur growers or the less numerous class of traders engaged in the raising of novelties, that a practical scheme, more in keeping with the spirit of the times, should be evolved and put into operation in the near future. On the principle that the proof of the pudding is the freeing of it, the merits of a new flower can best be judged by the growing of it. The practice is by no means new. It has been in operation at Bagatelle, Paris, for quite a number of years and it is also followed by the English and Scottish Sweet Pea Societies. A two years trial is imposed by the French and a similar period of observation is favoured in this country. As an encouragement to raisers, the present system of awarding honours when the specimen blooms and bush are staged for the first time will probably be continued, but a super-award given after a two years' test would be the best guarantee of the qualities of a rose for garden decoration, which growers throughout the country might interpret as the hall mark of good character. Such a scheme would inspire a confidence in the decisions of the judges which could hardly be expected in the present method of distributing honours; and as its success as a guide to the selection of varieties would be reflected in the extent of the demand not only on the part of the 15,000 to 20,000 members of the Society, but by the rose loving public in general, it is more than probable that the future cultivation of the Queen of Flowers will, in a more or less degree, be restricted to those sorts whose merits are proved to be beyond dispute. The Society, we understand, have received the offer of a suitable site, and on very favourable terms, and although no definite arrangement has been made, it may be concluded that the practical work associated with the trials will be entrusted to the capable secretary, Mr. Courtney Page, who has had long years of experience as a practical rose grower.

The Jones-Bateman Cup.

IN 1920 Miss L. Jones-Bateman of Cae Glass, Abergele, presented to the Royal Horticultural Society a valuable silver-gilt replica of the Warwick Vase, to be used for the encouragement of fruit production. It is accordingly decided to offer it triennially for researches in the growing of hardy fruits figs, grapes and peaches in the open or under glass, and it is available for award in 1927.

Candidates should submit accounts of their work by October 31st. The work dealt with must have been carried out by the candidate in the United Kingdom mainly during the past five years. The Cup will be held for three years by the successful candidate, and when the Cup is relinquished the holder will receive a gold medal.

This Week's Work

For Gardens in the South and Midlands.

Stake tall-growing autumn-flowering perennials in the herbaceous border.

Layer border carnations, pinks and strawberries.

Repot old cyclamen corms.

Sow seed of greenhouse primulas and schizanthus in pans and place in a cool greenhouse.

Thin shoots of vegetable marrow and cucumbers, and keep the beds well watered.

Continue to summer prune fruit trees by shortening the side growths.

Lift shallots when mature and place them in a sunny position to dry.

Keep roses sprayed against insect pests.

Sow seed of hardy perennials in a shady border.

This Week's Work

For Gardens in Scotland and the North.

Sow Spring Cabbage.

Take cuttings of border pinks.

Top-dress dahlias when showing bloom.

Begin summer pruning of fruit trees.

Remove strawberry runners that are not required.

Lift shallots that are thoroughly ripened.

Plant out savoys and kale.

Continue layering border carnations.

Sow mignonette for winter flowering.

Pinch out side shoots of sweet peas and remove tendrils.

Prepare ground for new strawberry bed.

Transplant late batch of leeks.

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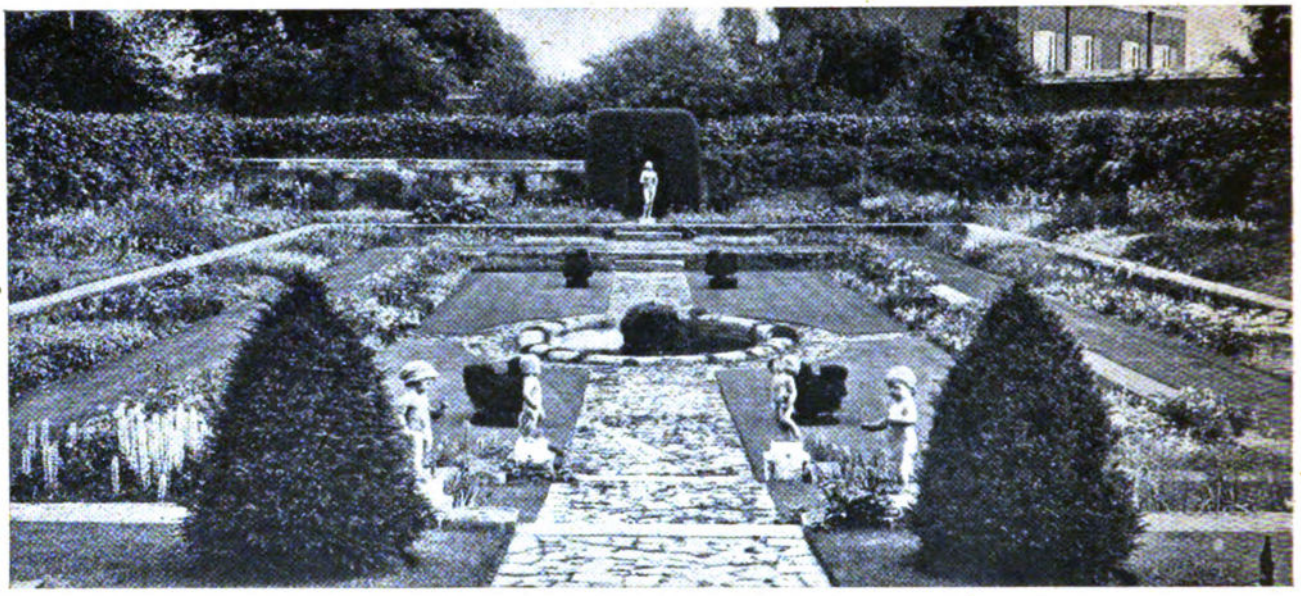


MAKING A FORMAL SUNK GARDEN

The famous Dutch Garden at Hampton Court so often admired and coveted by amateurs can be easily adapted to meet the needs of the average suburban plot. In this article full details are given on how to proceed with the laying out and planting of such a garden in the confines of a small space.

FEW realise that the famous Dutch garden at Hampton Court is not only to be admired, but can be possessed, on a modified scale, even by a dweller in the suburbs, who has no more than a rectangular plot enclosed by the brick walls which divide him from his neighbours.

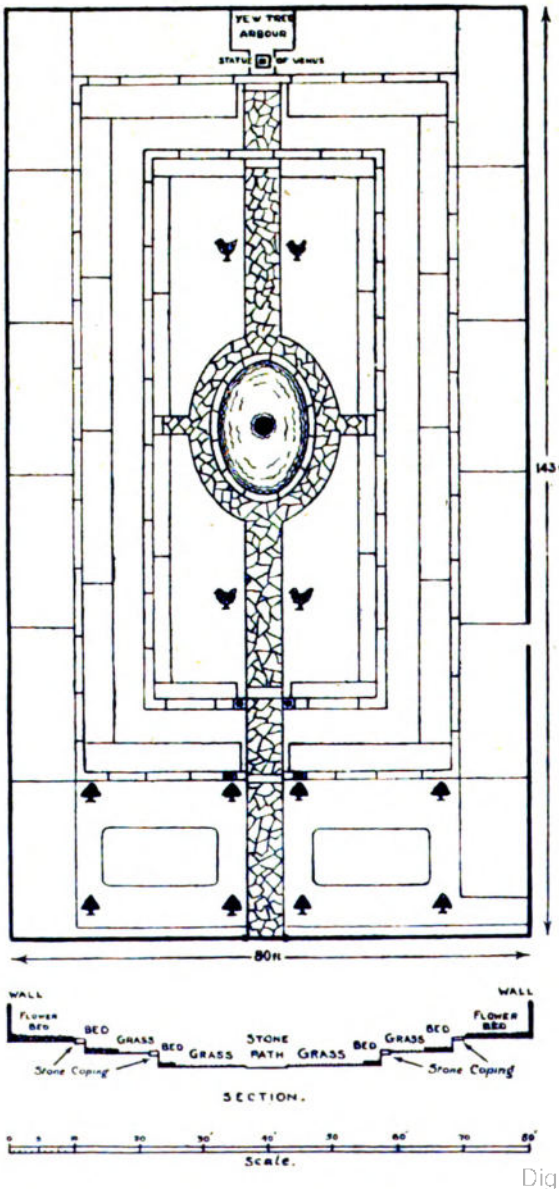
The plan may be adapted to suit both the individual purse and the size of the plot available. A very charming garden could be made by having the middle sunk portion surrounded by one tier only, or the terraced portions at either end could be omitted.

After the initial outlay in time and money, the subsequent upkeep does not demand excessive labour nor considerable expenditure on plants. If possible, go to Hampton Court and study the garden there. Note the planting arrangement, and above all, try to feel the atmosphere of the garden, so that, when it is reproduced, everything will be in harmony. The garden, it will be seen, is formed in three levels, built up by means of dwarf brick walls, each crowned with a capping of stone.

Now take the measurements of your own garden, ponder over the plan given with this article, and, after due consideration, decide whether it would be advisable to lay out an exact replica of the garden at Hampton Court, or whether to use only a portion of the plan. In either case the general procedure will be similar. Levelling tools, stone for paving, bricks for the dwarf walls, broken bricks and cinders for the path foundation, a measuring line, wooden pegs and a spirit-level will be needed. Anyone with a "good eye" can do quite accurate levelling work with a spirit-level, pegs, and three "rods," which are made in the form of the letter T and are about 4ft. high.

As a beginning, clear the plot of all plants and heel them in carefully in a corner of the garden, keeping well watered till the time comes to plant out.

The exact centre of the garden should first be found by stretching cords diagonally from the corners and marking the point where the two lines cross.



From this central point all other measurements should be taken. Each point of the whole plan should be marked on the garden by driving in stout wooden pegs. All measurements must be done accurately, every line must be parallel, and every angle a right-angle; and when all the pegs are in position, the accuracy of the lay-out should be checked by taking cross measurements. After this the work of lowering the central portion and the forming of the tiers begins.

To make the three levels in this garden, the middle one should be the original level of the garden and so be left untouched. The lower one should be dug out and the soil used to form the outer tier. It is no use digging out the middle and dumping the excavated soil on top of the back border in order to produce the three levels. This, of course, is the simplest method, but, unless the soil is of an exceptionally deep nature, it means that in most parts of the garden the top soil is being buried and in substitution for it is poor subsoil, in which few plants will grow. The top spit must be kept to the top; and although this means considerably more work, it is well worth the extra trouble. It would take several years of cultivation to bring the subsoil into sufficiently good condition to produce plants equal to those grown in the surface soil.

The best method to keep the subsoil at its correct level is to pile up the surface soil from the back border and sunk portion in the form of a ridge on top of the middle tier. The subsoil from the centre can then be wheeled out and carted to the back border until the desired depth is reached, when the surface soil should be thrown back on top from where it came, placing a good layer of well decayed manure between each spit. The middle tier must then be deeply dug and given a liberal supply of manure. If the soil is inclined to be heavy, it is advisable to provide some form of drainage for the lower portion. Trenches could be taken out and drain pipes or broken

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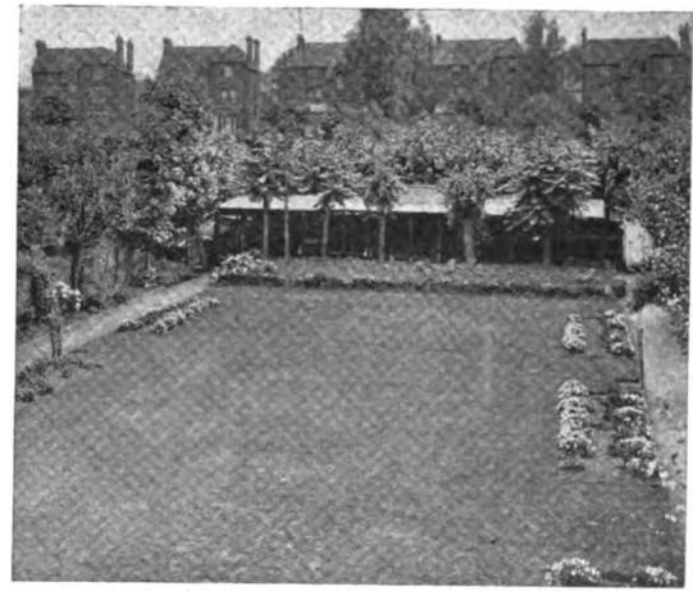
bricks put in during the operation of lowering the level.

As the work proceeds any small depression should be filled up and the surface roughly levelled. When the tiers are made up, levelling begins in earnest. Simple levelling is done by means of a series of pegs driven into the ground so that the top of each one is on a level with all the others. The soil should then be raked until all the pegs project the same distance out of the soil. The sunk portion should be levelled first, and a start made from the central point, where a peg should be driven in.

Having levelled the sunk portion, the low wall surrounding it should be built up. This wall is made by cutting a trench about 6ins. wide and 3ins. deep, filling it with concrete, and then building up on this foundation three courses of bricks, finished off with a rim of rectangular stone slabs, about 1ft. wide. When this has been done, the next tier is levelled and a similar dwarf wall built, but for this second wall four courses of bricks are used. Finally, the outer tier is levelled up to the wall. A note may be added as to the number of bricks required. The Hampton Court garden measures 143ft. by 80ft. Adapting it to a suburban plot, we may take this to be one-quarter of the area—say 70ft. by 40ft. The dwarf wall for the lower tier would be about 44ft. in length and 18ft. across, and the wall for the upper tier about 54ft. by 30ft. The walls would be built in "garden wall bond"—all "stretchers," that is to say, with the bricks laid end to end lengthwise. About 1,500 bricks would be required, costing about £4 10s. (The plan of the garden given on the opposite page has been redrawn from one which is shown in "The Flower-Lover's Guide to the Gardens of Hampton Court"—a most useful official booklet by Mr. Ernest Law, published by Messrs. George Bell and Sons; price 1s. This booklet gives detailed particulars of the planting throughout the gardens of Hampton Court, and is of the greatest interest and value to all garden lovers.)

The next procedure is to make the oval pool and the foundations of the paved paths, with their steps down from either end. The paths must have a good base of broken bricks, clinkers and sifted ashed to ensure firmness and drainage. The path foundation is left to settle before paving with either "crazy" or squared paving. When making the pond provision must be made for drainage and also for an inlet of water, which should come up through the centre in some form of fountain. The outlet pipe should reach the surface of the water, so that the overflow runs down it and through into the nearest drain, or to a soak-away.

Up to the present the work has been mainly constructional and of a heavy nature. To many the labour from now onwards is much more interesting. Turfing should be done next, but sufficient time for the ground to settle must be given. If the garden is started in the autumn (which is byfar the best time to begin), it is advisable to wait until the spring before planting the clipped yews. These do not transplant well during the late autumn, but soon become established if put in during April and given good supplies of water. The small beds can be cut and made ready when the turf is laid.



A SMALL SUBURBAN GARDEN WHICH BY REASON OF ITS SIZE AND SHAPE IS WELL ADAPTED FOR TRANSFORMATION TO A FORMAL GARDEN STYLE.

It will take time before the walls are bedecked with flowering climbers, or the yew arbour has reached any size, but by careful thought quite a good show of flowers can be obtained during the first year. Many herbaceous flowers can be planted in late autumn if the garden is finished in time. In the spring countless biennials, perennials, annuals, dahlias, gladioli, etc., can be put in, and these will bloom during the first season. Such plants as aubrietias, Lithospermum prostratum, Gypsophila repens, alyssum, iberis, etc., should find a home in the crevices of the low walls, so that they hang down in graceful trails.

The following notes give a rough idea of the plants suitable for stocking the garden, but, of course, the list is very far from complete:

In the uppermost tier: Phlox, Campanula persicifolia, anchusa, bearded irises, solidago, Oriental poppies (such as the variety Mrs. Perry), Anthemis tinctoria, Hemerocallis flava, Gypsophila paniculata, Salvia virgata, English irises, gladioli, stocks, antirrhinums, verbena, iberis, clarkia, geum, aquilegias, etc.

In the second tier: Flag irises, coreopsis, Lychnis chalcedonica, chrysanthemums, Canterbury bells, Nepeta Mussini, and drifts of annual lupin, Cheiranthus Allionii, alyssum, Papaver nudicaule, Anemone blanda and Dianthus Mrs. Sinkins towards the front.

In the lowest tier: Mixed tritonias, Spanish irises, sweet williams, Meconopsis cambrica, dianthus, Spiræa Filipendula, violas, comet asters, with rock campanulas and anemones at the edge.

In the spring bold groups of Darwin tulips would look delightful. Varieties of bright clear colouring are best for this purpose—Farncombe Sanders is a good cherry red, Clara Butt one of the best and most popular of pinks, Feu Brilliant is a very fine deep scarlet, Bartigon a rich deep red, and Euterpe a lilac mauve. Inglescombe Yellow, although not a true Darwin, associates well with any of the Darwin varieties, and it could be used with good effect in a garden of this type. The treatment of the rectangular beds at either end should be formal, and the plants should not be mixed. Intermediate or bedding antirrhinums could be used. These flower for many weeks. Flame, rose or yellow shaded varieties would be effective. Dwarf dahlias of the Coltness Gem type are also excellent. Comet or Ostrich Plume asters in pink and dark purple, stocks, zinnias, godetias and clarkias are all suitable. If one of these plants are chosen for these small beds, a seed of good quality should be sown early in the year, so that well advanced and sturdy plants are obtained by the beginning of May.

Wistaria chinensis, clematis in a great variety, lonicera, Solanum jasminoides, Jasminum officinale, Cotoneaster horizontalis, ceanothus, pyracantha, Cydonia japonica and Forsythia suspensa are only a few of the many shrubs which could be used to clothe the walls.

A number of old-fashioned flowers are particularly suitable for a garden of this kind, and, fortunately, most of them flourish exceedingly in the neighbourhood of a town.

The colour scheme should be soft and yet not insipid; a bright patch of colour here and there would relieve any tendency to monotony. Lemons, pinks, mauves, blues, purples and crimsons, with an occasional vivid orange interspersed with foliage plants of a silvery grey, would be ideal tones for a garden of this type. M. P.

A CORNER OF THE DUTCH GARDEN SHOWING THE BROAD MAIN WALKS, THE SHALLOW STEPS AND THE LOW TERRACING. THE PROPORTIONS CAN BE APPROXIMATELY JUDGED FROM THE PICTURE.

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SOME OF THE NEWER IRISES

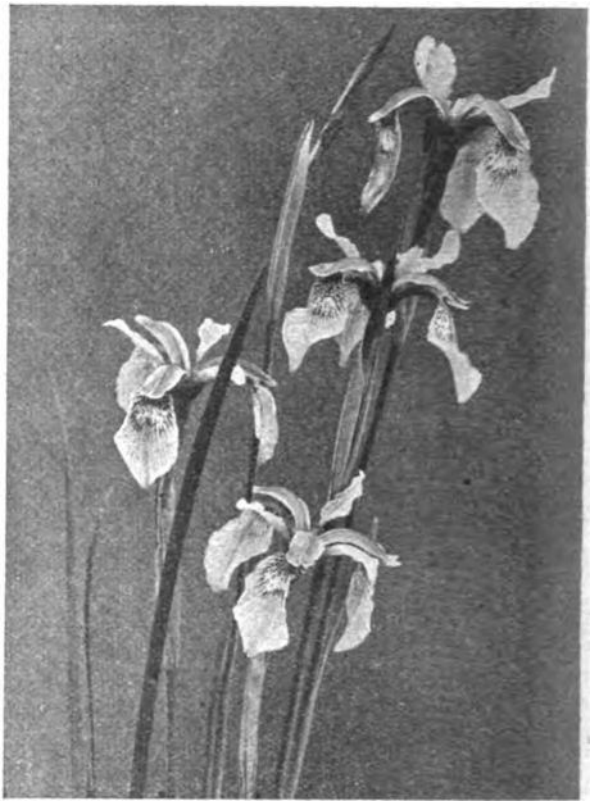
A Survey of the More Modern Varieties, Pointing Out those of Real Garden Merit.

THE tall, bearded or June-flowering iris takes an almost overwhelming proportion of the hero-worship accorded to this now popular flower; but there is plenty of scope for as yet unseen development, as may be gathered from the fact that only six or seven of the hundred and seventy odd known species have been utilised to produce the innumerable varieties of the favourite and easily grown, but inaptly named, I. germanica.

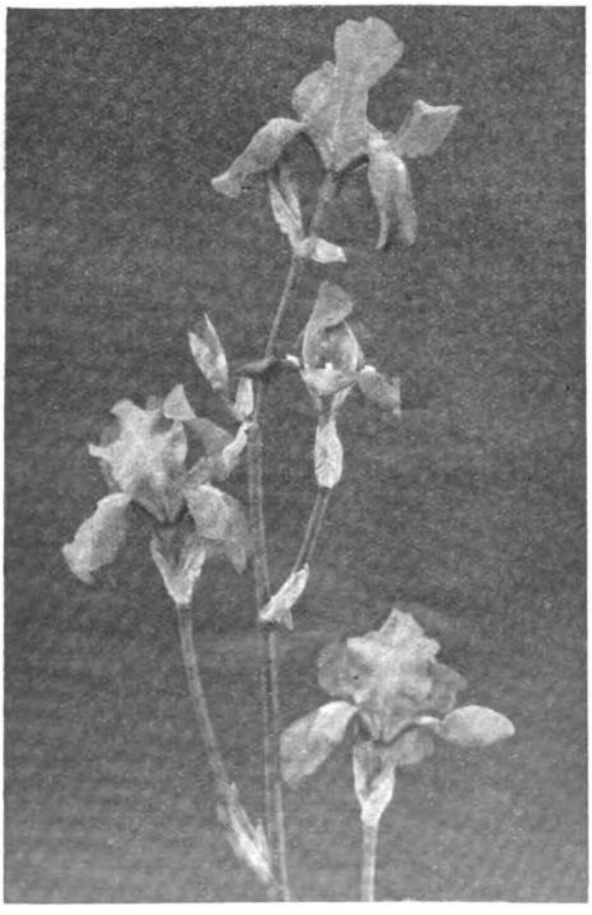
Equally accommodating, especially in heavy moist soils, and just as pretty and decorative, are the Iris sibirica types, now obtainable in a number of varying forms as garden hybrids; but it is difficult to understand why some of the other Far Eastern species—such as chrysographes and Delavayi—are so seldom met with; and the same remark applies to I. graminea, with its delightfully fragrant flowers. Some of the beautiful Californian species are notoriously difficult in English gardens, but Mr. Amos Perry of Enfield has recently produced some fine hybrids between these and I. chrysographes which promise to be more adaptable, and, should they prove so, will undoubtedly become popular.

Going back in memory to the Show of June 2nd—an exhibit which, to many of us, was an amazing effort—a hundred and one things are recalled which we shall ponder over till they meet our vision again next season. Among the new seedlings, Mrs. Dykes showed some beauties, one of them being practically a new break in colour, Zaharoon by name, and very catching to the eye. Its colour is most difficult to translate into words, but it struck me as soft apricot or biscuit curiously suffused with rosy mauve. Two new plicata seedlings were also worthy of note: Castor, shown by Messrs. Bunyard, the standards being bronzy mahogany and the falls heavily stippled crimson purple on white; and an unnamed seedling shown by Mr. Burton of Hildenborough, which seemed to me the best proportioned and most massive plicata extant. The pure white ground was heavily feathered mauve, the falls being wide and of excellent form. In Seedling 46, Messrs. Wallace had a bold pallida with soft mauve standards and deep plum purple falls margined pale purple; and Captain Troup showed a good white self, called My Own. In Mrs. Dykes' group one was pleased to see her late husband's fine yellow Amber in good form, the mauve pink Aphrodite, and Silver Mist, very pale silvery blue.

The interminable array of purple blue pallidas come from the raisers in such numbers that one gets bewildered, and oftentimes it is really difficult to detect more than a florin's worth of difference between a 42s. plant and one priced at eighteenpence. As a rest for the eye, I wandered several times back to Mr. B. R. Long's exhibit, where many of the artistically coloured varieties raised by the noted French amateur, M. Denis, could be seen. Rosa Bonheur is an example, Col. Candelot another. The latter has falls of a really rich crimson, with very little purple in its composition, and with such an achievement before us the question arises as to whether the red crimson fall may not be more imminent than we imagine: and if this colour comes, why not scarlet? Mr. Long, by the way, was surely a dark horse in this Show, and at Richmond he grows irises exceedingly well. It was a splendid and first-class performance, and gained for him the Veitch Memorial Medal for the best exhibit by an amateur. And these amateur exhibits were in the nature of very formidable competition, for the blooms and spikes shown by Sir William Lawrence, Bt., and Messrs. G. L. Pilkington and G. P. Baker were remarkable proofs of expert and painstaking cultivation. A most interesting exhibit was a group of beardless irises by Mr. Amos Perry, derived from various crosses. All the flowers were beautiful and fascinating, perhaps the most notable of all being Margot Holmes (Chrysographes x Douglasiana).



IRIS DELFOR, ONE OF MR. AMOS PERRY'S MODERN HYBRIDS.



PERHAPS THE BRIGHTEST OF PINK IRISES, THE STATELY APHRODITE, RAISED BY THE LATE W. R. DYKES.

Planting.—The public do not take kindly to the oft-repeated advice that soon after flowering is the best time to plant the bearded irises. Perhaps it is because holidays, sports and all other counter attractions of the open air take so much of the gardener's time; but experience shows that irises are as much in demand in March and April as they are in July and August. Now, from actual demonstration, plants establish themselves more thoroughly before winter sets in if placed in position from July until September, than do those planted later on; late September is a better time than the late autumn, and October is just a little more suitable than open weather during winter. Some years ago I received a small batch of American irises from Mr. Wassenberg in Van Wert, Ohio. The rhizomes came to hand perfectly dry in a large cardboard box a week before Christmas. I placed them in damp potting soil in a box, left them for a fortnight, and then had them planted out. All except one flowered strongly the following June and made excellent growth. Although I strongly urge planting in late summer, I deliberately say that the best time to plant is as soon as you make up your mind to have irises in the garden! If the inspiration comes in February or March it is better to get the rhizomes then than to wait for July, because you may get some bloom the first summer, and in any case the plants will be better established and better grown by the following year. In short, the best time to plant is *now*, whenever that may be. It simply means that plants put in during the summer become established in the shortest possible time.

Raising from Seed.—Every catalogue devoted to irises gives hints on planting and culture, so there is no need to go into these matters here; but I would like to say a word on the most interesting

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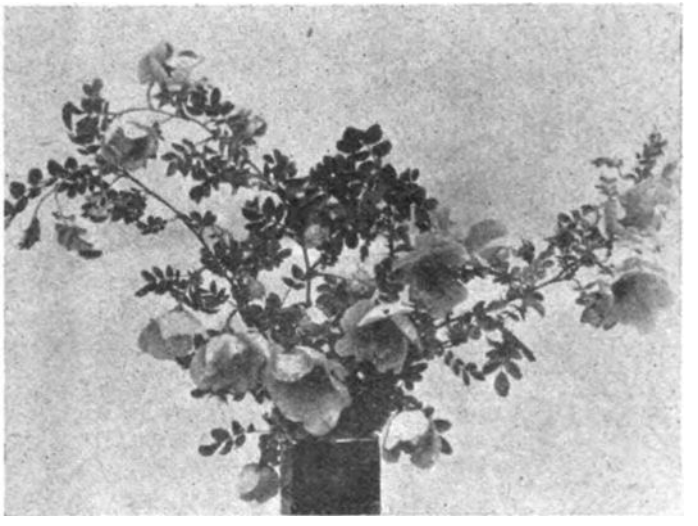
pastime of growing irises from seed. Most people imagine this to be a tedious and soul-trying experience. It is nothing of the sort. Many of the seedlings will flower eighteen months after sowing, and to watch seedlings breaking into flower is one of the real joys of gardening. The seed bed should be made quite in the open without the slightest protection, as frost expedites germination. For that reason the seed should be sown in October or November. If the natural soil is heavy and moisture-retaining, it is advisable to make a raised bed of porous soil. An old frame without lights is just the thing. A foot or so of loamy soil well treated with lime should be placed in this, and then 3ins. of mixed leaf-mould, broken mortar rubble and silver sand added, into which the large seeds are pressed about ½in. deep. Some of the seeds will germinate the following April, and these can be potted up, grown on for a few weeks and then planted out in their flowering quarters. But the seed bed should not be scrapped, just kept free from weeds and left for another year, as more seeds will germinate in the succeeding April.

J. L. GIBSON.

FLOWERING SHRUBS for HOUSE DECORATION

ALTHOUGH flowers suitable for interior decoration are by no means scarce at this season of the year, there is, nevertheless, an additional charm to the display afforded indoors if the material utilised for filling the vases or bowls shows some originality in the arrangement, or in the flowers made use of, and for this reason—or it may be simply to avoid interfering with the beauty of the flower beds or borders—many people turn to the flowering shrubs to supply their needs in this direction.

Fortunately, there are a large number of flowering shrubs which may be employed for this purpose with the most pleasing results, and it will be readily understood that those mentioned here by no means exhaust the list, but are simply a few examples selected as being suitable for use for interior decoration.



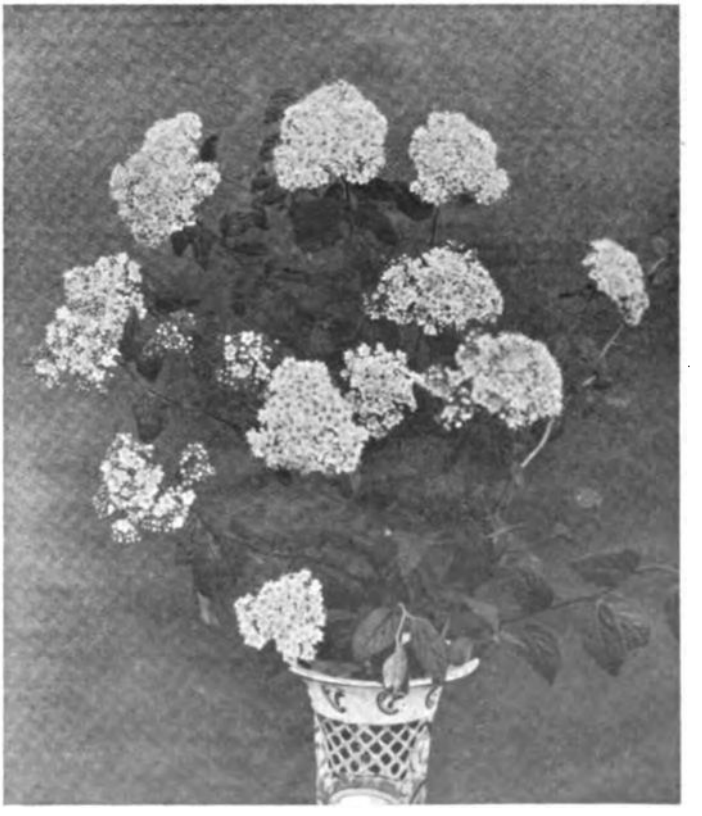
SPRAYS OF THE GLORIOUS YELLOW BLOSSOMS OF ROSA HUGONIS LOOK MOST EFFECTIVE IN VASES.

Often grown and sold specially for this purpose, the flowers of many species of spiræas, such as the one illustrated on this page, lend themselves admirably for use in vases, as also do the flowers of the philadelphus or mock oranges and the deutzias. Garden roses are always popular, and although these are largely used and unrivalled for filling bowls, this by no means disposes of this family, as anyone will agree who has seen a vase of the beautiful Rosa Hugonis with its graceful foliage and bright yellow flowers or of R. Moyesii, which differs only from it in that it has deep red flowers instead of yellow, and few shrubs can excel or equal Moyesii in the autumn, when its flowers are replaced by gorgeous coloured fruits. Very similar to these two Chinese roses is the old Austrian Copper Briar, and suitable for using in the same manner.

Not quite so graceful as the preceding, but nevertheless pleasing in their appearance, the flowers of the weigelas are effective indoors, and the various colours in which these may be obtained gives them additional charm. Provided they are not used too lavishly, the flowers of many of the hybrid rhododendrons look well arranged in a large bowl, especially if the room in which they are displayed is a fairly large one.

Not, perhaps, very lasting, but striking always, the azaleas please not only by reason of their vivid colouring, but by their delicious perfume as well. This, of course, is not particularly desirable throughout the house, but a small bowl of Azalea pontica placed in a large airy hall will be a joy to all. W. H.

SPRAYS OF MANY SHRUBS SUCH AS THE WEIGELAS CAN BE USED TO ADVANTAGE FOR INDOOR DECORATION.



THE FEATHERY TRUSSES OF ONE OF THE SHRUBBY SPIRÆAS ARE LIGHT AND GRACEFUL IN APPEARANCE.

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THE BUSY MAN'S PAGE

Removing Suckers from Roses.

THE question of removing suckers from roses may appear to be a very simple matter, but there are many who, through want of experience, know little or nothing about this apparently trifling detail of culture. Before anyone can appreciate what to do in this matter, it is well for them to understand that the whole question is one of stocks. Probably 90 per cent. of the roses grown to-day are worked on one stock or another; only a very small proportion being on their own roots.

The process of raising roses on their own roots is a comparatively slow one, and it would take at least four years to make a good plant; and, again, a goodly number of the better sorts do not possess the essential inherent strength when grown in this manner. Since the plants are not grown on their own roots, many roses develop undesirable suckers, which must be got rid of if the plants are to continue in good health and condition. In order that the beginner may distinguish the stock from the garden rose, a shoot severed from a briar and a shoot from a garden rose are shown below. The latter is figured on the left and the briar on the right of the picture. A careful comparison should be made of these two growths. Stock of the Manetti is not unlike that of the briar; it has tender, pale green foliage and seven leaflets, as a rule. Young sucker growths are of a reddish brown colour, and have thorns of a similar colour. These thorns, or prickles, are composed of large and small ones, the large ones being disposed about an inch apart and the smaller ones in between. The De la Grifferaie stock also favours the rose in appearance, and has five leaflets like the garden rose. To distinguish the suckers, however, the beginner will observe their downy appearance; the young growth is quite mealy-looking and purplish green in colour; the thorns or spines are large and strong, and the bark is red. The second illustration shows a sucker growth that has evolved on a polyantha rose. The extraordinary vigour of these suckers often seriously affects the growth of the plants, unless they are removed promptly. It is useless to cut off the suckers just level with the ground; they must be detached quite close to the roots from whence they spring.

A ROSE BUSH WITH A STRONG SUCKER WHICH SHOULD BE REMOVED.

Summer Treatment of Violets.

THE measure of success with these depends largely on the treatment the plants receive during the heat and drought of summer. If allowed to suffer through lack of moisture, red spider will assuredly appear and the plants become stunted through their vitality being undermined by this prevalent pest. In light soils, copious supplies of water will be needed, though the labour of watering may be much reduced by mulching with litter or lawn mowings or whatever else of a suitable nature may be at hand. In the absence of a mulch, hoeing will do much to preserve moisture in the soil and promote growth. Endeavour to keep the surface soil in a loose, friable condition. Weak liquid manure or a sprinkling of compound fertiliser at intervals of a fortnight or so will further assist in the same direction. The removal of runners as they appear should be persevered with, so that the energy of the plants may be devoted solely to building up strong crowns for future flower production. In the enjoyment of the beauty and fragrance of summer-flowering plants there is the danger of forgetting to attend to practical details which make it possible to enjoy those qualities when the pageant of summer has become a memory.

ON THE LEFT IS A SHOOT OF A CULTIVATED ROSE. ON THE RIGHT THE SHOOT OF A BRIAR.

Cutting Back Aubrietias

THE aubrietia tufts tend to grow loose and untidy during the late summer, and, in time, they become so unsightly that something desperate has to be done to tone up the co ner in which they are grown. After flowering however, they may be clipped back, and clipped back fairly hard, with the garden shears; this does not kill them, by any means, but simply results in a compact mass of shoots springing up in time and the tufts look pretty and neat, almost exactly the same size as before. Of course, they are not pretty just after the garden shears ha'e been at work, but that soon passes and the tufts become a crown of green. The plan has much in its favour, in addition to the point of tidiness, when the garden is limited and the most has to be made of space. The tufts do not encroach on other plants near at hand after clipping, and they are kept a reasonable size. A little sifted old manure may be worked in round the tufts after clipping, if thought necessary; the clippings of named varieties may also be rooted as cuttings in a shady, sandy corner. We may add that clipped plants almost invariably give the finest blossom.

Common Vegetable Diseases.

Celery Leaf Blight.—This fungus causes pale spots on the foliage of celery plants, which then fail to grow and slowly die. Burn badly infested leaves and spray with Bordeaux mixture.

Club Root.—All the brassicæ, and wallflower, stocks and cress may be infested. Growth is slow and sickly; when the plants are pulled up it is found that the roots are clubbed and deformed. There is no cure; burn infested plants and lime the soil heavily.

Onion Diseases.—The plants turn yellow first. Smut is a black mould on the leaves. Burn badly infested plants and dust others with lime and sulphur mixed.

Pea Mildew.—This turns the leaves yellow, then covers them with mildew. Spray with liver of sulphur and feed the plants.

Potato Black Leg.—Potato haulm becomes black at soil level, growth is stunted and tubers small. Burn the haulm; use the tubers at once; do not save them for seed.

Potato Blight.—This is the common potato disease, virulent in warm, damp summers. Leaves first turn brown, then they curl up and rapidly decay. Spray at once with Bordeaux mixture.

Potato Leaf Curl—The name aptly describes the disease. Pull up the leaves and stems, then burn them. Use the tubers and do not save any for seed.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

New Gardens.

THOSE who take possession of a garden for the first time—especially on new housing estates—will welcome a few hints on the initial work that is necessary. In the first place I should advise all beginners to proceed slowly. Make your plan first. This will, of course, depend on your own individual taste and on your household's requirements. If you anticipate using your garden as an outdoor living-room you will require to make a lawn. If the garden is big enough, devote a part to fruit and vegetable growing. To keep off winds and to shut out prying eyes you will need screens which you can cover with pretty climbing plants. In a single season you could cover an archway or trellis with climbing knotweed.

Dig New Gardens Now.

No time should be lost in turning over the soil of a new garden. First mark out the position of paths, and then dig over the remainder, burying all weeds, rubbish, stones, bricks, cans, etc., about 2ft. deep. This ensures good drainage. September is the time to sow seeds for a lawn, but you can begin now to dig over the ground, leaving the stones below and sifting the top soil to a depth of about 3ins. In the vegetable patch you can immediately plant winter greens—cabbage, broccoli and kale—and, of course, salads can be sown.

The Front Garden.

I hope you will not leave your front garden neglected and unkempt while your back garden is made beautiful. I have found that many people do this, arguing that children pluck the flowers in front. I do not think this difficulty is insurmountable. If every front garden were cultivated, I do not think they would be such a temptation to youngsters, and certainly it would make a surprising difference to some of our streets. If you are digging your flower border now, you can make it immediately beautiful by purchasing some bedding plants. These will be followed in autumn by bulbs, and it is not too early to make out your bulb order now. Perennial plants, and trees of all kinds, also such creepers as the self-clinging Virginian creeper (Ampelopsis Veitchii), clematis and climbing roses should be purchased in the autumn.

Looking Ahead.

CARNATIONS, roses, lilies, poppies, cornflowers, geraniums—all are ablaze in the garden. At no season do we find a greater profusion of colour in the border. Here is the result of our labour. Our planning and planting are put to the test during these few weeks of midsummer splendour. We take our chairs on the lawn and sit back and admire. But only for a short time. Garden chairs, be they never so comfortable, must not entice the gardener into forgetfulness of his duties, and even now next year's flowers must be prepared.

Perennials from Seed.—A glance at our own and our neighbours' gardens gives us ideas as to the kind of plants which may advantageously be added to our stock. It is undoubtedly easier to propagate by division of roots, or to purchase plants from a nurseryman; but the cheapness, as well as the added interest, of home-raised seedlings makes a strong appeal. Seeds of pansies, Brompton stocks, polyanthus and campanulas can all be raised easily if sown now in pans or shallow boxes and pricked out as soon as they are large enough to handle. A cold frame is good for wintering such seedlings, but it is not absolutely necessary, and in fairly sheltered gardens most hardy perennials can be raised and left outside all the winter.

Shrubs to Prune After Flowering.

A NUMBER of flowering shrubs, such as deutzia, mock orange, kerria, ribes, Berberis stenophylla, broom and lilacs, bear their blossoms on last year's growths. Now is the best time to prune these so as to promote the formation of sturdy shoots for next season. Cut them well back, especially if they are too large for the space allotted to them, and thin out weakly crowded branches. The best tool for pruning is a sharp pair of secateurs, which can be obtained in several sizes and forms from any horticultural sundriesman.

It is a great mistake to cut beautiful flowering shrubs into balloon shapes with shears. Pruning should assist Nature in her artistry. Flowering shrubs should be allowed to develop a natural effect, and not to become mutilated geometrical monstrosities. Recently I saw a lilac bush, probably ten years old, flowering for the first time. For years it had been clipped as a hedge, and only a fortunate lapse on the part of the owner had given it a chance to display its beauty. (He admitted afterwards that he had always thought it was a privet!)

THE IRIS IS AN EXCELLENT PLANT FOR THE TOWN GARDEN.
The roots can be planted from now on until the end of September. They look particularly well if given a position in the mixed border.

Treatment of Loganberries Now.

THE best of all fruits for the town garden is the loganberry. In the heart of the City there are plants which show, at this season, some fine crops. Small gardens can accommodate them as well as large ones, in spite of their enormous growths, for they can be formed into a screen between two gardens, or can be used in the place of roses to climb over arches and sheds.

Just now the loganberries are doing double work. They are flowering freely, and the fruit as it sets requires extra nourishment. In addition the plants are sending up young shoots from the base. These young shoots will be the ones on which next season's crop is borne. To secure the best results, therefore, loganberries should be well fed at this season. Give a thorough soaking of water first if the soil is dry; then give a liberal supply of liquid manure. This should be made by soaking animal manure in water; but if such manure is unobtainable, fertilisers can be used instead. In the latter event, apply the fertiliser and then water it well into the soil. Follow up this treatment by putting a surface mulch round the base of each plant. Decayed horse manure, leaves, grass clippings, hop manure or any similar material can be used for the surface mulch, the object of which is to assist the soil to retain moisture, for loganberries are gross feeders, and very soon exhaust moisture in the soil.

The other important thing to do with loganberries just now is to keep the young shoots tied in, to prevent breaking. These shoots should be thick and sturdy from the time they show themselves; if they are not, it shows that the plants need more nourishment. But even the strongest shoots are brittle while they are young, and will easily get broken, so that they should be tied in to the supports as they grow. If there is little room to tie them on the permanent support, put in a few stakes and tie them temporarily to these. When the fruits have been gathered, the old stems will be cut right away, and only the new stems will be tied up for next season. Several pounds of loganberries are produced on a single plant, and these make a welcome addition to the family larder, as well as being ornamental in the garden.

How to Obtain Fine Tomatoes.

TOMATOES, whether grown outside or in the greenhouse, need almost daily attention at this growing season, for they will only fruit well if their growth is confined to the single main stem. All side shoots appearing in the axils of the leaves should be removed. This throws the strength of the plants into the flowers and fruits. Leaves which overshadow green fruits should be half cut back to allow the sun to reach them. Tap the stem of each plant with a cane occasionally, as this helps to disperse the pollen, so that the fruit can "set."

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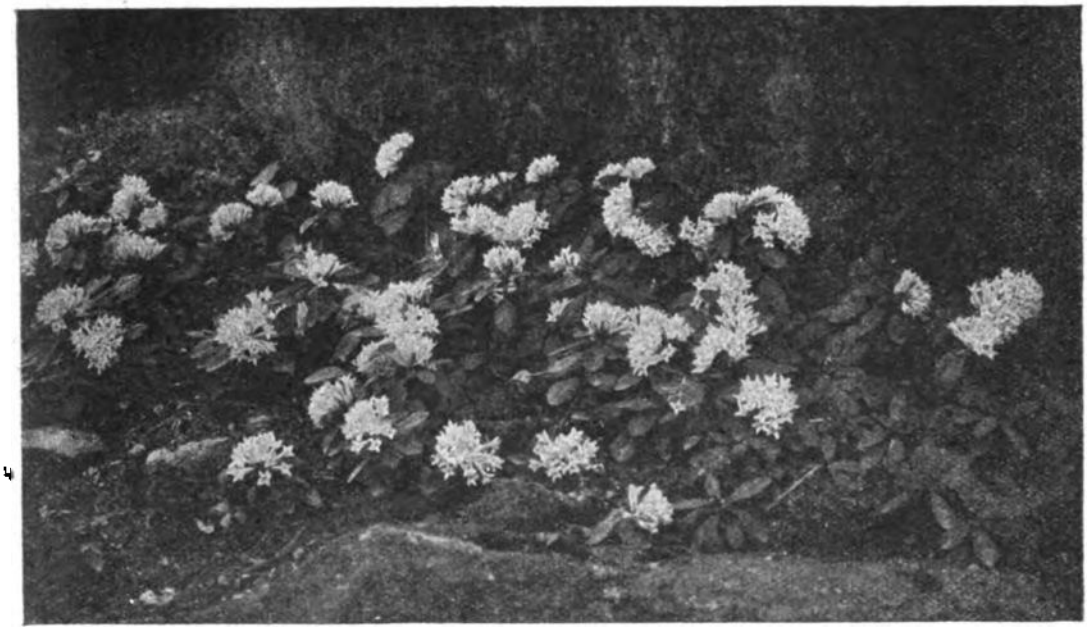
NOTES ON THE FLOWER GARDEN

Daphnes for the Rock Garden.

A FEW fine clumps of the sweet scented daphnes is the delight of all rock garden lovers, and there are at least two species which readily respond to ordinary cultivation. The first to call for notice is the creamy-white and exquisitely fragrant D. Blagayana, a charming species from the mountains of eastern Europe, from whence it was introduced about 1875. It is a dwarf evergreen shrub with a spreading habit, and one of the secrets of successful cultivation is the pegging down of the shoots directly they are of sufficient length for that purpose. Roots are eventually formed and by this means the plant appears to renew its vigour, thereby increasing in size and beauty. Some growers place stones here and there over the growths, this plan also has the advantage of keeping the soil more or less moist during the hot weather. A warm, sunny corner will suit it, although it will succeed in partial shade.



DAPHNE BLAGAYANA, A FRAGRANT PROSTRATE SHRUB FOR THE ROCK GARDEN.

In the illustration can be seen a plant growing on a slope of a rock garden, but it will also thrive on the flat or on a mound with rough stones freely interspersed among the growths. The rooting medium consists of peat and loam, with a liberal sprinkling of sharp sand and it is a good plan to carry out a little top-dressing when pegging down the shoots. The crowded heads of creamy-white flowers appear in March and April, after which the plant makes its growth. If we experience a dry spell of weather while the plants are active, a good soaking of rain-water should be given. I have on several occasions increased D. Blagayana from cuttings in August, but a more reliable method is by layers. For some years the late Mr. Reginald Farrer exhibited well flowered examples of D. petræa (syn. D. rupestris), its rich glowing pink flowers being greatly admired. It is one of the choicest shrublets for the rock garden, also it is somewhat rare and expensive.

Happily there is another species, *viz.*, D. Cneorum, a native of central and southern Europe, which comes a good second to D. petræa, and owing to the ease with which it can be grown, it is a general favourite for the rock garden. It is a beautiful dwarf shrub, about nine inches high, and specimens several feet across are covered with heads of rich rosy pink fragrant flowers in May and June. This daphne enjoys a well drained position, for preference on a slightly elevated situation in the rock garden, with a mixture of loam, peat and old mortar rubble, in which it will revel. In some gardens this exquisite plant will flourish in the ordinary soil, and once I saw it used as an edging to the ordinary flower border. There appears to be several forms in commerce, and when possible the variety grandiflora should be procured. This daphne can be increased by cuttings during July and August, and they readily form roots in a cold frame. The following spring they can be planted in a colony a few inches apart, and in a year or two there will be a patch worth seeing. Another species rarely seen is D. retusa, with pink and lilac flowers, similar to the well known D. indica. It was introduced by J. Veitch and Son from western China, and I saw it in flower in their Coombe Wood nursery about 1909. Apparently it has not proved very amenable to cultivation, otherwise it would be more freely quoted and less expensive.—T. W. B.

A Free-flowering Dwarf Shrub.

Deutzia Wilsoni.

THIS desirable deutzia is a native of central China, from whence it was introduced by J. Veitch and Sons, and it first flowered at their Coombe Wood nursery in 1905. Since then it has found its way into many gardens, and a well flowered example is a fine sight in the early part of June. It is a vigorous shrub some 5ft. to 6ft. in height, and the individual blooms are among the largest in the genus. These are pure white, and are produced in erect thyrsoid panicles, the long arching shoots being covered with bloom. The dark, dull green leaves are about 4ins. in length and an inch or so in width, the branches becoming dark reddish brown as they mature; while the peeling of the bark is an interesting feature of this fine shrub. The plants under notice began to blossom when quite small, and, so far, have never failed to produce a good crop of flowers every June. It will thrive in any good garden soil and, beyond the removal of an old growth occasionally after flowering, little pruning seems necessary. Like most other deutzias, it is easily increased by cuttings, if partially ripened shoots are chosen early in July.—B.

Sow Pentstemon this Month.

IT is worth noting that pentstemons sown in July will, when planted out next year, flower at least a month in advance of those raised under glass in the spring. The method is extremely simple and is specially suited to those who do not possess anything in the way of a heated greenhouse. The seeds should be sown in boxes of light soil, which are best placed in a cold frame. The little plants come up quickly and, when large enough to handle, should be pricked off from 1in. to 1½ins. apart. During the winter the plants are happiest with the protection of a cold frame or some position might be found for them in an unheated greenhouse or a conservatory where they could be shielded from severe frost. Propagation of pentstemons by cuttings is also worth carrying out in the case of varieties which, in the border, have proved to be really fine. Use sturdy side growths and, in September, place these in a cold frame or under hand lights in a sheltered border. The soil should be light and sandy, and the cuttings might be set about 2ins. apart. They will require protection throughout the winter and may be removed to their permanent quarters in April. Although pentstemons are perennial in habit, it is much better to raise fresh plants either by seeds or cuttings annually. One great advantage of the pentstemon is the length of time for which it will remain in flower. Quite often, specimens which started flowering in early June will still be objects of beauty in November. To maintain a display it is an excellent plan to remove the central spike as soon as the best of the flowers are over. Then the production of side growths will be encouraged and each of these will flower with freedom. In dry weather copious supplies of water and occasional applications of liquid manure will be very helpful to pentstemons. In an exceptionally well drained and sunny border it is often worth while leaving a few plants of pentstemon. These may manage to get through the winter fairly well and, if they do, will flower with great freedom in the following season. Even if the subjects are not killed by actual frost, there is always a risk that they may suffer badly from continued wet weather and thus, as has been indicated, it is wise to raise most of the plants annually.—L.

The Madonna Lily.

Why It Sometimes Fails.

AMONG lilies that bloom in the garden and come to their beauty stage in July, few are more popular or so welcome as the old variety candidum. In many places throughout the country it grows with remarkable freedom, and seldom fails to give a good account of itself. But failures do sometimes occur, and my experience prompts me in saying that they date not infrequently from the very commencement of planting. It is not so much the question of soil, as they will grow equally well in soil of light,

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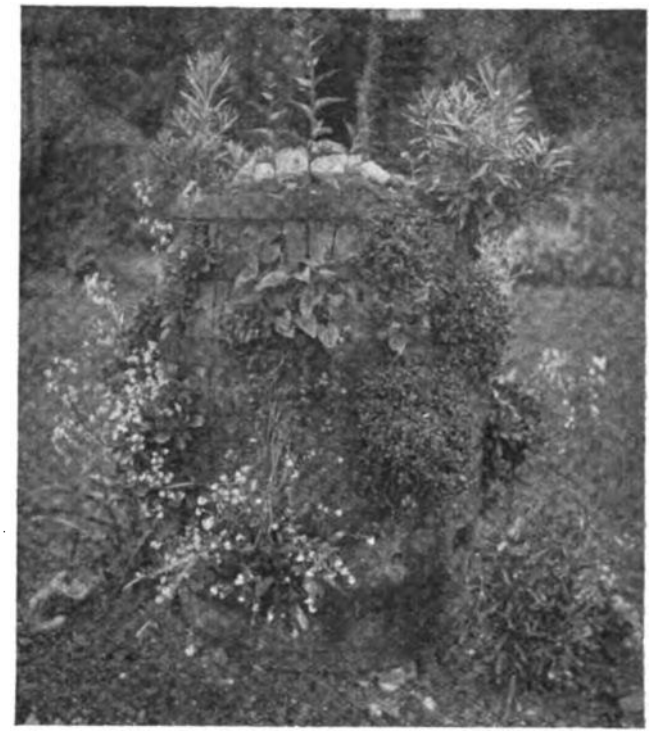
sandy texture or in heavier soil, provided there is sufficient drainage to permit of the free passing away of water. What does matter is the *time* bulbs are planted. They are best secured when they are plumpest, before they have had time to send up new growth. Early September is an ideal period, and by October it is wisest to get them in. It is little use planting them in spring, as they are much longer in getting established, and until this occurs flowers cannot be expected. L. candidum is one of those lilies that, when doing well, ought never to be disturbed. In selecting a spot for planting bulbs, preference should be given to the sunniest and best drained. The soil should be trenched or, at least, well dug, and in the bottom spit some old manure worked. Bulbs should be planted a foot apart and 3ins. deep. Manure should not come in immediate contact with them. Amateur gardeners do not appreciate the importance of obtaining new bulbs as soon as they are offered for sale in early autumn, before they have had time to become shrivelled or to push up much growth. Early planting means early root growth and, consequently, less likelihood of failure.—W. F.

Grey Foliage in Garden Effects.

SOMETHING has been said of late in the pages of THE GARDEN about the value of bold plantings of grey foliage as a setting to flowers of purple, pink and white colouring, and its advantage is so striking in places where it has been carefully planned and successfully carried out, that an insistence on its importance may well be repeated. The accompanying illustration shows one end of a garden region where what are called bedding plants are used in the modern or common-sense way, in distinction to the old or less intelligent method. Here are geraniums, calceolarias, dahlias, cannas, gladioli, etc., but placed, not in the dull old way in set edgings or rings or stiff beds, with the colours harshly clashing, but in generous groups and drifts and inter-groupings, with an intention of harmonious colouring. The subject of the picture is when the most gorgeous portion of red and other strong colours has given way to tender colouring. In the immediate foreground is the warm whitish variegated mint, with the pale canary coloured Calceolaria amplexicaulis backed by yellow snapdragons, but all the farther end has masses of grey and glaucous foliage. For the larger plants there are yuccas, phormium and Senecio Greyii, and in the middle spaces Cineraria maritima, and to the front Artemisia Stelleriana, cerastium and othonnopsis. With these there are interplantings of ivy geranium Mme. Crousse, pink carnations, heliotrope, platycodon and Campanula carpatica, with a general front filling of sweet alyssum. The garden narrows to the end of the picture and is closed in by laurustinus. —G. J.



AN OLD BARREL PLANTED WITH HARDY FLOWERS.
This will make an attractive feature for the centre of the lawn or for a roof garden.

Growing Plants in Barrels.

IT is surprising how few people with limited garden space avail themselves of this compact and attractive form of cultivation. Possibly the chief reason is that it is not well known. As an aid to beautifying back yards, roof gardens and odd corners, it is hard to beat. Any disused barrel or tub may be used, even apple barrels suit the purpose. The first thing is to remove or clench all projecting nails around the top. Then up-end the barrel and bore several small holes for drainage. The next thing to do is the boring of the holes for the young plants, starting in rows about 6ins. apart, the same distance between each hole, arranging them diagonally. They could, if so desired, be arranged in triangles or other forms. The diameter of the holes should be just over an inch. The holes completed it is a good plan to paint the exterior, also to apply some preservative inside, as it considerably prolongs the life of the barrel, besides improving its appearance. Planting may begin, as soon as the paint is dry, with the usual method of placing a layer of crocks at the bottom followed with a layer of upturned turves and proceed by adding soil until the first row of holes is reached, or almost. Presuming that the young plants have been carefully selected, and raised from their well soaked seed bed, and having a good ball of soil attached, the success of the enterprise is well-nigh assured. It is best to gather the tender leaves together with the thumb and two first fingers, the roots resting in the palm of the hand, then carefully steer from inside until the crown of the plant is about level with the exterior. More soil should now be added and pressed firmly over the roots. Continue in this manner until all the holes are planted. To facilitate drainage and the watering of plants in the lower part of the barrel, insert a stout stick when nearly half way up. This will be found important. Plants of a taller sort may be planted on top.

The last of these barrels I had contained a row of nasturtiums at the bottom, then strawberries, and on top sweet peas. Standing on a pedestal, with the nasturtiums hanging down in full bloom of varied colours, the ripe strawberries among the green leaves, and the sweet peas in bloom above, the combined effect produced a most fascinating picture. —G. S. T.

A BORDER CAREFULLY PLANTED TO BRING OUT THE FULL EFFECT OF BOLD GROUPS OF FOLIAGE AND FLOWERS.

A Handsome Hardy Climber.

THE Dutchman's Pipe, correctly known as Aristolochia Sipho, is a very handsome hardy climber. The flowers, although of a singular shape, are comparatively small, and the Dutchman's Pipe is chiefly grown for the sake of its large handsome leaves. Mostly the species is employed on walls, but it is really seen to better advantage when used for covering trellis, or for rambling up trees or over stumps. A. tomentosa is smaller in its foliage, but the leaves are a very distinct tone of green and, on this account, the plant is a most valuable climber. Both these species are of extremely easy culture and will grow in almost any kind of soil, although they naturally do best in ground that is well drained. Newly planted specimens should, in a dry season, be freely watered, and the trouble is amply repaid by an increased vigour of growth. Propagation of the Dutchman's Pipe is carried out by means of cuttings of young shoots about 6ins. long, preferably with a heel of the old wood attached. These should be kept in rather a close atmosphere until rooting takes place. —L. B.

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PRESENT WORK WITH SWEET PEAS

How to Ensure a Fine Display of these Gorgeously Coloured Flowers.

THIS is the most interesting time of the whole year for the average sweet pea grower. The work of soil preparation, seed sowing, transplanting, staking, etc., has been completed and although it may not be a case of "resting on one's oars," the hardest part of the work has been accomplished.

Watering and Feeding.

Backward and weakly plants should not be allowed to flower until they have reached from 2½ft. to 3ft. in height. It is best to disbud such plants until vigorous growth commences. At later stages in the flowering period, an occasional disbudding will be found very beneficial, it gives the plants a "rest" and improves the quality of future blooms. Many growers experience some difficulty in obtaining good quality flowers, long stems and large blooms after the first fortnight of blooming. Periodical feeding and watering will not only produce better flowers, but will actually prolong the period during which the plants are in bloom. In no other phase of culture is experience more helpful, for the extent and frequency of feeding and watering must always be a question for the grower's own judgment. So much depends on the nature of one's soil, the weather conditions and the state of the plants themselves. The need for frequent watering can largely be obviated by shallow hoeings, or better still, at this time of the year, by applying a surface mulch of loose horse litter, well decayed manure, spent hops or Wakeley's hop manure round the plants. This surface mulching not only serves to retain the moisture, but keeps the surface roots cool in hot weather. If the soil has been richly and deeply prepared, little or no feeding is necessary, a good watering with soft water once every ten days or fortnight being sufficient to meet the requirements of the plants. In the hands of an experienced grower, artificial fertilisers are excellent, but otherwise, great care should be exercised in applying them, or more harm than good may result. The less use one makes of artificials (within reason), the better will it be for both plants and soil. Only backward plants need nitrogenous stimulants. Sulphate of ammonia is effective if given at the rate of ½oz. to the gallon of water and well watered in, but it should not be used frequently. Nitrate of soda, too, is very quick acting, but not very "safe" in a beginner's hands; ½oz. to 1½ gallons of water is ample, but do not get it (or any other fertiliser), on the foliage.

Sweet peas like most of the potash and phosphate manures, such as phosphate of potash and these are conveniently given in a dry state by dusting them along the rows, not too near the plants, and afterwards watering them in.

Most artificial manure manufacturers and sweet pea specialists offer a compound fertiliser specially made up for sweet peas. When applying such compounds, the grower should always follow the maker's instructions carefully, giving under doses, rather than the opposite.

One of the most efficient and "safe" stimulants of all is the old-fashioned liquid manure, which is made by suspending a bag containing cow or sheep manure and soot (in equal parts) in a tub of water. After this has stood for a few days, dilute the resulting liquid with three or four times its quantity of soft water, well watering the plants after applying the liquid manure, particularly in dry weather. Always remember that over-feeding or over-watering is harmful, it is better to err on the other side. Rarely do plants need feeding until late July and then only at intervals of a week or ten days at the most. Watering may be more frequent, but only when weather and soil conditions permit. It is better to give a good watering once a week, than a sprinkling every day.

Cut off all faded flowers and do not allow seed pods to form, or the flowering period may be curtailed.

Greenfly.

I am convinced that many cases of so-called disease in sweet peas can be directly traced to green fly or aphis, which attack the young, growing shoots or tips of the plants. Every season, too, I have seen flowers which are obviously the result of green fly attacks. Usually they are of a picotee-edged variety, but lavender and other shades also show plainly the results of aphis sucking the sap juices when they are yet tiny buds. This causes the colours to "run" and the flowers to assume a curious mottled, streaky appearance. Yet another crime may be attributed to green fly. Birds sometimes nip off the small flower buds in search of them, and we unjustly blame the birds for what seems to be purely mischievous attacks. The remedy is, of course, to destroy the green fly and this is most effectively accomplished by spraying the plants with some good insecticide, such as "Abol," using a "mist" nozzle and giving the young shoots particular attention. Whichever insecticide is used, it is wise to syringe the plants the day following the application with pure soft water to clean their foliage. Sometimes two or three applications are necessary to destroy all aphis completely. The great point is to syringe as soon as the green fly are noticed, or before they have had time to do serious damage.

Bud Dropping.

Up to the present I have had no reports of bud dropping, no doubt owing to the dry weather, but it may not be out of place to touch upon this point, for the symptoms are somewhat alarming to the beginner. What happens is this; the plants suddenly develop the tendency to drop all (or nearly all) their flower buds before they open, and where there should be normally a beautiful show of bloom, only the bare flower stems remain. Fortunately, this is only a passing phase which disappears as quickly as its causes, leaving the plants none the worse. The most common cause of all is too much moisture in the soil, combined, as a rule, with cold, sunless weather. Badly-drained ground is, of course, conducive to bud dropping, as is also a position shaded by trees or buildings, but normal weather conditions in ninety-nine out of a hundred cases almost immediately restores the plants to their proper "balance." It will be inferred from these remarks that over-watering will produce bud dropping, so, too, will over-feeding.

Shading.

It is only too well known among sweet pea growers that some varieties are not what is termed sunproof. Unfortunately, some of the most beautiful of all are numbered among these, and although improvement has been steadily going on during recent years, we still have no pure orange, orange-scarlet or salmon varieties which do not fade in bright sunlight to a greater or less degree out of doors. When grown under glass, these kinds are superb, and it must be rather disappointing to inexperienced amateurs, who order such varieties as Royal Sovereign, Melba or Mammoth, after seeing an exhibit of under-glass flowers, only to find that they fade in sunshine when growing in their own garden. To prevent this fading of colour, the flowers should be shaded during sunny weather by suspending on wire above the plants some thin material such as butter muslin or tiffany or anything similar which will break the direct sun rays. The material must not be left over the plants permanently or it will adversely affect their growth, but if curtain rings are used, it can be readily drawn over the flowers at intervals, when necessary. Another method is to fix up glass frame lights on wooden supports over the plants, but only keen exhibitors find this rather elaborate precaution worth while. Those who consider the above methods too laborious, should make a point of picking blooms in an early stage, when one flower only is fully open on the stem and opening them in water under glass or indoors. Early in the morning is the best time to cut. For ordinary cut flower purposes, yet another fairly effective method is to plant all varieties which are not sunproof in some part of the garden which is shaded from the sun during part of the day, preferably during midday, but I would point out that it is a serious mistake to plant sweet peas in total shade. Modern varieties which need shading in sunny weather to bring them to perfection include Royal Sovereign, Wizard, Guinea Gold, Barbara, Melba, Gold Crest, George Shawyer, Crusader, Mammoth, Tangerine Improved and May Unwin.

Promising New Varieties.

At the time of writing I have seen several of the novelties which will probably be offered in the autumn, and although all were grown under glass, there are most certainly two or three of unusual merit among them. Sweet pea enthusiasts would do well to make a note of Mrs. A. Searles, the new salmony-cerise, which obtained the highest honours at last year's N.S.P.S. Trials. It was raised by Mr. Damerun and the whole stock, I understand, has been acquired by Messrs. Bolton and Son. I saw it growing last season and not only is the colour excellent, but in size of bloom, length of stem and vigour it leaves nothing to be desired. Perhaps its colour can best be conveyed by likening it to a lighter-toned "Charming," with a glowing suffusion of salmon.

Another attractive new variety is Pinkie, a really new and pleasing shade of pink. It struck me as being a deep china pink, tones deeper than Supreme, its colour deepening slightly towards the edges of the petals. I should not be surprised if it supersedes that old favourite Hebe.

Sunkist is said to be a "sport" from Youth, the premier picotee-edged variety. It has the same huge flowers and long stems as Youth, the same picotee edge of deep pink, but its ground colour is cream instead of white, in other words, it is really a cream ground Youth. This indicates its real worth.

Glorious is yet another deep and rich cerise. We have Charming, Peggy, Coralline and Centaur, all good peas in this colour section, but I think there is room for Glorious. It appeared to be of the same rich orange-cerise tone as Coralline, but I understand its habit of growth is identical with that extra vigorous variety Charming.

Amateur growers will be well advised to carry a note book and pencil with them when visiting floral exhibitions, for the purpose of recording the names of any varieties, new or old, which appeal to them personally. The large trade exhibits are most interesting, they usually include novelties which are to be distributed the following autumn, and, of course, the best of the new and standard kinds. They demonstrate too what wonderful quality flowers can be obtained by clever culture.

C. H. A. S.

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WHAT OUR READERS SAY

THE VALUE OF CATMINT.

SIR,—Referring to an article by "C. P." (page 382), may I suggest for the benefit of those who have not a frame or labour to spare that it is not the least necessary to go through the ordinary routine of taking cuttings of catmint and then planting out. Some years ago I asked a gardener in Scotland how he managed to get such beautiful edgings of catmint. The answer was: "Just cut off new growth about 5ins. long in April or May, strip the lower leaves and plant firmly where they are to grow." The result is very respectable plants by August, flowering well, and in the second year, as the illustration shows, one plant will measure 4ft. across. The saving of time is immense, particularly if a long border is required. A little attention in watering and shading may be necessary, but I find the shoots start rooting almost at once in practically any situation. The soil here is a good holding loam. The steps and wall shown in the illustration were built in the winter 1925-26, and the wall is already well clothed, catmint, Saponaria ocymoides, various helianthemums and aubrietia being especially effective.—B. M. B., *Duncote, Northants.*

CATMINT IS RAPID IN GROWTH AND EASILY PROPAGATED, AND IS EXCELLENT FOR GARDEN DECORATION.

A WONDERFUL BULBOUS PLANT.

In Praise of Sparaxis pulcherrima.

SIR,—If I was condemned to have one plant in my garden, and one only, I feel certain my choice would fall on Sparaxis pulcherrima. These are now in full bloom, and for grace and elegance, beauty of bud and flower, I know of nothing that compares with this wonderful bulbous plant.

Why it is not more generally grown passes my comprehension, although I fancy the three main objections are lack of hardiness, difficulty in growing, and expense.

To a large extent Sparaxis pulcherrima is not tender. In 1925 I sent bulbs to a friend at Bath, where they were grown in an exposed position in the open. Most of them flowered in 1926, and the latest report is that, in addition to showing a big increase, all the bulbs carry flower spathes this year, despite the very severe frosts of April last. In 1926 I sent more bulbs to a friend in the Midlands, and I have just heard that about one-third will flower this year, and none shows any ill effect from the early severe weather. S. pulcherrima is not difficult to grow, but is somewhat uncertain in the time it takes to establish itself before flowering. In 1925 I transplanted about 150 bulbs; 80 per cent. of these bloomed in 1926.

In the latter year, I broke up and transplanted further large clumps, and of these only 10 per cent. will bloom in the present season. My wife has a particular plant of her own, and for three years in succession found new homes for it, yet each year it has not failed to bloom! The bulbs really do resent interference and should only be disturbed when clumps have become too large, being then planted out from 6ins. to 9ins. deep in fairly light soil and allowed to remain. Often the grass, although evergreen, will die down on transplanting, but will re-appear the following spring and continue to gain in strength and size. From experience I have found August to be the best month for transplanting, and only when the soil is quite damp.

As regards expense, perhaps mature bulbs of the "wandflower" are a wee bit high-priced (from 6d. to 9d. each), but the beauty of the flower is well worth this. Undoubtedly the best and cheapest way is, when possible, to purchase one-year seedlings, which readily transplant and establish themselves.

There are several shades of colour—white, purple, pink, mauve and a very delicate pure lavender—and the association of S. p. alba with Leptospermum Nichollai on a fairly large scale is a sight not easily forgotten.—P. E. E. C., *Cornwall.*

DISEASES OF THE MADONNA LILY.

SIR,—Your correspondent, "H. J.," in calling attention to disease attacking the bulbs of Lilium candidum and the cure therefor, leaves your readers somewhat in the dark as to which of the numerous diseases to which the lily bulbs are liable affected the clump. No doubt, where fungoid diseases are concerned, the application of flowers of sulphur is often fungicidal; but in the case of Botrytis cinerea it is, I submit, an open question whether the sulphur treatment is adequate. During the winter, I was in correspondence with the Sulphate of Copper Association, with the object of ascertaining whether the research department of this organisation had evolved a cure for botrytis in lilies, as they had done in the case of gooseberries and other plants attacked by this almost epidemic disease.

They recommended a trial of a diluted Burgundy mixture sprayed on the foliage, which, in their opinion, will provide a certain remedy.

If any of your readers have attempted the use of this remedy and prophylactic, their accumulated experience would be of great value.—C. J.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

AMONG the controversial subjects associated with the cultivation of sweet peas, the question of planting still occupies the attention of growers. In general practice, two distinct methods of treating pot-grown seedlings are recognised. One consists of transferring the plant to the prepared trench without disturbing the roots; while the other necessitates the separation of the roots from the potting medium. Adherents of each system are to be found in the ranks of both amateur and professional growers, and the cleavage of opinion is emphasised in the writings of experts. As far back as 1908 the late Mr. Robert Sydenham advised that when planting seedlings a hole should be dug just large enough to put in the contents of each pot and that the roots should be disturbed as little as possible. At a later day support is given to that procedure by Mr. Cuthbertson, who advocates lifting the plants with plenty of soil adhering to the roots. Mr. Horace J. Wright believed in the separation of the plants when more than one were grown in a pot, and, like Mr. Sydenham, he warns growers to avoid the smallest damage being done to the roots. This point is also italicised, as it were, by Mr. Thomas Stevenson, who, as an exponent of the other side, tells his readers to "shake out each plant individually." Mr. Charles W. J. Unwin throws more light on the subject than any of these writers. He does not recommend planting the entire ball of soil without disturbing the roots in any way, for the reason that the potting medium is liable to be a trifle sour, and he likes the roots to make a start in entirely new ground.

Some growers, however, desire to settle the question for themselves by planting their sweet peas on both systems, and thus subject them to a practical test. This experiment was tried this year by Mr. Currie, Barskimming, and the results were an object lesson to the members of the Glasgow and West of Scotland Horticultural Society when they visited the gardens last month. The peas that were planted with the ball of soil were in a much more advanced state of growth than the plants whose roots were shaken out of the earth. On measuring representative plants in each row, I found that the former were from 6ins. to 8ins. taller than the latter, while the haulm presented a stronger appearance. In accounting for this marked difference in the development of the peas, Mr. Currie explained that the seedlings whose roots were not disturbed when transplanted seemed to grow

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on practically from the day they were put out, whereas the plants shaken out of the soil received a check and did not show signs of growth for ten or twelve days later. The experience of several visitors confirmed the results of the tests, and in particular claim for the system of planting the seedlings without disturbance the advantage of earlier flowering. As the first blooms had been removed as they made their appearance, there was no opportunity for comparing the quality of the flowers. It may be added that the two classes of peas were subjected to the same conditions of culture, being planted in specially prepared soil and grown on the single stem principle in rows alongside each other.

Amateur gardeners might take a hint from nurserymen in the propagation of chrysanthemums on any future occasion when cuttings are scarce. This season trade growers have had their stock plants severely depleted, and in order to make good the losses they have had to make use of the tops which had been pinched off the main shoot. When planted in a sandy compost in a frame or cool greenhouse they make nice plants and, though later in being struck they bloom quite as early as the plants grown from cuttings in the ordinary way.

This is the month when attention should be given to the layering of border carnations. Experts who cultivate their plants in pots in a cold greenhouse are in a favoured position compared with the amateur who prides himself on an outdoor collection, for the varieties that were bedded out in spring have, in many gardens, produced comparatively little "grass," while some of it is insufficiently developed for layering, a condition of things that is generally attributed to the unfavourable weather. But it matters not if the layers are arranged round the edge of the pots indoors or round the carnations in the open, the operating process is the same. A sharp-pointed knife, a trowel, layering pins (or the old-fashioned strong hairpins) are the implements required, and the provision of a quantity of light sandy soil is essential to success, especially when the plants are established in heavy ground. Preparatory work consists of loosening the soil round the plant and covering the surface to a depth of 3ins. with the sandy soil. Next, select the strongest layers and, after removing the bottom leaves until three or four stems are exposed, make a clean cut in the stem, which should extend from immediately below (say) the third joint up as far as the next joint, thus forming a tongue. The growth is then pressed into the fine sandy soil, and when the tongue is covered to the extent of ½in. pin it down securely in that position. Repeat the process until the available stocks round the plant are layered, and then water gently with a fine rose can. On the expiry of four or five weeks, during which time the soil must not be lacking in moisture, the rooting system will be formed, and by the middle of September the layers can be detached from the parent plants and about a week later may be potted up and wintered in a cold frame. ST. MUNGO.

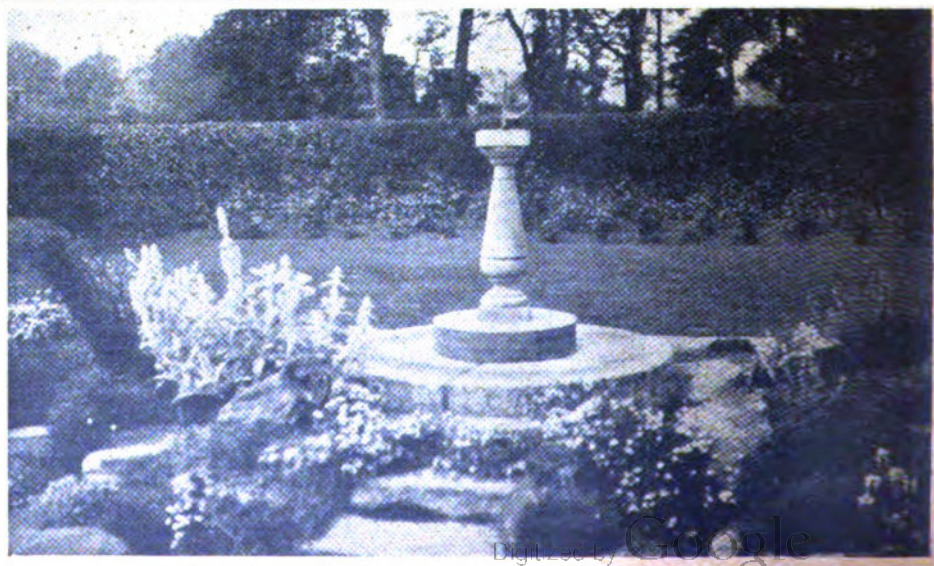
OUR PHOTOGRAPHIC COMPETITION

Masses or clumps of one particular plant always look well in any position in the garden. This week we show how lupins can be used to advantage in this way, and what an effective display they make in the herbaceous border. In the rock garden, likewise, brilliant mats of colour can be obtained by planting one of the alpine phloxes as illustrated in one of our competitors' photographs. Many of our readers must have used other plants in this way and have photographs indicating their usefulness. These will be welcomed to indicate how this idea of mass planting may be extended and to show how many plants there are available for the purpose.

Since the early summer my herbaceous border has made a bright display. A corner of it can be seen in this photograph. Bold clumps of lupins in blues and pinks and herbaceous spiræas, with their light feathery plumes, look particularly well against the background of roses. Ferns and the large-leaved Saxifraga megasea flourish in the half-shade at the end of the border. There are few blanks in the border, as it is always attempted as far as possible to plant subjects which will provide a succession of colour and flower over a long period.

The guinea photograph, sent in by MRS. BAYLEY, 67, *Montpelier Rise, Golders Green, N.W.*11.

This sundial on the rock bank was made from a baluster of St. Enoch's Church, Glasgow, which was recently demolished. The baluster stood on the top of the church for 100 *years in the grime and soot of the city, now it serves another purpose in a purer atmosphere amid the flowers. The base is an old mill stone used for grinding corn* 150 *years ago. It looks very well in its new situation and gives an added attraction to the garden.* ANDREW W. KERR, *Stewarton, Ayrshire.* Award of 5s.



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These seedling lupins were sown during the summer of 1925. One plant with fawn blooms has thirty-one spikes fully expanded and several are 2ft. long. The colours of the other plants are yellow and mauve, mauve pink, yellow and brown, ruby and shades of pink, and they were planted in this border, which was converted from grass in December, 1926, when it was trenched some 3ft. deep. These lupins have been a joy since the second week in May and as old spikes were cut off they continued blooming for a considerable time. The only secret I know to prolong the display of bloom is to prevent seed from forming. H. W. ROGERS, *Warminster.* Award of 5s.

The flight of rustic steps seen in this photograph forms part of a rock scheme laid down and planted nearly two years ago. The plants include Arabis albida fl. pl., Arenaria balearica, aubrietias of various colours, such as Dr. Mules and Fire King, Lithospermum prostratum Heavenly Blue, Iberis Snowflake and a collection of mossy saxifrages ranging from deep crimson to pure white. MISS S. ROSS, *Renfrewshire, Scotland.* Award of 5s.

This photograph shows a very fine rose grown from seed, the seed being taken from Rosa moschata (the musk rose), growing in the garden of the Manor House, Greatham, Liss, Hants. It is particularly suitable for an arch, being so compact in habit. This rose bears large clusters of white single blossoms, and in the centre of each flower is a cluster of yellow stamens. It is perfectly hardy and most attractive. MR. H. SWYER, *Greatham, Hants.* Award of 5s.

Phlox subulata "Vivid," is one of the best of the alpine phloxes. It is very free flowering and if planted on a ledge in the rock garden, it soon forms thick mats of foliage which bear, during the early summer, numerous salmon-rose blooms. It is of the easiest culture and is an excellent plant for the amateurs' rock garden, providing a rich display of colour over several of the summer months.
V. TREUENFELS, *Damerow, Germany*
Award of 5s.

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THE FRUIT AND KITCHEN GARDEN

The Treatment of Melons in Frames and Houses.

WHERE care has been taken to cover frames during cold nights and, also, to ventilate the structures judiciously, the plants have made very good progress, although the weather conditions have been mostly adverse. Midsummer is past, but very often we experience really fine warm weather, very suitable for melons and other tender fruits during July and August. When the fruits of melons begin to ripen, that is, to turn colour and the aroma from them is very pronounced, very little water must be applied and clear water, only. The structure must be ventilated carefully, some air being admitted through the top ventilators all through the night. Of course, cold draughts during dull spells must be avoided. During the last three days or so, place a light covering directly over the ripening fruits if the sun shines brightly, to enable the fruits to finish the ripening gradually, then the flavour will be better. Before the fruits are eaten, place them in a cool cellar or similar room for two days and two nights and turn them over twice each day. In this way the full flavour will be brought out, the flesh being cool and sweet. Where young fruits are just now forming on plants that stage is reached when feeding will be most beneficial. Concentrated manures may be applied according to the directions given with them; also, well diluted farmyard or similar manure. Weekly top-dressings with pure loam in a nice lumpy condition will do a lot of good and, directly each thin layer is applied, water with the liquid manure. As the fruits swell, support those depending from the plants trained under the roof glass with nets and others, growing in frames, should be carefully raised and placed above the foliage on empty, inverted flower pots. While growth is active a moist atmosphere must be maintained.—HANTS.

Seed Tubers of Early Potatoes.

CULTIVATORS who have grown crops two or three years from seed saved from their own gardens should procure seed tubers from a distance, preferably Scotland, for next year's crops, because deterioration will set in if home-saved sets are planted again. It is best to have fresh seed tubers after the second year. Where home-saved tubers are being dealt with now, I strongly advise cultivators to save only those from strong haulmed roots. Do not mind about the skin being easily rubbed off. Leave the tubers exposed to the air on the ground for one hour before gathering them up and, by that time, the skin will be set firm enough for safe handling. Then place the tubers in thin layers in shallow boxes or in a cold frame fully exposed to the sun, but subject to ample ventilation. Turn the tubers over two or three times until all parts of them are greened. From this position transfer them to shallow boxes in single or double layers, place the boxes in cool, dry sheds where plenty of air will reach them, but not direct sunshine, and endeavour to keep them so throughout the winter, only taking due precaution to exclude frost. It is always wise to examine the tubers carefully occasionally for any diseased ones. —CHRISTCHURCH.

Sow Spring Cabbage Now.

WHILE in many districts spring cabbages have only just been cut, it is now time that attention was paid to making a start with those for use in 1928.

The third week of July is none too early for Scotland, and the last week of July or the first week in August for the south of England. A site should be chosen where the ground has not been recently dug, but has been well cultivated on the surface and can therefore be reasonably considered free of surface weeds now and for the future, a very necessary point when we get showers in late August.

A narrow drill is preferred by many, but I prefer a wide, flat and shallow one, which will give each plant space in which to develop. As to varieties, a glance at many catalogues would lead one to believe them legion, but I fasten my faith to a few. For a small early cabbage a good stock of Pioneer as sent out by a few leading seedsmen both sides of the Border requires some beating, although Flower of Spring is very like it. For a larger cabbage I have always failed if I used other than Mein's No. 1 put out by Messrs. Stuart and Mein over seventy years ago. It is the cabbage for bulk plus kitchen qualities *par excellence*.

For those who grow exhibition onions Mein's Monarch is well entitled to be placed alongside No. 1 cabbage, and are both selected and grown for seed in Scotland, and their hardihood is beyond doubt.—S.

Parsley for the Winter.

ALMOST every gardener has his own special ideas as to the best time to sow parsley seed. To keep up a supply of this useful herb throughout the winter, especially during the early months of the year, often proves rather a difficult matter. Here is a plan which has proved to be very successful in the matter of securing a winter supply of parsley. Prepare a bed by deep digging and thorough drainage in some warm sheltered spot such as at the foot of a south wall. The seeds should be sown in drills, which should be opened up in advance and thoroughly soaked with water. The seeds should be covered to a depth of quite half an inch with fine soil which is somewhat inclined to dryness. The thinning should be done before the plants start to spread much, from 3ins. to 6ins. apart being allowed. If the plants show exceptional vigour of growth, more space may be given; but, when picking begins, the specimens are usually kept well within bounds. Mulching between the rows with a little short manure is very helpful, and abundance of moisture should be given if the late summer is hot and dry, as parsley often suffers badly at such times. The plants thus grown will have developed well before the setting in of the winter, and they will then stand free cutting. An additional advantage of sowing in the summer is that few of the plants run up to flower in the following year, and the small number that do can be removed and a good even bed still remains.—S. L.

Raising Sage from Cuttings.

IT quite often happens that well established sage plants which seem likely to go on for many years will suddenly die. Sometimes this is the result of a cold or very wet early spring, but, on occasion, no very clear reason can be discovered. Many gardeners rely on one or two large sage plants, and then, owing to the death of the specimens, may suddenly find themselves without any of the useful herb at all. It is a very excellent rule to raise a few fresh plants from cuttings every two years in order to make sure of having a certain number of young strong plants always on hand. Cuttings or slips of sage, preferably with a heel of old wood attached, will root freely at the present time if dibbled firmly into the ground. Allow 8ins. apart either way and water the cuttings if the weather is dry. Another way of propagating sage is to pull down a few of the woody outer branches of the plant and then peg on to the ground. Cover the part of the branch in contact with the ground with soil which should be kept moist. Rooting soon takes place and the branches may then be severed from the parent plant.

Present Treatment of Onions.

MANY amateurs like to have a bed of large onion bulbs every year. As seasons vary, so, too, must the treatment if the very best results are to be obtained. The large bulbs result from seedlings that are transplanted in April. Rarely have such adverse weather conditions obtained since that date for the growth of onions. The winds have been cold, especially at night; the sun has been, at times, scorching. Watering, in such circumstances, after the initial applications at planting-out time, does more harm than good. Hoeing the soil surface twice weekly has been the most beneficial. Weeds do not grow, moisture in the soil is conserved, and the ground is ventilated and warmed. By far the best policy is to trench the soil deeply and well enrich it with good manure, plant out properly hardened strong seedlings about mid-April, water once or twice, then, beyond the regular hoeing, leave the plants alone. In my own case, last spring I tried a fresh plan. When making some holes for parsnips I also made a row of holes for some onions. The holes were duly filled with a special compost, made firm. Fine dry fowl manure and bone-meal were added. In due course one onion plant was carefully planted in each hole. Present condition of plants two-thirds larger than those growing in the same bed the soil of which was ordinarily deeply dug and manured. A surface mulch or dressing of finely sifted poultry manure and soil mixed, applied in showery weather, will do a lot of good. Failing this, use sulphate of ammonia at the rate of 1 oz. per yard run of row, keeping the powder from the plants. If mildew appears, use a sponge dipped in "Abol," simply wiping off the patch of mildew, not touching any other part of the plant. I have, by using this remedy in good time, saved a large bed of plants from being crippled by the fungus.—G. G.

Turnips and Soil Pests.

THE more dangerous pests which infest turnips are those found attacking the plants in the seedling stage and among the worst is the flea beetle. This little pest is seldom absent from the turnip border, but only in dry seasons and when the culture has not been careful, is it really virulent. Turnip ground ought in all cases to be reduced to a fine tilth before the seeds are sown, for coarse clods are a direct encouragement; the seed should also be sown during moist weather, if possible. Squirting soapy water containing a little paraffin oil along the drill is good, or quassia and nicotine may be used. I find that the best plan, nevertheless, is to water the seedlings with water containing nitrate of soda, 1oz. per gallon; this can safely be sprinkled over and round the plants and the stimulating fertiliser and the water give that impetus required to bring the plants past the seedling stage and so into safety. I also find that nitrate is a distinctly discouraging application against soil pests like leather jackets and wire worms; in addition to rendering the plants nauseous, it again stimulates growth and carries the plants into leafiness and security. Black jacks or leaf-eating maggots succumb readily to almost any pesticide, but I always prefer nicotine when I do have a visit from this enemy.—CLYDESDALE.

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THE SUMMER ROSE SHOW

THEY say that "Fortune favours the bold," but fortune, in the guise of the weather, so far from supporting the bold policy of the National Rose Society, played it a scurvy trick on July 1st and 2nd last. For a number of years the great Summer Rose Show of the Society was held at Regent's Park; but reasons, which need not concern us now, induced the council to seek a fresh venue for this most important show. Boldly they fixed on the ample grounds of the Royal Hospital at Chelsea. But the weather was more than unkind. For days before the opening day and in the morning storms prevailed. The tents at Chelsea were flooded and the Show might well have been ruined; but the enterprise which has characterised the National Rose Society prevailed and rose superior to these most depressing conditions.

The effects of the stormy weather were apparent at the Show, for there was an absence of several well known trade growers and amateurs whose blooms had been damaged beyond recognition. In spite of this, the quality of the roses was high, and it was generally difficult to realise that the storm damage to rose blooms was widespread.

As ever, the representative groups of cut roses were a great attraction, and it was a happy accident that placed the table on which Messrs. Alex Dickson and Sons arranged their Championship group in the very centre of the tent. And it was well supported by the handsome groups of Messrs. Chaplin Brothers and Messrs. B. R. Cant and Sons, who were next in order of merit. The general idea of the exhibitors seemed to be an arrangement of pillars and baskets of roses rising above a groundwork of massed vases. If all were of a mind, this would inevitably tend to monotony; but although there was, to a certain extent, a family likeness in many of these exhibits, no two were alike, so that there was a pleasant variety. Although their names did not appear in the prize list, Messrs. Waterer, Sons and Crisp, Mr. Elisha J. Hicks and Mr. J. H. Pemberton set up admirable exhibits in the premier group class. The principal varieties were Shot Silk, Sunstar, Lady Inchiquin, Betty Uprichard, Mrs. Henry Morse, Mrs. Henry Bowles, Mabel Morse, Golden Emblem and Paul's Scarlet Climber.

In the class for a medium-sized group, the first prize was won by Mr. George Prince,

THE DECORATIVE SPRAY VASE OF SHOT SILK WHICH WON THE NICKERSON PRIZE.

and he was followed by Messrs. Walter and Sons and Mr. J. Mattock; while Messrs. Jarman and Co. had the best small group and Mr. George Lilley was second, with Mr. David Long third. In these classes the arrangements were all attractive and similar varieties to those in the large class were used.

There were many good vases of roses in the exhibits which were intended to illustrate the foliage and habit of growth of the varieties. Messrs. Morse Brothers were first with beautiful vases of The Queen Alexandra Rose, Shot Silk, Lady Pirrie, Lord Charlemont, Betty Uprichard and other good garden roses. In his second prize collection, Mr. Frank Spooner showed Mabel Morse, Mme. Butterfly, Gorgeous and Marcia Stanhope

The baskets of roses were not so numerous as usual, but the quality generally was quite good. Mr. Henry Drew was alone with seven baskets, and he showed Mrs. Courtney Page, Lady Inchiquin and Mrs. Henry Morse in good quality. The three baskets were particularly good, and Messrs. A. Warner and Son, the only exhibitor, had Hortulanus Budde, Golden Emblem and Mrs. Henry Morse of high quality. Polyantha roses in baskets made an unexpectedly bright patch of colour, and those of Locarno, Frank Ladds and Golden Salmon, which, shown by Messrs. William Cutbush and Son, were very beautiful. Messrs. Morse Brothers had Rodhatte, Gwyneth Jones and Lady Reading in their second prize exhibit. Mr. Elisha J. Hicks also staged a fine collection in this class. Frau Karl Druschki, shown by Messrs. Jarman and Co., was the best basket of an H.P. variety, and in Mrs. Henry Bowles they also had the best H.T. This latter was a very strong class, and Messrs. George Longley and Son were second with a bright basket of Mrs. Henry Morse. The Brayford Challenge Cup, offered for any variety put into commerce since January 1st, 1921, was won by Messrs. Morse Brothers with a brilliant basket of Shot Silk. Messrs. A. Warner and Son were second with Lady Inchiquin.

Exhibition roses, shown on boards, were of surprisingly good quality in this difficult season. The Championship was won by Messrs. B. R. Cant and Sons, with Messrs. Frank Cant and Co. second and Messrs. G. Longley and Sons third. The principal varieties were Mrs. Courtney Page, Lemon Pillar, Modesty, Robert Hewitt, Mildred Grant, Colcestria, Courage, Lady Inchiquin and Lord Charlemont.

Messrs. Jarman and Co. had a splendid board of twenty-four blooms, including Mrs. E. Hicks, H. V. Machin, Candeur Lyonnaise, Mrs. J. Laing and Edgar M. Burnett.

Tea and noisette roses bore fewer signs of the weather than might have been expected, and Messrs. G. Longley and Sons, who won the first prize, had fresh blooms of Auguste Comte, Hugo Roller and Mme. Hoste. In the second prize exhibit of Mr. Henry Drew there was a very bright bloom of Auguste Comte and the pink F. Von Marshall.

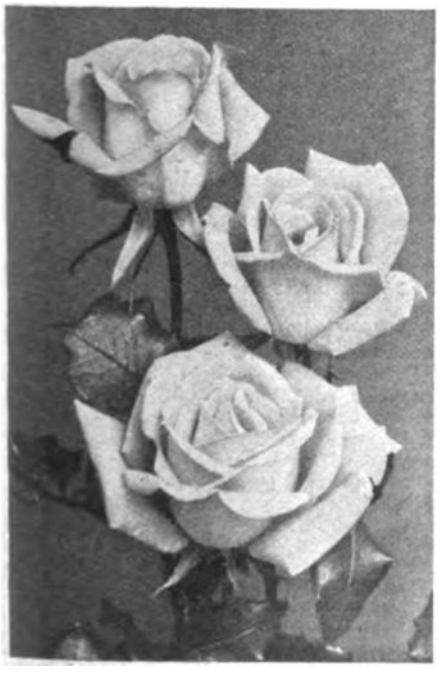
Roses of recent introduction were of only moderate quality. The best were Maud Cuming, Betty Hulton, Gwynne Carr, Clovelly, Mme. Beatty and Mrs. C. Edwards. The first prize winners were Mr. John Mattock and Messrs. B. R. Cant and Sons.

AMATEURS' ROSES.

The amateur rosarians fully held their own in the quality of their blooms. The Championship group of Mr. J. N. Hart of Potters Bar was an admirable display from every point of view, and Mr. H. R. Darlington had a very good smaller representative group.

Their exhibition roses were also very creditable, and Mr. C. H. Rigg, St. Albans, Mr. W. E. Moore Berkhamsted; the Rev. F. R. Burnside, Stanbridge Rectory; Mr. E. W. Turner, Herne Bay; and Mr. A. N. Rogers, all won first prizes with beautiful blooms of similar varieties to those shown in the trade classes.

As usual, the ladies' decorative exhibits filled a large tent and attracted a deal of



ROSE ELIZABETH OF YORK SHOWN BY MESSRS. DOBBIES.

ROSE LADY FORTEVIOT WHICH GAINED A GOLD MEDAL, SHOWN BY MESSRS. B. R. CANT AND SONS.

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attention. In the open class the best dinner-table was arranged by Mrs. A. Tisdall, who used Richmond to good effect; and Mrs. L. R. May was second. Mrs. Tisdall, who associated Richmond with Edith Cavell, was first with a basket of roses.

In the amateur classes Mr. Colston Hale was placed first with a dinner-table of Cupid and Irish Elegance in the class for single-flowered varieties; but the flowers did not continue fresh. Mrs. Courtney Page had a charming table of Roselandia in the class where the singles are barred, and she was also first with a vase of roses, showing Mme. Butterfly and a beautiful bowl of mixed varieties. Miss Woolmer was first with a basket of roses and a bowl in the class for members who have never previously won a first prize.

NEW ROSES

Although there were many new seedlings awaiting judgment, only two were found worthy of gold medals, and four certificates of merit were awarded.

Everest.—This handsome white H.T. rose was awarded the certificate of merit at the Society's Summer Show last year, and on the present occasion it received the gold medal. Shown by Messrs. Walter Easlea and Sons.

Lady Forteviot.—This is a beautiful Pernetiana variety. The flowers are very well formed and of rich golden yellow colour flushed with cardinal, becoming paler at maturity. It has a sweet perfume. Gold medal. Shown by Messrs. B. R. Cant and Sons.

Bernice.—A lovely H.T. rose recommended for bedding and exhibition purposes. It is fully double, very pretty in the bud and half-open stages, and of fair fragrance. The colour is yellow, heavily flushed with pink and with a pale gold reverse. Certificate of merit. Shown by Mr. J. H. Pemberton.

Chin-chin.—An uncommon multiflora variety. The flowers are single and the petals are set slightly apart. It is of medium pink colour with a pale gold zone. It is said to be a vigorous variety, growing 20ft. in a season. Certificate of merit. Shown by Messrs. F. Cant and Co.

Elizabeth of York.—A robust H.T. variety recommended for general purposes. The fully double flowers are of good shape and of rich, glowing crimson-cerise colour with a suggestion of gold on the reverse. The petals are broad and recurving. Certificate of merit. Shown by Messrs. Dobbie and Co.

Sunshine.—A very free-flowering dwarf polyantha variety, and said to be of perpetual habit. The flattish, double flowers are about 3ins. across and of orange-apricot colouring. The buds are reddish and the foliage is good. Certificate of merit. Shown by Messrs. W. Cutbush and Son.

OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Diseased Lupins.

I enclose sections of the foliage and root of a lupin which is apparently diseased and should be glad of your diagnosis. The plants' leaves began to curl a few weeks ago, and as I noticed the redness of the under side of the leaves I treated it with "Abol" for rust, without any effect. Upon digging up the plant I noticed what seems to be a fungoid growth on the roots and am anxious to stop the spread of the disease. Plants adjacent to this one are quite healthy, with the possible exception of three delphiniums, which show a slight tendency to curling in the leaves. A lupin 4ft. away is in perfect health. If possible I should like to save the delphiniums if they are contaminated. As a precautionary measure I put plenty of garden lime in the place where the lupin has been.—C. A. N., Sheffield.

The lupin is attacked by root-knot eelworm. The large galls—not to be confused with the smaller and natural galls containing nitrifying bacteria—contain numerous parasitic eelworms, Heterodera radicicola. It is essential that all pieces of infected root be removed from the soil and to fork in a good dressing of unslaked or quick lime round about the place from which the plant was removed. Lupins should not be planted in this position for at least two years. It is unlikely that the delphiniums are suffering from the same trouble, but it would be wise to send along material in order that a correct diagnosis may be made.

Plum Trees which Bear no Fruit.

I have two plum trees in my garden, a Golden Gage and Magnum Bonum, which I planted about 1916, in a position on the lawn. They were here about seven years and during that period I got a fair amount of bloom every year, but no fruit. Thinking that it was root pruning which was required, I moved them into the border, about three years ago, but with no better result. Can you advise me as to treatment, or should the tree be destroyed as useless. They appear healthy in every other respect. The soil is somewhat heavy and damp in the winter.—A. W. G. H., Ealing.

There are three possible reasons why your plum trees fail to set fruit, even though blossoming well. The first and most likely reason is that the blossom is not suitably cross-pollinated. If you planted a tree of Victoria or Dennison's Superb near by, you would probably find that when these trees flowered together they would cross-pollinate one another and set reasonable crops. With their own pollen, or with the pollen of each other, the two sorts you are growing are not really fertile, any other pollen must be introduced by planting a tree of another sort near by. The second possible reason is that the soil lacks sufficient lime. Dress the ground about the trees with lime this autumn and repeat the dressing every second or third season if the soil does lack this food. Thirdly, if the trees are exposed or in a draughty corner, then it may be that cold winds prevent the fruit setting. Shelter of some kind, provided by large shelter trees, or netting during blossoming period, erected on the exposed side is the remedy for this. Finally, remember that youthful plum trees—up to eight years old—frequently flower well, but seldom crop well. We cannot say definitely why your trees fail from the information contained in your letter, but if the above points are attended to, we think you should get the trees into bearing before long. It seems a pity to scrap such promising trees, especially as they normally carry plenty of bloom.

Making a New Lawn.

I am wanting to convert five large rose beds into a lawn this autumn and I am writing to you for expert advice on the matter. Can I hope to grow a lawn from an autumn sowing and how late in autumn can I sow it with hope of success? My difficulty is that I would like to save my rose trees and I want to leave it to the last moment to lift them. Can rose trees be moved in August or September with safety?—E. L. S., Jersey.

If you can thoroughly prepare the soil for the grass seed by the middle or third week in August, a very good lawn will result if ordinary care be taken. It is rather early to lift and transplant roses, but if they are kept watered in dry weather the trees should live. To have a lawn resultant from seed sown in August or the early part of September, you must be prepared to take some risk.

Dropping of Young Pears and Propagating Young Lilacs.

All my young pears are dropping off. Can you give the reason, as it is a failing common to pears in this district. The pears are young trees, three years espalier and cordon grown on house wall facing east, soil very sandy gravel. These trees have had a little top manure, also lime and are watered well once a week with a hose from stand pipe of water supply. The pears form, then the stem turns yellow, brown at base, and pears drop off when actually quite green. Also, I have a double lilac that I wish to propagate for sentimental reasons. I have tried cuttings without success and it is impossible to get a branch to layer. Could I graft on to a common lilac? If so, please give me full particulars and time to do it? What kind of graft, etc.—I. M. B., Dorset.

We have examined the pear fruit sent for inspection, and find that it is imperfectly fertilised. Possibly, unfavourable weather at blossoming time is responsible for this failing, or, it may be, unsuitable pollination. Many pears are, of course, self-sterile and unless the flowers are cross-pollinated with pollen from a suitable variety, they fail to set fruit in any year, however prolific the bloom. There is certainly no disease of any kind attacking the sample sent and the yellowing of the stem, the browning of the base and premature dropping are typical of what might be expected to happen to an unfertilised fruitlet. They normally swell to the size of the sample sent, even though unfertilised, but develop no further. You should have no difficulty in propagating lilac if you insert cuttings now in sandy soil and cover them with a bell glass. If you have a greenhouse, or cold frame, place the pot and bell glass in this. Grafting is done in early spring on the common lilac. The stem of the small lilac and the 6in. long graft of the double lilac should be the same size.

An Ornamental Hedge.

My garden is divided from my neighbours by a privet hedge, backed by a three strand wire fence and wire netting, the whole about 3ft. high. I wish to replace the privet with something more ornamental. The substitute need not form an impenetrable hedge and is not required as a wind break. It should not exceed 4ft. high, nor take too much nourishment from the soil, and should be moderately thin when clipped or trained. My fancy turns towards berberis. Would you kindly inform me whether that species is suitable for my purpose and recommend varieties for forming a hedge 50ft. long. I presume seventeen plants will be required of mixed varieties.—B. T., Thorpe Bay.

The two evergreen barberries, Berberis stenophylla and B. Darwinii, are the best for hedges. The growths of B. stenophylla are long and slender, arching with rich yellow blossoms in late April and May. B. Darwinii is stiffer and more upright in growth, with rich orange yellow blossoms in April and May. We suggest that you form half the hedge of one and the other half with the other. Being so different in habit they cannot be well planted alternately. Prune each year after flowering to keep the hedge about 4ft. high.

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Vol. XCI.—No. 2903 Saturday, July 23rd, 1927 Price TWOPENCE

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THE GARDEN

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A NEW POPPY

THE new poppy illustrated on our front cover is one of the most interesting and valuable of recent floral introductions, and well worth a trial by all who appreciate a genuine novelty. Its name gives one little idea of what it really is: Coonara Pink was introduced by an Australian firm. It is said to have been raised by a lady from a cross between the single Iceland and the Shirley poppy. In habit and form of flower, it is practically identical with the single Iceland, though its flowers are, on the whole, larger and the petals prettily frilled or crimped. Some of the shades found in Coonara are, perhaps, faintly reminiscent of the Shirley, but there the resemblance with the latter ceases. Evidently it was introduced in the belief that it would come fairly true to colour, otherwise there would be no point in its name. We saw, a few weeks ago, a fine bed of many hundred plants in full bloom at Messrs. W. J. Unwin's nursery at Histon, but not more than 25 per cent. at the most could be classified as any shade of pink; indeed, no two on the whole bed seemed to be exactly alike in shade. This unfixity is an advantage rather than otherwise, for the colour range is remarkably wide and pleasing. If the pink, or any others of the exquisite shades, can be "fixed" so well and good; but in my opinion, Coonara Pink is certain to please a much greater number of amateur growers as it is. It is impossible to convey an accurate impression of the wonderful tones, nearly all of them self colours. They embrace all shades of pink, salmon, lemon, tangerine, cerise-pink, apricot, biscuit, saffron, old gold, salmon pink, yellow, orange, etc., strongly reminding one of those soft and dainty shades as well as the bright colours found in begonias. In spite of their diversity of colour, there is no sign of "clashing" when they are mixed together, only a warm and attractive blending.

Iceland poppies are favourite cut flowers for indoor decoration, but these new hybrids will be found much more valuable for this purpose. All flower lovers will want them on account of their charming colourings, dainty and graceful form, and easy culture. The recent exhibits of Messrs. W. J. Unwin at the R.H.S. Hall (entirely of Coonara), have created no small amount of interest and favourable comment.

For cut bloom, Coonara, like the Iceland poppy, should be picked when young, just as they are opening, and preferably in the early morning. Should any difficulty be experienced in making them "hold up" in water, it is a good plan to insert the ends of their stems in boiling water for a few seconds; indeed, this procedure is usually necessary in hot, dry weather. If cut in the young stage, the flowers have excellent lasting qualities; but to obtain the maximum effect they should be arranged lightly and daintily in slender clear glass vases. Much of their beauty and all gracefulness is lost if the vases are overcrowded. The light, feathery wild grasses, such as one finds along any ditch or hedgerow, are all that is needed in the way of foliage. We received from Messrs. Unwins a box of blooms, and although the flowers were wilted on arrival, they responded well to treatment in hot water. They look particularly well in a vase in our office and they remain in fine condition although received about a week ago. It is certain to become a popular plant once its merits as a cut flower for house decoration are realised.

Their culture is very simple. Although, strictly speaking, they are hardy perennials, they may be sown in boxes in the early spring and will bloom the same year. Better results however, may be obtained by treating them as hardy biennials. Prepare the seed-bed now, leaving the soil in a fine condition. Sow the seed thinly (it is very tiny indeed) in drills, at the end of July, watering the drills before sowing if the soil is dry. As a rule, no further watering is necessary; but should a dry spell set in when the seedlings are small, water them periodically as they need it. At the end of September or early October, transplant them firmly to their flowering positions, choosing a time when the soil is nicely moist. They are more effective when planted in a bed by themselves than when dotted about here and there in the border; but in either case, prepare the soil deeply and manure it liberally, for, like the Icelands, these poppies will "stand" a good deal of feeding, and good culture will be amply rewarded by greater length of stem and larger flowers. Bone meal will be found an excellent fertiliser if incorporated in the soil just before transplanting. A few plants may bloom in the late autumn, but this should not be permitted. If the buds are nipped off when small it will give the plants greater strength. They will flower profusely and continuously from May onwards if the blooms are picked regularly and no seed pods allowed to form. They are like sweet peas in that one can "cut and come again" every day for weeks.

This Week's Work

For Gardens in the South and Midlands.

Prepare beds for planting irises.

Spray potatoes with Bordeaux mixture to guard against potato blight.

Transplant into open ground seedling biennials.

Water border carnations which have been layered.

Lift early potatoes and winter onions.

Keep rambler roses tied to trellis-work.

Plant out leeks for a winter supply.

Sow spinach for autumn and winter pulling, and dust carrots with soot and lime to ward off carrot fly.

This Week's Work

For Gardens in Scotland and the North.

Sow herbaceous calceolarias.

Spray maincrop potatoes.

Sow myosotis for spring flowering.

Protect heads of cauliflower by bending leaves inwards.

Sow pansies and violas.

Propagate hydrangeas, fuchsias and spiræas by cuttings.

Remove spent blooms of Canterbury bells to induce later flowering.

Divide and pot up spring flowering saxifragas.

Plant meadow saffrons and autumn crocus.

Trim ragged edgings of catmint, arabis and aubrietia.

Pot on cyclamen.

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LILIES FOR EVERY GARDEN—I

Many amateurs imagine that lilies are difficult plants to grow. Such is not the case. Provided a little care and attention are given when and after planting, there is no reason why they should not be successful. A few prefer a limy soil. Others do not, and will grow readily in a moderately heavy loam. All the necessary hints for successful cultivation are given in this article, together with a list and description of species which the amateur will find it worth his while to plant this coming planting season.

THE genus lilium contains so many species, varying to such an extent in their behaviour under cultivation, and so many species about which little or no experience has been gained, that it is impossible to lay down stereotyped rules for the cultivation of the genus, or even to divide it into exact groups. Moreover, lilies often behave quite differently in various parts of the country.

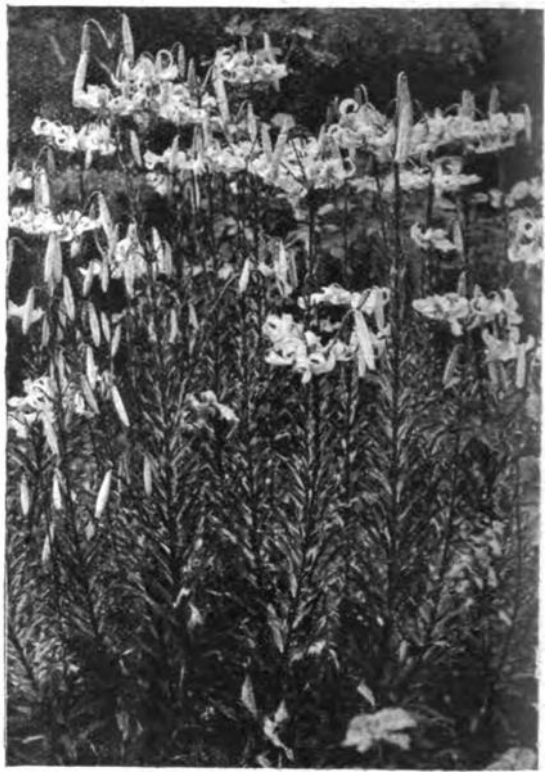
With regard to their cultivation, we may divide the species roughly into three groups, according to the soil and general conditions which seem to suit them best.

SOIL AND SHADE.

Firstly there is the group which will thrive in ordinary soils, providing that they are given plenty of moisture at the roots and full exposure. Many of this group are obviously of value for the herbaceous border, in which it is undesirable to have to introduce special composts where this can be avoided. Moreover, most of these lilies are comparatively easy to grow and also delight in full sun, so that they are undoubtedly well suited to the border. The usual preparation, such as deep digging and moderate manuring, will suffice for this group. Thus, a good stiff loam will suit them excellently; while if the soil is heavy to start with, it should be lightened by the addition of sand and rotted stable manure. If it is very light, cow or pig manure should be added; while peat and leaf-mould help to retain the moisture in the soil, and are always beneficial to lilies.

An important characteristic of practically all the species is that they derive considerable benefit from having their roots thoroughly shaded against hot sun, and it is particularly essential to pay careful attention to this in the case of stem-rooting varieties. Thus, in planting a herbaceous border, the lilies should be set in small groups and in the neighbourhood of plants which produce fairly dense foliage, but which do not grow tall enough to hide the blooms of the lilies. Senecio Clivorum, achilleas and artemisias, for instance, would all be suitable for planting in conjunction with lilies, for they would provide the necessary shade at the roots without interfering with the flowers.

With regard to planting we may consider the details that apply to lilies in general, irrespective of groups. The best time for this is October or early in November, a day being chosen when the soil is in a moist condition, but by no means sodden; moreover, the ground should be free from frost if possible. On a very heavy soil, or in the case of imported bulbs that do not arrive in this country until March, the planting must be deferred until that month. It may be noted here that certain lilies imported annually, notably L. auratum, are often dug prematurely in Japan to arrive in time for autumn planting and these bulbs should always be avoided in favour of a winter consignment, to be planted in March.



A CLUMP OF THE NANKEEN LILY (L. TESTACEUM).

As we shall see later, L. candidum has to be planted at the end of July or early in August.

DEPTH TO PLANT.

The depth of planting bulbs must be regulated by the natural vigour of growth of the different species and must depend upon whether they produce stem roots or not. Thus, the most vigorous stem-rooting kinds, such as L. auratum, may be planted at such a depth that the top of the bulb is from 6ins. to 8ins. below the surface of the soil, so as to allow plenty of soil for the stem roots, while L. croceum, L. longiflorum, L. tigrinum, etc., may be from 5ins. to 6ins. and those with quite small bulbs, like L. concolor and L. rubellum, require only 3ins. or 4ins. Of the kinds that do not develop stem roots, the most vigorous ones like L. candidum and L. Martagon should have about 4ins. of soil over the bulb and the weaker ones an inch or so less. L. giganteum is an exception, as it only requires the top of the bulb 4ins. below the surface of the soil. Finally, the planting must always be rather deeper on a light soil than on a heavy one. It is a good plan to put a little silver sand in the bottom of each hole.

SURFACE MULCHING.

As regards the cultural routine with lilies, there is little to be done except giving the beds an annual top-dressing of decayed manure early in the spring. This operation serves three purposes: it prevents the evaporation of moisture, it provides an invaluable rooting medium for stem-rooting kinds, and, finally, it enriches the soil. Although the top-dressing should be given to all lilies, it is particularly essential to provide it for the species that produce stem roots, for not only do these benefit greatly by the rich food which they are able to extract from it, but they are also protected by it in their young stages, while during the heat of summer the manure keeps much valuable moisture in the soil, which would otherwise be lost through evaporation.

Finally, it is important to leave the bulbs undisturbed, as long as they are doing well, for many species only reach the height of their beauty several years after they have been planted.

The following species may be treated in this way:

L. candidum (the common white or Madonna lily), was the first species to be cultivated in this country and for scent remains unequalled by any more recent introduction. The bulbs should not be interfered with when once established and will often thrive for years when left untouched as they are in cottage gardens. When it is necessary to transplant, this must be done in August, as the bulbs carry foliage almost throughout the year.

L. pyrenaicum, an old species with small yellow reflexed flowers. It is one of the earliest to flower and perhaps the easiest of all to grow.

L. tigrinum, the well known tiger lily, is very hardy and should be represented in every border. In the variety, Fortunei, the stems are covered with a woolly down, the flowers being borne in great quantity, though they are rather paler in colour than those of the type.

A FINE JUNE BORDER LILY, L. DAURICUM.

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L. croceum, the orange or cottager's lily, is a popular species, with very brilliant orange flowers, spotted with crimson and held nearly erect on stems up to 6ft. high.

L. testaceum (L. excelsum).—The beautiful Nankeen lily, a very distinct species by reason of the clear nankeen tint of its flowers and one of the most valuable garden plants in the genus. The exceptionally graceful flowers, with their petals nearly as much reflexed as those of the Martagon lily, are borne on stems 6ft. or 7ft. high, under favourable conditions, and the plant is quite hardy and as easy to grow as L. candidum.

L. bulbiferum, so called on account of its regular production of bulbils in the axils of its leaves. It is one of the best for an ordinary border, reaching a height of 3ft. or 4ft. and bearing heads of deep orange red flowers early in June.

L. dauricum (umbellatum), and its many varieties are invaluable for the front of a herbaceous border. The large, erect flowers, varying in colour from pale orange to orange red in the different forms, are borne in terminal clusters on stems little more than 2ft. high.

L. elegans (Thunbergianum), a still more dwarf species and remarkably prolific of varieties, which range from lemon yellow through orange red to blackish crimson.

L. Martagon may be treated either with this group or with the next, very slight shade apparently being beneficial to it. It is one of the oldest and when massed with its white variety, one of the best and most graceful species of the genus.

L. monadelphum is another species which it is difficult to assign to either class, as it will often thrive in partial shade and again with full exposure. It well repays trouble in cultivation, however, bearing large drooping wax-like flowers, varying from clear citron to deep yellow and more or less spotted.

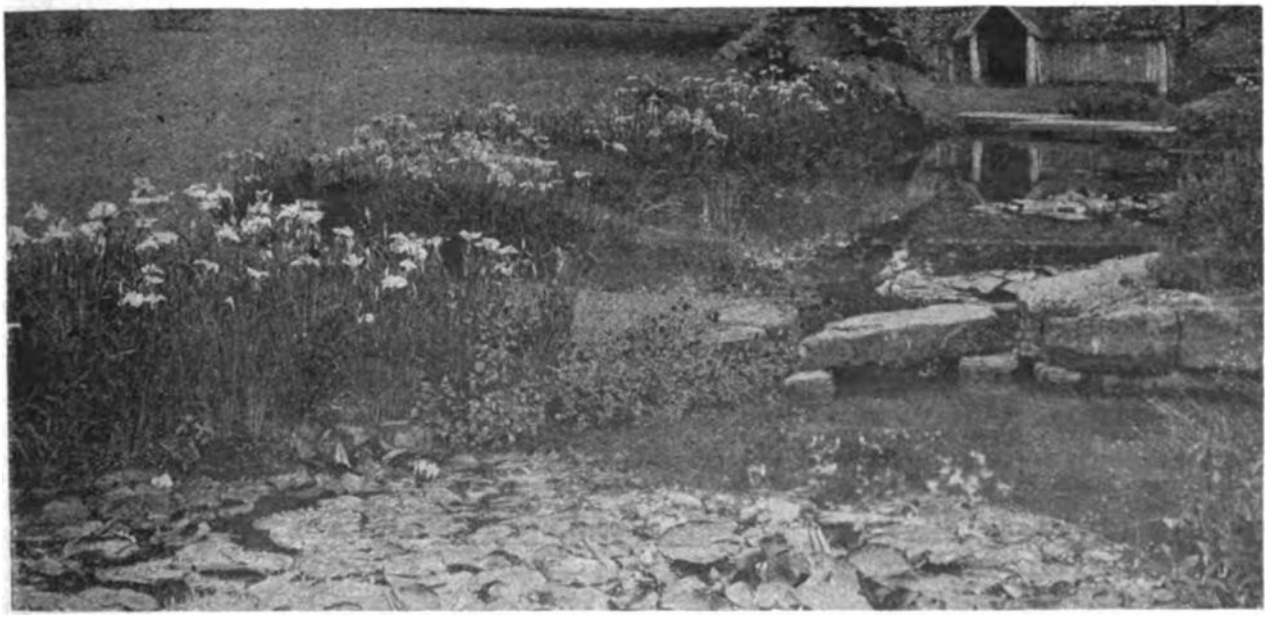
L. regale, is a much newer species than most of those previously mentioned. Nevertheless, it has proved very hardy and being well suited by a good loam and a fully exposed position, is an ideal lily for the herbaceous border. The large white trumpet flowers, suffused with purple outside and pink within, are of great beauty, held in a more or less drooping position on stems up to 3ft. high. F. R.

A FINE GROUP OF LILIUM REGALE IN THE SHRUBBERY BORDER.
Note how the necessary shade is provided over the roots and lower part of the stems by planting the lilies among low-growing rhododendrons.

IRISES FOR MOIST SITUATIONS

Not all irises will grow in moist places in the garden. The following article mentions a few of the best kinds which will succeed round the edges of a small pool. There are few plants which look more attractive in such a position.

SOME of the most effective decorative plants for planting in moist corners of the garden belong to the genus iris. Not all classes of iris enjoy a damp situation and those suitable for this purpose mostly belong to the apogon section of the genus, although a few such as I. xiphioides and its varieties are extremely useful. The apogon section consists of beardless irises, with a creeping rootstock and includes the following species, suitable for waterside planting, *viz.*, I. Kæmpferi (better known as the Japanese iris), I. sibirica, I. pseudacorus, I. versicolor I. Delavayi, etc. All these kinds need an abundance of moisture during their growing



A HAPPY COMBINATION, IRISES AND WATER LILIES WITH OTHER MOISTURE LOVING PLANTS FRINGING THE MARGINS OF A SMALL POOL.

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season and a rich soil free from lime. Their colour range is from white to purple and blue with I. pseudacorus as yellow. There is an easy method of determining whether an iris needs a moist situation. The method consists in holding a leaf up to the light, the presence of minute black specks dotted all over the tissues is an indication that the species or variety is moisture loving.

Irises should be planted in large clumps for effect, in some cases close to the water's edge, as in the illustration of I. sibirica, in others a little way back from the edge, the edge being planted with other moisture-loving subjects, such as the yellow mimulus, Mimulus luteus or the forget-me-not. A very useful plant for planting with groups of iris is Sparganium ramosum, the bur reed, which has bright green foliage and sets off the waxy bluish green foliage of the iris and the various colours of the flowers very effectively.

On the opposite bank of the pond or at one end, as in the illustration of I. Kæmpferi, a group of those handsome foliage plants, the gunneras, may be planted. Gunnera manicata will be excellent for this purpose.

The irises which are most suitable for this class of work are I. xiphioides, sometimes called the English iris. This is a bulbous iris and is ideally suited for planting at the waterside. The leaves are tapering and 12ins. to 18ins. in length, while the stem is somewhat shorter. It is very hardy in this country. Flowers are borne in terminal heads, two or three to a head. In nature the colour is deep blue, but an occasional white is found, but garden forms have been produced whose colour ranges from white, light blue, purple to deep blue. The best time of planting is September to October and the season of flowering is June and July Good garden varieties are Mont Blanc, white; King of Blues and Othello, blue; P. C. Hooft, purple; and Bleu Celeste and Tantalus, light blue.

IRIS KÆMPFERI MAKES A MOST EFFECTIVE SHOW AT AT THE EDGE OF A SMALL POOL

I. Kæmpferi and its varieties, the Japanese water iris, is best grown in raised beds, intersected by channels through which the water can be led during the growing season and which can be kept dry by blocking the ends of the channels in winter. During the winter resting period an application of farmyard manure or liquid manure applied to the crowns will be of great benefit. There must be no lime in the soil where I. Kæmpferi is to be grown. Plant immediately the flowers are over or in the early spring. They flower in June. There are many varieties.

I. sibirica and its varieties, orientalis, flexuosa, etc., require a cool, moist soil, rich in humus, without any lime. They have tall, hollow stems which are well above the foliage and the flowers are borne on long pedicels. The flowers are typically blue with a network of veins on a white background near the centre of the falls. The best time to plant is in September or in April. The plants may be increased by division and plants may be produced from seed, which should flower in the third year.

Iris pseudacorus is about 3ft. in height, has large yellow flowers and is specially suited for marshy ground. I. versicolor is similar, but of a purple colour. Plant in September or October.

I. Delavayi is very desirable for the waterside, as it flowers in June and July, when the I. sibirica is over. The flowers are larger than I. sibirica and of a rich red violet colour.

Other species and their varieties which are suitable for planting by the waterside are: I. fulva, I. albopurpureus, I. ochroleuca, I. Monspur, I. chrysographes, which should be planted in early autumn, when division can be done, I. Wilsoni, etc. [H. B.

PROPAGATING ROCK PLANTS

A large number of rock plants can be propagated from cuttings in the summer, and the stock raised in this way is far superior to chance divisions, often very imperfectly rooted, made in the autumn.

IT is absolutely necessary to devote a cold frame to the work, for if put in the open ground most of the cuttings would shrivel up before they became rooted. The frame should be stood in full light, but to save the cuttings from excessive heat it is best to place it so that it faces the north. A good layer of ashes should be put in the frame to serve a double purpose, providing the cuttings with a moist cool bottom, and ensuring their not being too far away from the glass. If the ashes come to within 6ins. or 8ins. of the glass, so much the better for the cuttings.

After trying various methods I have found that the best plan is to put the cuttings in small pots, 3ins. or 3½ins. in diameter, rooting from four to eight cuttings in each. In some cases it is best to put the lesser number in a pot, and then plant them out in the autumn without separating them; but things that take up a fair amount of space can be rooted close together, and potted off into small pots when they start growing.

The little pots should be well drained, and the best soil for general use is a mixture of 4 parts light loam, 1 of leaf-mould, and 1 of silver sand. Some plants that are peat lovers root better in peat and sand, and more coarse sand or rock chippings can be added for moraine subjects that do not care to have much soil around them. Adding a top layer of dry sand just before putting in the cuttings greatly facilitates the rooting process.

A cheerful optimist might advise keeping the frame moist and absolutely closed until the cuttings rooted, but experience teaches that it is better to give a little air night and day, and it will be enough to push the light down 2ins.

The cuttings should be watered as often as they need it, giving attention to each individual pot, missing those that are already moist enough. One great point is to keep the cuttings from flagging, and in hot dry weather it is advisable to spray them with soft water during the early morning and late afternoon.

Even with a frame facing the north there is a fear of getting too much sunshine, and a thin screen, such as a piece of tiffany or a mat, should be put over the glass during the brightest hours of a sunny day. A thin coat of whitewash can be used, but these little mountain plants are lovers of light and need all they can get on our cloudy days.

The majority of things will root in three weeks, though others may take much longer, and when rooted they should gradually be given more air, but not fully exposed until they have been potted off and are well rooted in the new soil.

Some subjects that root freely from summer cuttings are achillea, æthionema, alyssum, aubrietia, cistus, erysimum, dianthus, dryas, erodium, geranium, helianthemum, iberis, linum, lithospermum, origanum, phlox, thymus, viola, veronica and zauschneria. Fresh young growths of these from 2ins. to 3ins. long make excellent cuttings. It may be well to mention that Lithospermum prostratum and its variety Heavenly Blue are lime haters, and they only root freely in a soil devoid of lime, so it is best to treat them to a mixture of peat and sand.

When dealing with saxifrages of the mossy kind it is best to dibble three or four rosettes in one pot for planting out in the autumn without disturbance. A pocket filled in this way will be one mass of bloom the next season. New rosettes can be taken off the encrusted saxifrages, the larger ones being given single pots and the smaller ones put in three or four together. The precious kabschia or cushion saxifrages should not be interfered with during summer, for it is best to divide them just after they have flowered in spring or during the early autumn. Pieces can usually be got from them with roots already formed, and they can go back in the moraine or a pocket.

The smaller tufted androsaces are too tiny to be turned into cuttings and can be divided in autumn, though it is sometimes possible with large plants on hand to pull off sprays and root them in the cold frame. Larger varieties making runners, after the manner of A. sarmentosa, can have the runners taken off and inserted as cuttings, getting the soil right up to the lower leaves.

That gem of summer flowers, A. lanuginosa, will root freely if the young growths are put in as recommended for ordinary things. It is the safest plan to keep the young plants in the frame during the winter, for, though they are cold proof, they do not like the damp of our winters.

Things that increase with great rapidity, such as the ledums and sempervivums, usually give a sufficient stock by division in the autumn; but choice or rare varieties can have little pieces taken from them, to be pricked off in pots like cuttings. T. H. WORLD.

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SAVE YOUR OWN SEEDS

Now is the time to go round plants that have finished flowering and collect the seeds when they are ripe. These can be sown immediately after gathering. All extra fine specimen plants should be noted and seed collected from them. There may be a striking break among the seedlings next year which is an improvement on the parent plant.

IT is most fascinating work to collect and sow your own home-grown seeds, and by careful selection of the parent plants a good strain may be worked up. Extra fine specimens should be noted when they are in flower and marked with a piece of coloured wool tied round the stem; or, better still, with a numbered wooden label, particulars as to variety, colour, height, etc., being entered in a notebook under the number of the label.

Of course, seed will not always give seedlings of the same type as the parent plant, and this is particularly noticeable in varieties of lupins, delphiniums and pyrethrums, which are the result of highly specialised hybridisation and selection. Still, there is always the hope of getting some at least true to colour, and a few may even be improvements on the parent plant.

Generally speaking, it pays to save seed from selected plants of the following, though this is to be taken as by no means an exhaustive list: Geum, anchusa, aquilegia, delphinium, sweet william, Canterbury bell, foxglove, lupin, gaillardia, campanula, single pink, hollyhock (take care that the parents are not infected with the rust disease), scabiosa, coreopsis and antirrhinum.

Extra fine alpine plants may also be treated in the same way, but the majority of them can also be propagated from cuttings, which provides a surer method of getting plants true to colour. Rock and bog primulas, however, are preferably raised from seed, and fresh seed will always germinate quickly and easily. It may take anything from six weeks to six months, however, if sowing is put off until the following spring.

A good strain of such annuals as candytuft, pot marigold, nigella, eschscholtzia, etc., may soon be worked up if a few extra good plants are allowed to seed, all the poorer forms being pulled up and burnt as soon as they have finished flowering. These annuals may be allowed to scatter seed where they stand, or, if preferred, the pods can be gathered and sown in the desired positions either in autumn or early spring.

In all cases where the seeds are to be gathered the pods should be plucked before they are fully ripe, or they may split open and scatter their precious contents over the garden. The pods should be hung head downwards over an open sheet of paper and left thus until they have shed their seeds.

Many people prefer to leave the pods unopened until the spring sowings, but I find it better to extract the seeds and keep them in separate *glazed* paper envelopes, with particulars of the variety, when gathered, and any other notes desirable written on the outside.

The following instances, taken from my 1926 records, will illustrate how quickly fresh seed will germinate:

Single Pink.—Collected July 29th; sown July 31st; above ground August 6th. Most of these have flowered well this year, and all will make fine plants for next year's display.

Tree Lupin.—Collected July 29th; sown August 4th; above ground August 9th. Many have flowered this year, some being fine bushes about 4ft. in height already.

Musk Mallow.—Collected August 5th; sown August 5th; above ground August 12th. All have flowered exceptionally well this year, and have been of the utmost value for cutting.

One last word. Seeds of perennials collected before the end of August may be sown straight away, but after August it is better to keep them until spring. Annuals may be sown up to the middle or even end of September, but later sowings than this are not advisable, though sometimes they succeed on very light soils. W. H.

LONG LIFE FOR CUT FLOWERS

A few hints on the treatment of flowers used for house decoration.

TO make flowers last for any length of time in water is merely a matter of following a few common-sense rules, though, of course, there are certain blossoms that, even growing on the plant, have at the most but a very short span of life. The blue flax is one of these, for by mid-day most of the newly opened blossoms will have fallen, though a few may persist the whole day through. The lovely blue alkanet is another flower that does not stand picking, and border lupins, handsome though they be, seem to drop after the first two or three days in water.

Messrs. Sutton and Sons

AN ATTRACTIVE BOWL OF PINK CLARKIAS.

In gathering flowers, the first important point is to pluck the blossoms in the early morning, before the sun has dried the natural juices in their delicate petals. Where the flowers cannot immediately be placed in their vases, it is necessary that they should be stood up to their "necks" in a pail or wide jar of water, the pail being placed in a cool part of the house. It is almost needless to say that newly opened buds will last longer than full blown flowers, and such kinds as Shirley poppies and eschscholtzias may be picked even before they have burst the bud. With poppies and chrysanthemums, it will also pay lightly to char the ends of the stalks in a candle flame, for in this way their life may be much prolonged. Dwarf annuals grown for cutting should be pulled up by the root and, when the soil has been washed away, put straight in their vases without further preparation. It is surprising how long a clarkia or godetia will last treated in this fashion, and furthermore, even the immature buds will go on developing and opening for some time after the plant has been uprooted. Branches cut from flowering shrubs will last much longer if the ends of the stems are split with a sharp knife, the reason for this being that they thus present a much greater area for absorption of water.

One often sees different substances recommended for dissolving in the water with cut flowers, including such widely differing stimulants as salt, sugar, aspirin and camphor. There is no doubt that a tablet of aspirin dissolved in tepid water will do wonders towards reviving faded flowers, but the writer has never experimented with the other substances mentioned, and so is in no position to make comments on their respective merits. Charcoal, however, should always be used in vases, for it keeps the water clean and sweet, and obviates the necessity for changing water every day, a great consideration where there are large numbers of vases to be dealt with every morning. Vases containing foxgloves delphiniums and other soft and leafy stemmed flowers, should have the water changed daily, however, for these sappy growths soon decay under water. For this reason I prefer such flowers as poppies, scabious, coreopsis, etc., these having hard, wiry stems which may be left in the same water for a week or more without sign of deterioration.

One fertile cause for the early fading of cut flowers is that they are crowded too tightly in the vase. Not only do they look clumsy arranged thus, but also they are more or less strangled when crowded together, and soon fade for lack of air and water. Another fault is to allow the ends of the stems to rest upon the bottom of the vase. The result of this is obvious; water has no free access to the cut part of the stem, and, consequently, even though the vase be full of water, the flowers die of thirst, as they only absorb water in any quantity through the end of the stem. A third mistake is to leave flowers in a room where gas is burning. This is fatal to both pot plants and to cut flowers; the fumes given off by the gas are probably partly responsible, but besides this the atmosphere is dried and heated so that flowers and plants quickly dry and wither. Finally, let it be urged that all vases be filled with water before the flowers are arranged. B. D. S.

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THE BUSY MAN'S PAGE

Taking Cuttings of Pinks.

PINKS are old-world border flowers, appreciated wherever the plants are grown. The plants flower during warm weather, but the young plants, cuttings or pipings must not be exposed to drying winds or hot sunshine, else they will shrivel and soon become useless. The present is a very suitable time for inserting cuttings or pipings. Before any are severed from the parent plants, the boxes, pots or beds in frames or cool borders outside should be duly prepared. A light compost must be provided for the cuttings to root into, but a thin layer of heavier soil just below the light compost will be an advantage. The top layer is made light by adding coarse sand to it, and the surface itself should be covered with sand about half an inch deep. Make the bed of soil very firm, then take a bucketful of water to the pink bed and, as the cuttings are detached from the parent plants, place them in the water; prepare them from the water and insert at once. In preparing the cuttings, simply remove a few of the basal leaves to have a clear stem for inserting in the soil. Water at once through a fine rosed watering can and shade from bright sunshine. Occasional waterings will be necessary, but not any further attention until the cuttings are well rooted, beyond seeing to it that if they are in the open they are made firm again in the soil, when it is observed that earthworms have loosened them. If not immediately attended to in such cases the cuttings will fail to emit roots.

Summer Treatment of Chrysanthemums.

IT is very important that the pots containing chrysanthemums should not be crowded, as the lower leaves are sure to suffer if the specimens are too close together. It is best to place the plants quite a foot apart on a firm bed of ashes. An open position should be chosen where the plants can enjoy a good many hours of sunshine each day. By this time the plants will have been placed in their flowering pots. Provide stakes for the plants, or support them by placing between wires which are carried from strong stakes driven into the ground. As fast as side shoots grow pinch them out, retaining only main stems and main leaves. At the end of July, or early in August, buds are again formed, the first, known as the "break-buds," having been rubbed away in April or May. The first crown buds, as those produced in July are called, may be taken to form the flower, and in such a case shoots round the bud are removed. By pinching out the first crown bud and retaining several of the surrounding shoots, other buds, known as "second crowns," will be formed in a few weeks. In the case of most varieties these second crowns are the ones taken. Water carefully with clear water until the end of July, when the roots will be growing round the ball of soil in the pot; then feeding may commence. Clear soot water, given every third day, will suffice for ten days; then give manure water diluted to the colour of pale brandy. Both soot and manure should be tied up in bags of coarse material and immersed in vessels of water for several days prior to use. All artificial manures should be given strictly according to instructions.

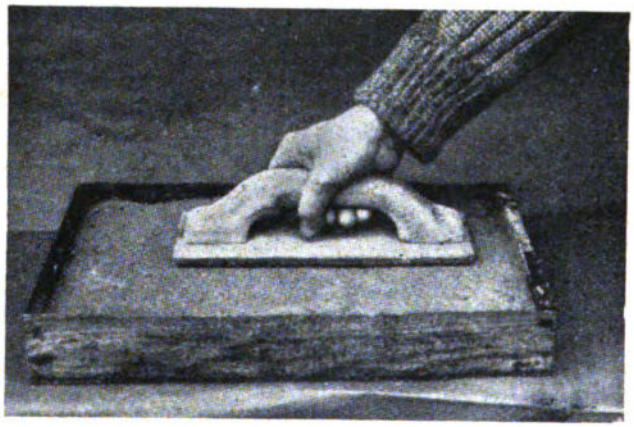
The Month for Cuttings.

OF all times in the year July is the best, so far as the majority of plants are concerned, for the taking of cuttings. With the exercise of a little care it is possible to increase one's stock of plants to an almost indefinite extent. Slips from privet, euonymus, laurel, shrubby veronicas and many other kinds taken now with a heel of matured wood will root in sandy soil if the position is well shaded. In most cases the cuttings will have taken root by the autumn, when they can be transplanted. Rose cuttings taken now are almost sure to give good results. Each cutting should be 6ins. to a foot in length, and if there is a heel so much the better. Rub away buds and leaves from the lower one-third of the slip and bury this in the ground. Choose a shaded spot where the soil is well broken, but not too sandy, and a big percentage of the cuttings will soon be rooted.

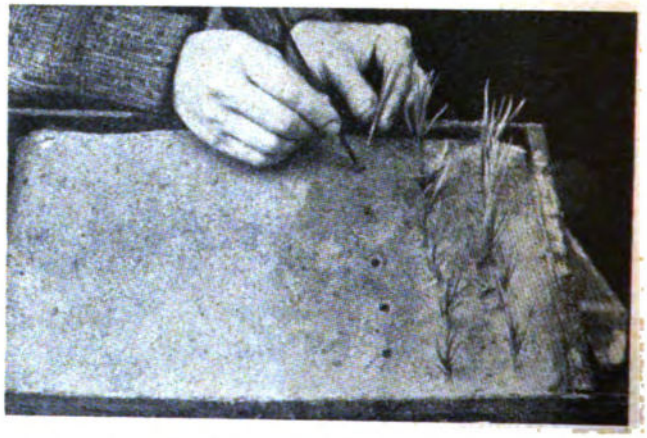
The zonal pelargoniums (geraniums) can also be propagated by means of cuttings at this time. Always make the cut below a joint and allow the slips to remain exposed to the air for a few hours before setting them in sandy soil. Watch the cuttings closely and remove any fading leaves or mildew may appear. Fuchsias, marguerites and calceolarias are also easily propagated by means of slips in July. Cuttings removed from bedding begonias root freely in very sandy soil which is kept moist and before the end of the season will have developed quite nice corms. These plants will provide a late display of bloom in a greenhouse before they pass into their winter rest. Propagation by means of leaf cuttings is an interesting form of culture which may be carried out in the case of gloxinias, streptocarpi and the Rex begonias. One may just press the stalk of a well developed leaf into light soil and, in this way, a fresh plant is secured. A number of plants may be obtained from one leaf by cutting through the main ribs in several places and then pegging the leaf down on to moist soil. At each cut part a fresh plant arises, and, when rooting has taken place, these may be divided and potted up separately.

Tying-in the Best Shoots of Roses and Climbers.

WHEN roses and climbing plants have made satisfactory progress, it means that the plants, having grown well, have in some cases become a thicket of growths. It is when the plants are in this state that the inexperienced cultivator is at a loss as to how they should be treated. But the wise cultivator will, every year, treat the plants judiciously in this respect right on from the first year of planting and then there never will be any serious difficulty to be faced. Climbing roses will bloom year after year on the old branches, but the sprays and flowers are small and become smaller each year. By making a judicious selection of the best of the current year's shoots and training them in so that light and air will reach them freely, they will mature. Sometimes it is advisable to cut out entirely a few very strong young shoots, because they will not mature during the year and, being immature, they will not survive a severe frost; even if they did they would not bear flowers the next year. So some judgment should be exercised when engaged in cutting-out some and tying-in others. As a rule it is advisable to retain the selected shoots of all climbers their entire length at this season. If the tips are cut off, more side shoots will grow, forming a tuft near the end—a most undesirable condition. The best time for the removal of any unripe ends of long shoots is during October or early in November, then there will not be any more young growth this year. Where roses and other climbing plants are grown to cover pillars, trellis or wall space, the aim of the cultivator should be to get the basal or lower parts well furnished with healthy young wood as well as the upper parts.



WHEN PROPAGATING PINKS THE SAND IN THE SURFACE OF THE COMPOST SHOULD BE MADE FIRM.



THEN THE CUTTINGS MAY BE INSERTED WITH OR WITHOUT A DIBBER, TWO INCHES APART.

Digging Early Potatoes.

WHEN digging potatoes it is always best to insert the fork in a perfectly upright position and to make sure of getting it well down under the root before raising the soil. Dig over the ground a second time to see that no potatoes have been left in the rows. With the early potatoes dig only from day to day just as the supplies are needed. To dig a week's supply at once will mean that the tubers, which are held over for some days, will lose a good deal of their flavour.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Decorative Room Plants.

ROOM plants if kept on tables away from the light soon turn sickly. They should, therefore, be placed occasionally in the window, or else in a greenhouse or cold frame. Never put the plants out in the rain except in the very warm weather. Sponge the leaves occasionally, or take them out of doors and syringe them. Water only when the soil is dry, but when you do water give the plants a thorough soaking. Plants need air so keep the windows open. Remove dead flowers and leaves. Turn the plants round once a week to keep them upright. It is a mistake to allow water to stand in the saucer beneath the pot.

A SELECTION OF PLANTS.

For Hanging Baskets.—Ivy-leaved geraniums, Campanula isophylla, rat's tail cactus and pedlar's basket.

For Deep Shade.—Ferns, such as Asplenium bulbiferum, Pteris cretica and elk's-horn; aspidistras, preferably the coloured-leaved kind; aralia, india-rubber plant and palms.

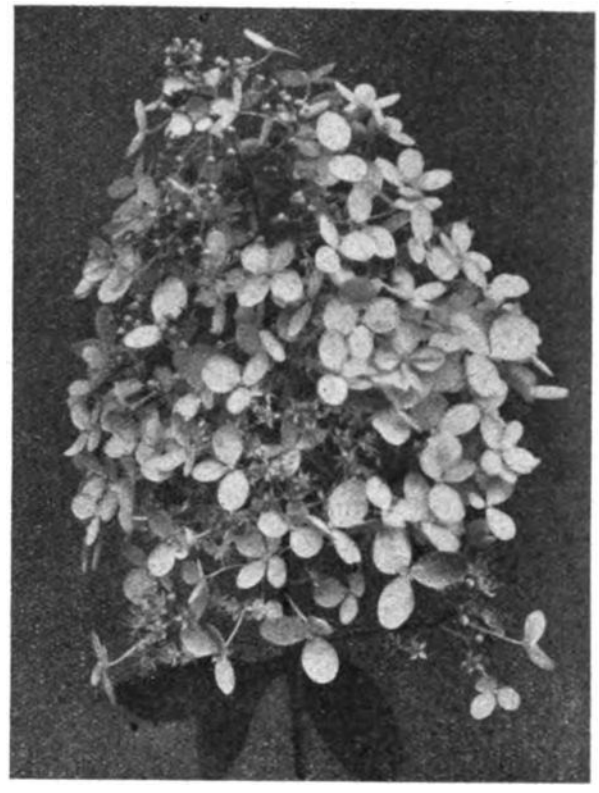
For the Window. — Cacti, geraniums, pelargoniums, Scarborough lily, fuchsias and hydrangeas. If a greenhouse is available, the sun-loving plants are best grown there and brought indoors for decorative purposes when required.

Sow Virginia Stock.

GARDENERS are always looking ahead to what their borders will be like next year. To those who are impatient by nature, this looking ahead is very trying. They ask for some magic flower which can be sown to-day and in bloom in a few weeks. Of all the flowers which mature rapidly I imagine none can produce such a "lightning garden" as Virginia stock. A judge who was visiting gardens in one of the most congested districts last week remarked to me "Isn't it wonderful what Virginia stock can do? You find a grimy street, with a tiny back garden in it, almost neglected. But at the last minute someone has thought to sow all the path edges with Virginia stock, and now the effect is charming." So, if you have just become possessed of a garden which has hitherto grown tom cats and brickbats, surprise your friends by filling it with bloom before the season closes. Virginia stock, mignonette and candytuft would all flower before the end of the season if sown now.

Exhibition Marrows.

THE season for flower and vegetable shows has already commenced, and already I have heard laments that the dry weather of early June made the vegetables late and, in consequence, of *small size*. It reminded me that one of the most common of errors among amateur exhibitors is the cutting and staging of overgrown marrows. Size is not important, except in the case of marrows intended for jam. Tenderness comes first, and the second consideration is suitability for the average table. A couple of small marrows, young and tender, and only large enough to fill your two hands are more likely to win the judge's favour than large coarse fruits. Also, if a couple of marrows are demanded in the schedule, choose a couple that makes a pair. They will look far better than one large one and one small one placed together.



HYDRANGEA PANICULATA IS A FINE HARDY SHRUB FOR THE SMALL GARDEN.

Its flower heads are most decorative.

A Remedy for Potato Blight.

WE can, if we will, purchase "immune" potatoes, that is, potatoes that are immune to the dreaded wart disease. But we do not find in our catalogues any offers of seed potatoes of varieties immune to the potato disease, which is the most widespread of all diseases that attack this crop. Our only remedy, therefore, is to spray—not only when we notice signs of the disease, but before the disease has been able to put in an appearance in our plots. The first sign of the disease is the appearance of brown patches on the leaves. If the weather is favourable to the development of the disease, the whole stems and leaves may become black and rotten in a few days, and may develop a very unpleasant smell.

The best spray to use is Bordeaux mixture, and this should be used in the middle of July and again after an interval of three weeks. Where only small quantities of the spray are needed it is advisable to purchase the compound ready made.

Brompton Stocks.

IN the early days of summer, when our gardens are full of promise, but, alas! not always in bloom, the Brompton stocks will bring a foretaste of summer joys into the mixed border. These plants are extremely easy to raise, and although they are comparatively short-lived among the perennials they often last for several years in a fairly sheltered situation. Now is the time to sow seeds, which should be allowed plenty of room to develop. Transplant the seedlings as soon as they are large enough to handle, and do not despise even the weakly-looking ones, for they may prove to be the best colours. From 8ins. to 12ins. should be allowed between the plants when they are put out in the nursery bed.

In cultivating good plants of these stocks, the aim is to obtain woody growth before the very cold weather sets in. Should the plants make rapid growth during September, it is a good plan to lift them and replant elsewhere, for this treatment will induce the new sappy growth to harden and the plants will be less susceptible to frosts. If the garden is very exposed, it may be necessary to provide protection during the coldest months.

A good place to choose for the Brompton stocks is under the shelter of trees and shrubs, where they will succeed and yield an abundance of colour to fill the gap between the spring bulbs and the summer flowers.

SINGLE DAHLIAS MAKE EXCELLENT CUT FLOWERS.

Just now a sharp watch should be kept for earwigs. Thin the shoots, cut off dead flowers and keep the centre stems securely tied to a stake. A surface mulch of littery manure is beneficial.

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WORK IN THE FLOWER GARDEN

How to Succeed with Lachenalias.

THE first of these beautiful flowers was introduced into this country about the year 1774. Since that time the lachenalia has been more or less popular with professional gardeners, but now that the hybridist is busy, its future popularity among amateurs, as well as professionals, is assured.

A bulbous plant, it throws out large, thick, fleshy leaves, which are mostly handsomely mottled with dark ruddy spots. The flowers are pendulously borne on spikes and are tubular in shape, somewhat like a foxglove in miniature. The blooming period is early spring and the blooms themselves last well over a month.

The culture is simple, the only necessity being a cool or cold greenhouse, the latter being preferable from my point of view. The best time of the year to commence growing lachenalias is the end of July. The bulbs can be planted later, but the results will not be so good, and the effort to get them in at this time will be well worth the trouble involved. The best pots to use are those 5ins. in diameter, each pot being sufficient to hold six bulbs. Put one crock in the bottom of each pot and then fill with a compost consisting of two parts sandy loam and one of leaf mould. The bulbs should not be planted too deeply, in fact, if they are only just covered with soil, it will be sufficient. The best position for the first few weeks is in a cold frame, but underneath an airy staging in the greenhouse will do, if no other place is available. One good watering should be given directly the bulbs are planted, and this should be sufficient till definite signs of growth are forthcoming. Water must then be given regularly, but sparingly, till the young leaves are about an inch long. When the plants have reached this stage of growth, water must be used freely and frequently till the bloom appears during March and April. Directly the blooming period is over, water is gradually withheld and the foliage allowed to die off naturally. From this stage to repotting the following July, it is important to place the bulbs in a position where they will be baked by the sun. They should be left in the pots in which they were grown and no water given during this period. The ideal place is on a shelf close to the roof of the greenhouse.

A SEEDLING LACHENALIA OF GOOD HABIT BEARING A PROFUSION OF ORANGE COLOURED BELLS.

These are first-rate plants for the cool greenhouse and seed should be sown at the end of this month for a flowering display at Christmas.

The following varieties are well known :

L. Nelsoni.—A handsome hybrid with large golden bells and reddish stems. Height 1ft.

L. pendula.—Scarlet bells tipped with green. Height 8ins.

L. luteola.—Light yellow bells, shaded green and orange. Height 9ins.

L. tricolor.—A lovely blending of fiery red, orange and green. Height 9ins.

L. Monte Carlo.—A large flowered improvement of tricolor. Height 1ft.

L. Siam. — Canary yellow bells, self-coloured. Height 1ft.

Whitewell Seedlings.—A glorious mixture. Heights various.—G. E. W.

Roman Hyacinths for Christmas.

THE best blooms are obtained from Roman hyacinths when they are bought as early as possible and potted up at once, for no amount of forcing can atone for lateness in both these respects. Procure them now. Properly planted and treated, they will be in flower early in December, and can be made to supply a succession over a long period. Fill boxes, some 4ins. deep, with any good compost, not too fine, and place the bulbs in the compost so that they practically touch one another. If pots are preferred, select medium sizes, 6in. or 7in., and place as many bulbs in each as it can conveniently hold. Thoroughly water the boxes or pots, place on the path outside and cover up with a depth of 6ins. of fine sifted ashes ; water the ashes if they are dry, and never let them become really dry again. A month later examine the bulbs ; when the growth is some 2ins. long, remove the pots and place in a frame ; cover partly from sunshine for two days. Introduce a few at a time into the greenhouse, beginning with the first boxes or pots about the third week in October or a little later. In a temperature round about 60° to 65° Fahr., growth will be rapid and bloom will appear in December. Successive batches keep up the bloom and ensure plenty round about the festive season. Feed plants with liquid manure when buds appear.—LANARKSHIRE.

Dwarf Irises to Grow.

ALTHOUGH the iris has become a favourite everywhere of late, there are many dwarf species almost entirely overlooked by the ordinary gardener and, after having my annual overhaul of "what has done well," I feel constrained to name a few ; a comprehensive review is impossible in a brief space. Iris pumila seldom tops 8ins. in height and contains the fine varieties gracilis (purple yellow), azureus, atroviolacea, aurea and alba, the name being fairly descriptive in each case. Reticulata, early-flowering like the former, is a delightful species ; the type itself is purple golden orange (I doubt if irises can be described in a few words), and its varieties, histrioides, major and Krelagei, are all distinct and almost as good. Unguicularis is among the earliest to flower ; it and the varieties Elizabeth, speciosa, alba (a delight in winter), Heavenly Blue and angustifolia, need protection when in flower. Less common than any of the above are the species Histrio, orchioides and its blue variety alata and Heldreichii, the "dwarfest" of all ; I am doubtful if some of these are on the market to-day. Among the other irises, Canary Bird, a dwarf bearded variety, is very fine for summer bloom. Chamæiris, a rare purplish white species ; cristata, a veined blue ; ixoides, white blotched with blue ; and gracilipes, a new and very pretty dwarf Japanese variety, are all fine, but difficult to get.—H. A.

Hybridising Plants.

An Interesting Job for Amateurs to Try.

BEFORE we can have seeds, plants must be fertilised or, in plain words, pollen from the stamens must be introduced to the stigma ; this process can, as everyone knows, be carried out by means of a fine brush, and is, of course, frequently done by scientists. When pollen from one plant is carried to another plant of a similar kind we have cross-fertilisation, which generally improves the quality of the progeny of that union ; when we carry pollen from a plant of one species to that of a different species we attempt to hybridise or to produce a new plant. Many of our garden plants are hybrids, artificially produced. Readers who wish to attempt hybridisation must remember that Nature limits the process very considerably ; there must be a certain affinity or similarity between the plants, this similarity being mainly in the flower. We can hope, for example, to get seed by uniting the sweet pea with, say, the garden pea, but it is impossible, as far as we know at present, to obtain a hybrid between a sweet pea and a rose. As there always is a "future" before any new hybrid of merit, the process has many devotees, the results of their efforts appearing sooner or later as "new varieties." When about to attempt the work, take care to cover the stigma-bearing parent (which will eventually carry the seed), from the time when it begins to open out ; remove its stamens, if it has any, as soon as these can be reached and when the flower is "full out," introduce pollen from the selected second parent. The cover must not exclude sun and air ; a piece of gauze or muslin is best, sufficient to keep away insects, until the seed pod begins to ripen.

When the pod is ripe, harvest it, lay it on a sheet of paper in a sunny window and store the seed in an envelope until next season.—A. H.

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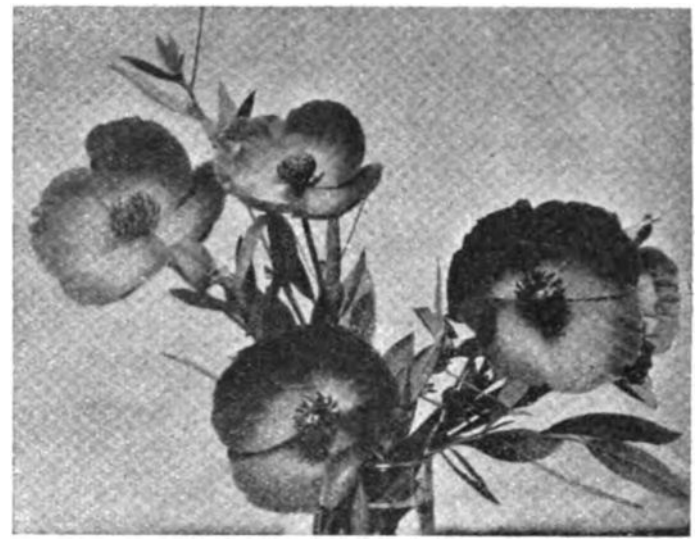
Stimulating Chrysanthemums.

CHRYSANTHEMUMS are frequently overfed, and experience soon proves that exuberant foliage with soft fleshy stems seldom yield the fine result which one might expect from them. Solid stems and healthy but firm leaves are more acceptable to the expert, and feeding should be given with that end in view. One thing to avoid is an excess of stimulating nitrogenous manurial matter of any kind. For this reason sulphate of ammonia and nitrates are probably best avoided and rich manure wash from natural manure ought to be well diluted before it is applied. Again, too early application of stimulants may defeat its own end. As the plants extend upwards the root system fills the pot and, when flowering time approaches, stimulants become necessary. The best manure is a balanced one. Let it be made from natural manure in the dry weeks and from more speedy stimulants in dull, slow-growth weather, the variety proving beneficial in more ways than one. Apply it weak, always erring on that side rather than otherwise, and give it fairly often as the season advances.—CLYDESDALE.

A Charming Sun Rose.

HELIANTHEMUM UMBELLATUM (often erroneously labelled H. rosmarinifolium) is one of the best of the sun roses and one that would be justified in claiming a prominent place even in a short list of the most attractive species. This not only because it is so distinctive in foliage and flower, but because it is such a persistent bloomer. I have grown sun roses of various kinds for many years and not failed to note that H. umbellatum is always the first to come into flower and the last to go off. Even in midwinter here in the west this cheerful little shrub will often give a few blossoms during mild weather. H. umbellatum grows to about 18ins., making an openhabited, slender, upright bush with a tendency to trail. The narrow, leathery leaves, which have white under sides, are a dark lustrous green which makes so telling a background for the milk-white flowers. The latter, borne in long terminal racemes, are about ½in. across, prettily cupped in shape, and they have a faint yellow stain at their base. As with other sun roses, this species may be increased very easily by cuttings. Any short, half-ripened shoots taken in the later summer will strike if potted firmly in sandy soil and placed in a closed frame for two or three weeks. Though so different in appearance from the general run of sun roses, H. umbellatum needs the same conditions. That is to say it will thrive in any well drained soil (if gritty or stony, so much the better) with full sun.—A. T. J.



THE RICH BUTTERCUP YELLOW BLOSSOMS OF THE GOLDEN TREE POPPY,
A fine shrubby plant for a hot and sunny position.

The Golden Tree Poppy.

FEW Californian shrubs excite so much admiration as Dendromecon rigidum, which differs from its ally romneya not only in its entire leaves and the colour of its flowers, but in its more woody nature. This is, in fact, the true tree poppy of California, and I shall not readily forget the first time I saw it on its native Sierra Nevada, its brilliant gold in a setting of blue ceanothus. If undoubtedly rather tender for some places, D. rigidum is hardier than is generally supposed. I have grown it for nearly a score of years, during which it has been subjected to as much as 20° of frost without any serious injury, and this with no more shelter than a low wall, above which its 8ft. branches are fully exposed.

D. rigidum is a vigorous shrub, making long and slender whippy growths. The leaves are narrow and pointed, like those of a willow, and of a soft glaucous tint. The flowers, which are borne at the tips of the branches and side shoots in great profusion, are about 3ins. across. The four broad petals are an extraordinarily rich and lustrous buttercup yellow, and they are centred by a bold cluster of orange anthers. Unlike most of the poppy race, these blossoms are deliciously fragrant and the individual flowers last an unusually long time, The blooming season extends practically all summer. Indeed, the tree poppy is rarely altogether out of bloom, for even in midwinter it will occasionally give a flower or two during a mild spell. This very choice shrub should be given all possible sun and a stony, rather poor root-run. It will stand any amount of drought when established. I have raised it fairly successfully from short cuttings of fresh growths with a "heel," these being potted firmly in very sandy soil and struck in a closed frame. Where one has to depend on the sun for heat the cuttings must be taken fairly early in summer, and when they are rooted they should be potted singly and again placed in the frame until root action is re-established. I suggest this because it helps to avoid root disturbance when plantin out—a frequent cause of loss.—A. T. JOHNSON.

ONE OF THE BEST OF THE SUN ROSES, HELIANTHEMUM UMBELLATUM.
It will thrive in a sunny spot on the rockery, and can be increased by taking and inserting cuttings next month.

A Good Rock Rose.

Cistus purpureus.

THE rock roses constitute a beautiful group of flowering plants, suitable for the rock garden and shrub border, while for dry banks and similar positions they will be quite at home. The plant under notice is said to be a hybrid between Cistus villosus and C. ladaniferus, and it will form a bush or shrub 3ft. to 4ft. high and much more in circumference. The showy flowers are about 3ins. in diameter, the colour being a rich crimson red with a conspicuous dark red blotch at the base of each petal. It is very free flowering, and plants a few inches high will produce blooms of good quality: in fact, cuttings rooted last July were blooming freel in the following May and June. This delightful plant is not quite so hardy as a few other members of the genus, but in many parts of the country it will pass through the winter safely without any protection. It is advisable to take a few cuttings annually and winter them in a cold frame; then, if the old plants are destroyed by frosts, it is an easy matter to replace them in the spring. It should be remembered that they will only transplant when small unless they are grown in pots.—B.

Prepared Hyacinths for Early Flowering.

Flowers by Christmas.

HYACINTHS are not suitable for early forcing in the ordinary sense, but growers who desire to have early flowers can procure specially prepared bulbs for the purpose. The flowers, owing to the process through which the bulbs pass, are not equal to the massive spikes we look for later on; but under fair conditions they produce very good flowers. Crimson, pink, blue, yellow and white varieties are to be had. Order these prepared bulbs at once; pot up three to five in a pot, plunge for a short time, as is done with the Roman hyacinths, then force in a moist heat, in the neighbourhood of 60° to 65° Fahr. With success, spikes 6ins. to 8ins. in length are secured. Prepared bulbs of the miniature or Cynthella hyacinths are also to be had, which, if planted as soon after this as they can be obtained, will blossom in good time for the festive season. Variety is to be had in these also.

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TREES AND SHRUBS FROM CUTTINGS

During the next few weeks the stock of many desirable shrubs in the garden can be increased by taking cuttings of half ripened wood and inserting them in a sandy compost in a close frame with a mild bottom heat. Full details are given in this article when to proceed with this work together with a list of suitable subjects which should be tried.

DURING July and August many of our popular flowering trees and shrubs can be increased by inserting cuttings. Cuttings taken during the summer months, unlike those which are made in October—require the protection f a frame, hand-light or bell-glass. The ideal frame is one that has some form of bottom heat provided, sufficient to maintain a temperature of 65°–70° Fahr. The bottom of the frame can be made of a large slate stone placed about 6–9ins. above the hot-water pipes. Clean sand to the depth of 5ins. should be placed directly on to the slate, no drainage being necessary, and can be made firm by beating it down when in a moist condition.

Where only small quantities of several varieties are needed, and a frame such as that described above is not available, the cuttings can be inserted in pots, those having a diameter of 5ins. being a convenient size. First, half fill the pots with drainage of old broken pots, etc., and cover with a layer of fibrous loam or dried leaves to prevent the sand from choking the drainage. The pots may then be filled with sand and made level, and firmed by thoroughly saturating the sand and then tapping the pots on a bench or floor. The cuttings can then be inserted. Those placed near the rim usually root better than those in the centre of the pot. The pots can then be stood in a warm frame or hand-light in a greenhouse, or, failing this, in an ordinary cold frame or hand-light outside.

Hand-lights and bell-glasses may be utilised in a cutting bed made up of sand in a sheltered shady position outside; or the cuttings can be inserted in pots and plunged in ashes outside and then covered by the hand-lights or bell-glasses.

COMPOST FOR ROOTING.

The provision of a suitable compost in which to insert the cuttings is of great importance. Preference throughout the foregoing remarks has been given to pure sand; but it must be understood that sand contains no plant food, but is recommended for its great porosity, which ensures perfect drainage and aeration, thereby preventing all stagnation, so fatal to cuttings. These, when rooted in sand, should be potted as soon as they are large enough to handle. Where it is not possible to handle cuttings immediately they are rooted, a proportion of clean sifted loam or good oak or beech leaf-soil should be mixed with the sand to provide the young plants with the nourishment they will need on rooting; but experience will prove that many plants which can be raised in pure sand fail to strike root in a satisfactory way in a mixture of sand and loam or leaf-soil.

Having provided suitable accommodation for inserting the cuttings, the next important step is the selection of the cuttings from the parent plant, and on this point the whole success of propagation hinges. In the list at the foot of these notes, details are given regarding each plant; but certain general rules govern the choice of wood for the making of cuttings.

Avoid thin, weak shoots, and also vigorous, sappy growths; in preference, select medium sized healthy side shoots, and, if a heel of older wood is advised, select short cuttings, so that it is not necessary to reduce the length of the cuttings by removing the growing point. This applies particularly to cuttings of trees. Make each cutting carefully with a sharp knife just below a joint or node; the cut surface must be quite smooth and not ragged in any way.

DEPTH TO INSERT CUTTINGS.

The depth to insert cuttings is a point about which much doubt exists. A good general rule to follow is to insert the cuttings at a sufficient depth to keep them upright and firm in the compost. The use of a dibber for inserting cuttings of most woody plants is practically unnecessary, as they can be pressed into the compost with the forefinger and thumb. After inserting, water overhead with a can having a fine rose; this will settle the particles of sand around the base of the cutting and provide all the firming required. Subsequent watering must be carefully attended to. Sand frames during bright weather will need watering at least twice a day; but if leaf-soil or loam is added to the sand, less watering is necessary, as drainage is slower. The temperature of the water used should be the same as that of the frame or hand-light in which the cuttings are inserted.

Shading is often overdone, but some form of shade is necessary on very bright days. The use of newspaper, or tiffany, which can be taken off when not needed, in preference to putting on a permanent shading, is recommended.

Cleanliness is essential, and dead cuttings, leaves, etc., should be removed daily; but do not attempt removing leaves which have not been cast off by the cuttings. A very sharp-pointed bamboo stick is an ideal tool for picking out the leaves which drop off.

AFTER-TREATMENT: POTTING ON THE CUTTINGS.

When it is certain that a good percentage of the cuttings have rooted, they may be potted. Care is needed to avoid breaking off the young delicate roots when lifting them from a cutting frame or bed; a small trowel or a thin flat piece of wood should be used. Those inserted in pots are more easily turned out by holding the pots upside down and tapping them against the bench.

The compost used for the first potting should contain a good proportion of sand or grit to keep it open, so that no undue check is suffered by the cuttings. Do not over-pot, but place the cuttings in as small a pot as will conveniently take them; a useful size is one having a diameter of 2½ins. to 3½ins. Potting should be firmly done, and care taken to avoid bruising or shaking off the young roots. It is better to prepare a few cuttings for potting up than to expose a large quantity to the dry atmosphere at one time. After potting, the young plants should be placed in a closed frame having a similar temperature to that in which they were rooted, and watered. They should be kept syringed during bright weather, and, when they have become established and developed a good root action, may be given air and eventually stood outside, ready for planting, or placed in a cold frame for the winter.

When a sand frame has been cleared of all cuttings, and before inserting a new lot, the whole frame and the sand will benefit by watering with a solution of permanganate of potash and the frame left open for a few days.

LIST OF SHRUBS THAT MAY BE RAISED EASILY FROM CUTTINGS.

Berberis.—Such kinds as B. stenophylla are readily increased by inserting cuttings of young wood about 6ins. long with a heel of older wood in a compost of loam and sand in a cold frame in late August, and allowing them to remain until the following spring.

Buddleia.—Short cuttings of young side shoots with a slight heel will root readily if inserted in a warm or cold sand frame in July and August. The more vigorous kinds, such as B. variabilis, can also be propagated by inserting hard wood cuttings, 10–12ins. long, with a heel, in an open border in October.

Ceanothus.—Cuttings of both the spring and late summer flowering varieties are best inserted in a warm sand frame in August. They should be about 4ins. long, and the spring-flowering kinds—*e.g.*, C. rigidus—made with a heel.

Cistus.—Cuttings about 3ins. long taken from the tips of the young branches in August should be inserted in a cold frame with sandy loam and left until spring, when they should be potted up.

Cotoneaster.—Cuttings 4–6ins. long of young wood with a slight heel should be inserted in very sandy loam in a cold frame in August and allowed to remain until the following spring.

Cytisus.—Most brooms may be increased by inserting cuttings of young wood 4ins. long with a heel made so that no pith is exposed, in very sandy soil in a cold unshaded frame in August and left until the following spring. Many genistas will respond to the same treatment.

Deutzia.—Readily increased by inserting cuttings of young wood, about 3–4ins. long, in a cold or warm sand frame in July.

Diervilla.—Cuttings of current year's wood, 4–6ins. long, inserted in a cold or warm sand frame in July and August, strike root readily.

Escallonia.—Cuttings of short side shoots made with a slight heel should be inserted in a cold or warm sand frame in July and August.

Forsythia.—Insert cuttings 4–6ins. long of the tips of the young branches in a cold or warm sand frame in July. Cuttings 12ins. long with a heel can also be inserted in an open border in October.

Hydrangea.—Cuttings 4–6ins. long of half-ripened wood should be inserted in a warm sand frame in late July and August.

Jasminum.—All jasmines are easily rooted from cuttings about 4–6ins. long of half-ripened wood inserted in a cold or warm sand frame in July and August.

Kerria japonica.—Cuttings about 4–6ins. long of the young shoots may be inserted during July and August in a sand frame; or old plants may be divided in early spring.

Olearia Haastii.—Easily increased by inserting cuttings of the side shoots about 4–6ins. long with a slight heel in a cold frame with sandy soil in August, and transplanting to the open ground the following spring.

Prunus.—Such as P. triloba flore pleno, subhirtella and its varieties, can be increased by inserting cuttings of the young side shoots, 3–4ins. long, with a heel, in a warm sand frame in July.

Rosmarinus.—Cuttings about 4ins. long of the young branches should be inserted in a cold frame in August.

Spiræa.—Most spiræas will strike root readily from young cuttings about 4ins. long, inserted in a cold or warm sand frame in July and August. Such kinds as S. japonica are better increased by division in spring.

Viburnum.—The common laurustinus can be easily raised by inserting cuttings about 4ins. long in a cold frame with sandy soil in late August and September, and transplanting to the open ground the following spring. Generally speaking, the other viburnums are best raised by inserting cuttings of current year's wood 4–6ins. long in a warm sand frame during July and August.

Veronica.—Cuttings of the tips of the young branches, 3–4ins. long, should be inserted in a cold frame with sandy soil in August, and transplanted in the open ground the following spring.

F. P. KNIGHT.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

IN addition to the reference in last week's notes to the propagation of chrysanthemums by striking the tops obtained in the process of pinching the plants, Mr. Alexander McAlpine, Tollcross, the raiser of Janet Wyper, Mary A. Houston, John McAlpine and other fine specimens of the early-flowering type, tells me of another system of increasing stocks which he has practised successfully. In the work of raising new varieties it is frequently found that some seedlings —of which Janet Wyper is an example—are very shy in the production of basal growths suitable for cuttings; but experience has proved that if young plants raised from cuttings earlie rin the year are put out in a sheltered situation by the last week of March or the first week in April, the shoots which are sent up make splendid cuttings, which root readily and make fine plants by midsummer. In this way he has been able to augment his depleted stocks and, in the event of the last batch being too late for flowering the same season they can always be used as stock plants. Necessity is truly the mother of invention.

Owing to the late season and the slow growth that is still being experienced by gardeners all over the country, the prospects of the July and early August flower shows are not very encouraging. The question of postponement has been discussed by several horticultural societies and, in the case of Elgin Exhibition, it has been decided that the annual show, originally fixed for August 10th and 11th, is to be put back to September 7th, which date, unfortunately, clashes with the opening of the Glasgow Show.

From time to time reference has been made to the promised appearance of a winter-flowering pansy or viola, which all lovers of these useful and pretty flowers would welcome as an acquisition; but neither the one nor the other has materialised, and there is still a clear field open for the enterprise of the enthusiast. Probably the nearest approach to the winter-flowering viola was exhibited at the last meeting of the Scottish Pansy and Viola Association, when a number submitted specimens of deep yellow viola which had bloomed continuously since January.

Summer outings arranged by horticultural societies are becoming very popular in Scotland and the large attendances may be taken as an indication that the members appreciate the social and educational value of these excursions. Their sphere of usefulness would, however, be increased if the outings were fixed later on in the season. May is too early to see much bloom in a Scottish garden, and this year June was also disappointing in that respect. Flowers, fruit and vegetables are at their best in August, but possibly the practical lessons to be learned at that season may not compensate for the interference caused by other holiday attractions.

On making a somewhat lengthy jougrney to Dupplin Castle, Perth, on July 9th, the members of Paisley Florists' Society were favoured by the weather, and the gardens and grounds were, naturally, seen to advantage in bright sunshine. Accompanied by Mr. Beatty, the visitors inspected the lovely gardens, where there is one of the finest collections of alpine plants to be seen in this country. Some fine examples were seen of Eritrichium nanum, Meconopsis Baileyi and M. Prattii, lewisias in variety, and the thousands of other alpines and shrubs were much admired; while attention was called to a very fine fern, Adiantum pedatum Klondyke variety, growing in a sheltered spot. The company were the guests of Lord Forteviot at tea, served in the gymnasium, and the remainder of the afternoon was spent among the flower borders, in the kitchen garden and the fruit houses, which contained a varied collection of grapes, melons, figs, tomatoes, etc.

As a variation to the customary lecture by some well known authority or expert, the July meeting of the Royal Caledonian Horticultural Society was reserved for the consideration of subjects of horticultural interest, and among those discussed by members were the causes of stone-splitting in peaches, strawberry disease, a comparison of the qualities of cauliflower and broccoli, and steam heating. There was a fine show of flowers and fruit, and the following awards were made: Messrs. Dobbie and Co., gold medal for six varieties of sweet peas, and silver medal for exhibit of delphiniums; and a cultural certificate to Mr. George Balmer for a dish of Jargonelle pears. Other exhibits consisted of gooseberries by Mr. F. Glass, Murrayfield; and sweet peas by Mr. Miller.

Invitations have been issued to members of the Glasgow and West of Scotland Horticultural Society to visit Messrs. Austen and McAslan's nurseries at Cathcart on the 23rd inst, for the purpose of inspecting the trials of 140 varieties of sweet peas which the firm are growing naturally and on the single stem principle. A great deal depends on the weather, and should a favourable spell be experienced prior to that date the large area devoted to roses should also provide an attractive show. Mossparк Horticultural Society are due on August 6th, when the flowers are expected to be at the height of their bloom.

Aluminium sulphurate is being tried as a fertiliser in one of our Scottish nurseries, and the results of the experiment will be of interest to gardeners generally and particularly to the exhibiting class. I understand that this product has been used with success in the south. ST. MUNGO.

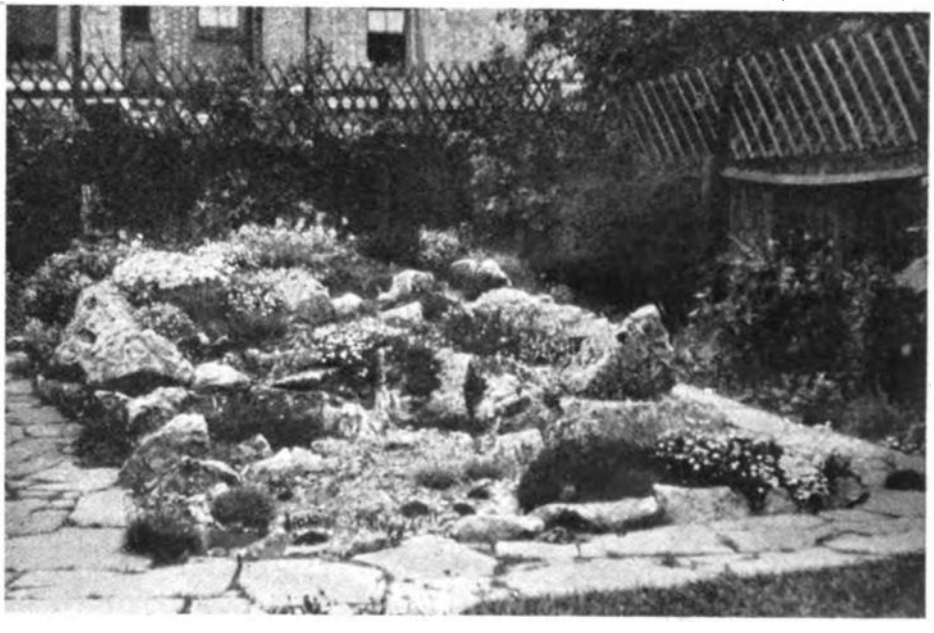
WHAT OUR READERS SAY

ALPINES IN SMALL GARDENS.

SIR,—Mr. Field-Marsham's letter on "Alpines in Small Gardens" in the July 2nd issue of THE GARDEN has prompted me to send you the enclosed photograph of my little rock garden which I have built in the lower half of a modest North London back garden. Before commencing I read up the subject thoroughly and that set me on the right road. In the autumn and winter of 1925–26 I dug out the heavy clay soil to a depth of about 2ft. and put in about four tons of broken road concrete as drainage. It was heavy work and it was often delayed by hard frost or heavy rains, but it was eventually completed. The weathered limestone rock I had sent down from Macclesfield, and by Easter of last year the rockery was built and only the crazy paving surrounding it remained to be laid. This latter job was more troublesome than I had anticipated, but at length the whole thing was completed and I had only to put in the plants and await results. You will notice that the design of the rockery provides for a dry wall on three sides and also for a small moraine.

A good many of the plants blossomed either in the summer or autumn of last year. Owing to the mild winter primroses were in flower by December, and these were followed in due course by snowdrops, scillas and crocuses, and then the whole garden began gradually to break into colour as the primulas, alyasum, arabis, aubrietias, Cheiranthus Allioni, helianthemums, etc., came into bloom.

As you will readily understand, the rock garden is only a tiny one, about 17ft. by 12ft., but it has more than recompensed me for all the labour the building of it entailed. It shows what can be done even in a small garden.—G. E. HARRIS, *East Finchley, N.2.*



AN ATTRACTIVE ROCK GARDEN MADE IN A TOWN GARDEN OF ONE OF OUR READERS.

All the plants are very happy and quite a bright display of colour is provided during the spring and summer months.

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A NEW ST. JOHN'S WORT.

SIR,—A shrub well worth growing is Hypericum Forrestii. It is now in bloom and is, in my humble opinion, the handsomest of all the hypericums. My shrub was given me as a small plant in 1925, and is now a bush about 3ft. 6ins. high, 3ft. through and literally smothered in bloom. The individual flower is 2¼ins. in diameter, a pure buttercup yellow (so seldom met with in flowering shrubs), and much more refined than H. calycinum.

Another very fine evergreen shrub now in bloom is Solanum Lobelii. This I raised from seed in the spring of 1926, planted out the same autumn and it is now a well furnished plant 4ft. high. The foliage is handsome, each mature leaf being about 10ins. long, of a deep green colour, and the bloom is borne in clusters on a long stem from the axil of the leaves. The flower itself is pretty, the petals being incurved and "crinkly" of a bluish white colour. If only the shrubs will set fruit this year I shall be happy, for they are supposed to be as large as apricots and bright red.

Polygala myrtifolia is an evergreen shrub worthy of mention. It has an upright habit somewhat resembling the myrtle, after which, I suppose, it was named. It carries the usual light purple and white pea-shaped flower, which may be seen on it practically every month of the year except January and February. This was struck by me in 1924, and is now about 5ft. high. I prefer it to P. Dalmaisiana.

Leptodermis pilosa is, I fancy, an overrated shrub. In 1924 I was given some cuttings and told that it was a beautiful late-blooming shrub, but the only thing I can say in its favour is that its habit is neat, being very pyramidal, 6ft. high and only 3ft. through at the base. Besides being deciduous, the flowers are insignificant, somewhat resembling privet, only of a pale purple colour.

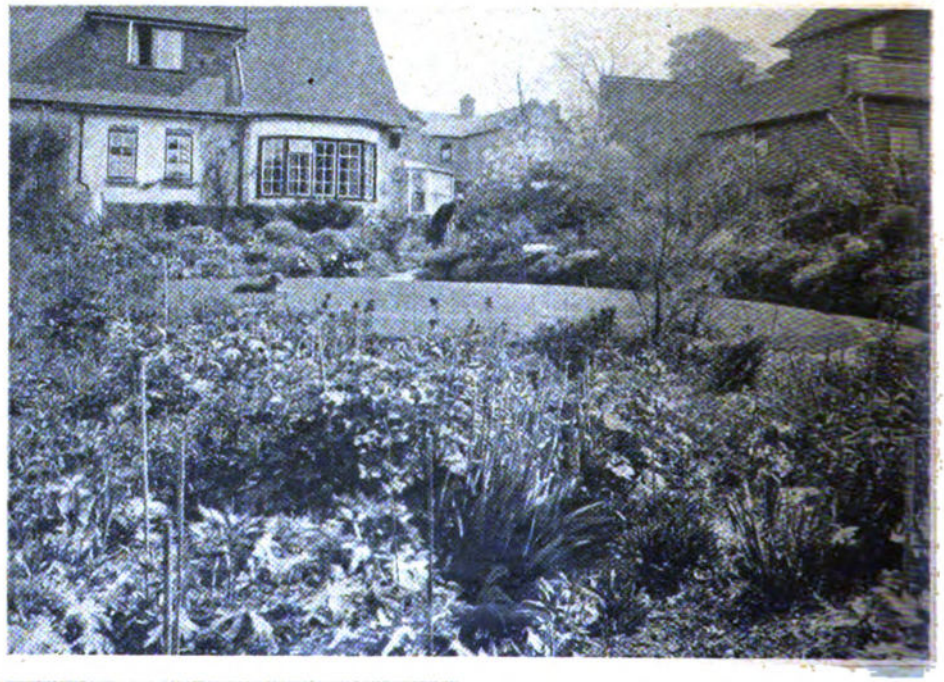
Finally, Euryops virgatæ has done wonderfully well this year. Masses of tiny yellow flowers have almost hidden its bright green heath-like foliage, and every visitor has been struck by the beauty of the shrub, whether in or out of bloom.—P. E. E. C., *Cornwall.*

MAKING PLANTS FLOWER.

SIR,—In your issue for March 12th you gave a very interesting article on making plants flower. This past spring I have had what to me seems an unusual experience. I have a raised bed in the front of the house facing south where for several years I have grown fairly good polyantha, good so far as colour and healthiness goes, but not good when one compares the size of the blooms—each individual bloom—with those one sees at the shows. Therefore I bethought me of a plan to increase the size and quality of the blooms, and so in the autumn, when I planted them in their blooming quarters, I mixed in the soil some burnt ash from the smother fire, and also a teaspoonful of bone meal to each root. I awaited with expectation a great improvement. There was an improvement in the colour and size of the leaves, and there were a great number of stalks which never developed one single perfect bloom. Each looked as if nibbled off. Is it probable that the treatment can have caused the blooms to be such tempting morsels that the birds ate them?—BUMPKIN.

OUR PHOTOGRAPHIC COMPETITION

The photographs illustrated this week are of a general nature, covering many different aspects of gardening. Now that the time is coming round for the making of new lawns and the renovation of old ones, the two accompanying illustrations of lawns are of particular interest. These indicate how a lawn can be made a pleasant setting for the garden and how it can be made to blend in with the general design. Many of our readers have, doubtless, photographs showing how the lawns have been placed in their garden and how they add beauty to the scheme. These, if published with personal notes, would be of assistance to those who are faced with the problem of laying out new lawns this coming autumn.



This photograph of my garden in one of London's outer suburbs was taken on April 20th of this year, and I think it shows what an attractive display may be had even early in the year. In the foreground is shown the herbaceous border in which are bulbs dotted between the perennials for early spring display. An oval lawn with a sunk path on one side and raised bed with a rockery bank makes a pleasant setting to the garden. Only common plants are planted in the rockery, but they provide fine masses of colour.

The Guinea Photograph, sent by MR. H. M. HARDING, *Carshalton, Surrey.*

The piece of ground shown is situated within eleven miles of London, and was, until two years ago, used as an allotment. It has now been transformed into a sunk garden which is turfed and beds are cut out for bush roses. The dry wall is 18ins. high and is planted with many small alpines and helianthemums, aubrietias, etc. Level with the top of the wall is a path and wide herbaceous borders backed by pillar roses and Penzance briars. At the bottom is just seen the rock garden planted with dwarf Japanese shrubs and choice alpines. MISS L. ROBERTS, *Chislehurst.* Award of 5s.

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This photograph, taken last month, serves to show the full beauty of Saxifraga pyramidalis with its graceful cascades of white blossom which light up an otherwise dull corner. The single rosettes of this attractive alpine are up to 9ins. in diameter and are decorative even when out of flower.—E. MILNE REDHEAD, *Cheltenham.* Award of 5s.

Perhaps this is an unusual illustration for your competition, but many a pest destroyer has been put on the market having nothing like the qualifications possessed by our pet tawny owl. His chosen headquarters are on a shelf in the potting shed. From the nestling stage he has been reared in the garden, and the assiduous trapping of mice for him has made them so scarce that the annual damage to the pea crop is practically nil this year.—HAROLD DEACON, *Norton-on-Tees.* Award of 5s.

This specimen of Clematis Henryi was planted in November, 1925. In one year it reached the top of the porch as shown, and it has flowered splendidly both this year and last. The flowers are most beautiful, each measuring from 6–8ins. across. The aspect is due south and the plant has been given very generous treatment, which it well repays.—G. W. RUSHTON, *Norwich.* Award of 5s.

This rock wall is now three years old, and made entirely by myself of old bricks and paving stones. This spring it was very attractive with its masses of aubrietia in various shades, candytuft, alyssum and thymes. Dianthus and gentians follow on this early spring display and prolong its beauty.—MRS. DUFF, *Forest Hill, S.E.*23. Award of 5s.

This photograph illustrates how a rockery can be made to lend beauty to the entrance path to the house. Many varieties of aubrietias have been planted, and all the stonework is covered with Arenaria balearica. Rock roses, bushes of cotton lavender, various saxifrages and hardy primulas add to the display. There are three fine specimens of Japanese maples planted on the right which look very well in autumn with their rich colour.—MRS. G. W. DRABBLE, *Walton-on-Thames.* Award of 5s.

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THE FRUIT AND KITCHEN GARDEN

How to Help on the Vegetables.

I BELIEVE in rendering all the help that can possibly be given to vegetables, and not leaving them to take care of themselves, as is so often the case. It is surprising how the simple process of applying artificial manures in small doses frequently throughout the season of growth, especially when about midway or nearing fruiting or swelling of the root, improves the yield.

Peas, for example. You can get a wonderful crop of green peas by dissolving half an ounce of soda in a gallon of water and going along both sides of the row at intervals of a couple of weeks or so. First of all, though, it is best to give the peas one thorough soaking of clear water as soon as they come into bloom and then get along with the manure water.

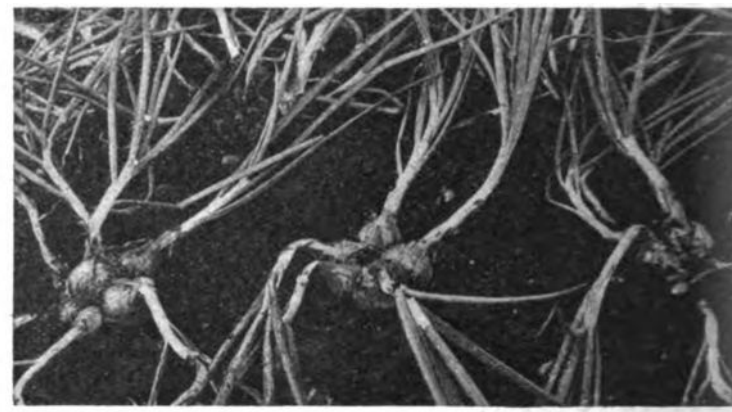
Nitrate of soda is also a good stimulant for onions, and will help them to make vigorous growth without being in too much of a hurry to run to seed. An application of a can of water in which some nitrate of soda has been dissolved will have a beneficial effect on onions, especially in time of drought, and also when the bulbs are swelling in hot weather.

For greens, nitrate of soda is much used, but sulphate of ammonia is a good artificial for summer use. A great economy can be instituted if a watch is kept upon cabbages and savoys as they grow. As soon as the little heart begins to form immediately sprinkle just a pinch of either nitrate of soda or sulphate of ammonia around the plant, hoe it in, and, if the ground is dry, give a good soaking. The cabbage so treated will hurry up in its heart formation in advance of the rest, and so cabbages can be had ready to cut in turn, one after the other, without all of them coming into use at once, and so getting spoilt.

To obtain that sweet nutty flavour in celery, it is not necessary to use a large quantity of rank manure in the trenches—a little will do; rather, sprinkle a handful of steamed bone-meal and the same quantity of nitrate of soda to about each yard or so of trench, well dug into the top spit. Rank manure produces huge, coarse celery; but the artificials will be the means of evolving solid well flavoured sticks that are worth eating. —A. H. NIGHTON.

Ripening Onions and Shallots.

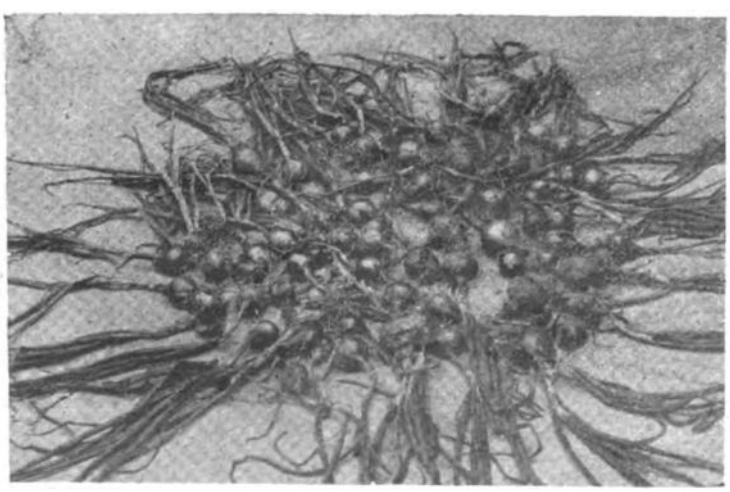
IN order that onions and shallots may "keep" well it is most essential that they be ripened properly. The ripening process really begins just now. Soil is hoed or forked away from the bulbs in order to expose them fully to sun and air, feeding ceases and the roots are loosened. When the foliage yellows further in the case of shallots or a month later in the case of onions, pull the plants up and let them lie exposed to the weather. Gather them on a dry day in the sieve and shake them so as to remove most of the soil. They now are placed in a spot where sunshine can complete the process—a mat, the roof of the outhouse, a net supported on poles, etc. When the weather is bad, cover them up or take them inside. It is a good plan, even after this, to continue the process for a further period by tying the bulbs up in bunches, hanging them in net bags or weaving them into ropes. Cured and dried in this way and stored in a cool airy place, onions and shallots will keep in perfect condition until next summer, if necessary.—H. A.



THE RIPENING OF THE BULBS MAY BE ASSISTED BY BENDING DOWN THE GROWTHS AND REMOVING THE SOIL FROM THE BASE.

Sowing Winter Spinach.

ALTHOUGH it is not too late, in some districts, to make a further sowing of the round or summer spinach, most growers like to make their first sowing of the prickly or winter sort about the end of July. The main sowing, however, may be made about the middle of August. Rake over a small area already cleared of some early crop, draw out shallow drills a foot apart and, if the ground is dry, water well. Sow the seed thinly thin out any tufts when the seedlings come up, and finally thin out to some 4ins. Thin out further from time to time, using the thinnings in the kitchen. In order that supplies may last as long into the winter as possible, see that some sowings at least are made in a porous and well drained place where the plants will be sheltered and protected from cold winds and beating, chilly rain. In cold districts and in the north, a little protection is required; spruce twigs usually do very well, or a board on edge along one side. Growers who live in a kindlier district than ours may sow as late as the first week in September. Carter's Giant-leaved is a fine bulky cropper which does well even up here; but the old prickly variety, the type, is always hardiest. LANARKSHIRE.



SPREAD THE BULBS OUT IN A SUNNY PLACE BEFORE STORING.

Perennial Broccoli.

DURING the last few years perennial broccoli have come on to the market, and readers must not overlook their merits. Taking as an example the Nine Star variety, I may inform them that, given good cultivation, the plants will give first-class results. On an average six to nine fair-sized heads of good quality are produced by each plant, and very likely a varying number, but roughly as many again, of small heads excellent for cooking in every way. The plants are raised from seed sown at once, or plants can be obtained from certain seedsmen (Dobbie's, Crisp's, etc.). These plants are then planted out in good ground and planted, like all the broccoli, firmly. One point which must be noted is that they are all the better for ample space, so that growers may plant now alternately with cauliflower, the latter being removed in good time to give the former the space they desire, *i.e.*, some 30ins. to 33ins. When the plants approach maturity feed them. Either apply a mulch of manure or sprinkle artificials and hoe them up round the roots or give liquids copiously. Next summer rake away the soil and throw fresh rich soil round them, again repeating the feeding in due course. My experience shows that it is a wise plan to bring on new stock and to discard old plants showing signs of senile decay after three years or so.—CLYDESDALE.

Cauliflowers for the Autumn.

A JUDICIOUS choice of varieties as well as a succession of planting is required to ensure full supplies of this aristocratic vegetable right on into late autumn. First of all, there are the autumn varieties proper, like Autumn Giant, Autumn Mammoth and so on; these really require a long season of growth to be at their best, and plants ought to be *in situ* now or planted at once. The "all-round" kinds, like Matchless, Eclipse, Excelsior, All the Year Round, etc., are excellent for successive planting. Under normal conditions they will mature roughly in nine or ten weeks, and if a few are put in every fortnight the crop may be expected with almost similar regularity. Later in the summer, after early peas and potatoes, the "earlies" can be planted, like Early Gem, First Crop, Early London, Six Weeks, Erfurt and the like, to yield supplies six to eight weeks after planting. To complete the certainty I recommend the planting of a few broccoli. As the cook said, "you can't tell which is which when they get to table," so put in a few Walcheren or Michaelmas White—and call them cauliflower. All this will ensure full supplies almost till December. —H. H. A.

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THE SWEET PEA SHOW

IN spite of all handicaps of unsuitable weather the skill and perseverance of the enthusiasts prevailed and it was a very beautiful annual show of the National Sweet Pea Society at the Royal Horticultural Hall Westminster, on July 7th and 8th last. We have seen rather more sweet peas at the hall on former occasions when the weather has been kinder, but the quality of the blooms on the present occasion surpassed all others. It is the aim of the exhibitor to be able to stage spikes with four large blooms evenly placed on a long, stiff, but slender stem, and this the majority succeeded in doing, while every now and then there was a spike with five lovely blooms set daintily on it.

The centre of the hall was occupied with the exhibits of decorated dinner-tables and occasional tables. The idea of those responsible for the arrangements was commendable. It seemed to be that the visitor shall first see the great decorative value of their special flower and then shall be shown how finely their members can grow these flowers.

An admirable idea, but it did not materialise, for, truth to tell, these decorative classes were mediocre, though the baskets, bowls and vases of sweet peas, set out at the end of the hall, were charmingly arranged.

From the artistic point of view it was the large trade groups that fascinated the visitor. The competition for the two handsome challenge cups is always very keen. Last year Messrs. Sutton and Sons won both the Eastbourne and the City of Bath Challenge Cups, but this year the City of Bath Cup was won by Messrs. Robert Bolton and Son, while Messrs. Dobbie and Co. will hold the Eastbourne Cup for the year. In these classes excellent displays were also made by Messrs. Sutton and Sons, Messrs. Ireland and Hitchcock, Messrs. Carter and Co., Messrs. E. W. King and Co., Mr. J. Stevenson and Mr. A. Blandford. The effect of the massed blooms of glowing sweet peas was most delightful. The principal varieties were Mrs. A. Searles (a vivid orange cerise with a golden glow, which won the gold medal at last year's novelty trials), Magnet, Mammoth, Gold Crest, Jessie, Miss California, Gleneagles, Pinkie, Royal Scot, Charming and Prince of Orange.

In the amateur classes there were many magnificent vases of sweet peas, and, while only Sir Randolf Baker, Bt., entered for the Sutton Cup, which he won outright for the third successive time, the competition in most of the other classes was very strong. There were five entries for the *Daily Mail* Cup, which was won by Dr. A. V. Boyall, Minehead, a fresh exhibitor at these shows, with a collection of such merit that it was selected by the special set of judges as being the best amateur exhibit in the Show, and a vase of Magnet was adjudged the best vase in the Show. As his partner is on holiday, Dr. Boyal could not come to the Show, but Mrs. Boyall brought them and arranged the successful vases herself. Two well known exhibitors of sweet peas—Major C. B. Krabbé of Reading and Mr. F. W. Franks of Tonbridge—were second and third respectively.

The Cory Cup class, which requires six vases of distinct varieties, is always very popular, and this year no fewer than eleven members entered. It was won by Mr. G. L. F. Cook of Hayes, Middlesex, who set up admirable spikes of sweet peas.

In the two classes for new seedling sweet peas not yet in commerce, Messrs. Robert Bolton and Son had the best three vases, and Messrs. Ireland and Hitchcock were first with one vase. They showed their beautiful novelty, Greta, which received an award of merit at last year's trials. Messrs. R. Bolton and Son had Elsie, Dora and Mrs. A. Searles.

The eleven colour classes for sweet peas of definite shades of colour are of great value to all lovers of the flower, and, while Mr. F. W. Franks won seven of the first prizes, these classes enabled the visitor to select the best varieties. The best were: Blue, Sapphire; cerise or cerise scarlet, Grenadier; pink, Hebe; lavender, Powerscourt; orange or orange scarlet, Colorado; and white, Model.

The District Classes were a little disappointing. A fresh class, for members growing their sweet peas in the London County Council area, had been arranged, but there was no competitor; nor were there any from Scotland or Ireland, and only one from the northern counties. In the last-named, Mr. J. H. Emmett was awarded the first prize for a splendid exhibit. The southern class was the best filled, and Mrs. Shirley Woolmer, Bracknell, Berks, was first with an admirable collection. Mr. F. Churchward, Newton Abbot, Devon, won the first prize in the western counties class.

Among the new classes the most interesting were those for members who had never before won a first prize at any of the Society's shows, and for those who may or may not employ a gardener, but who grow the sweet peas themselves. In these the competition was splendid. Mr. E. Smith of Cholsey was first in the former class, and Mr. H. W. Linington, Isle of Wight, was first in the latter.

The Novices' Division continues to attract large entries, and many really attractive exhibits were staged. Although the judges awarded additional prizes, many worthy vases were, perforce, unrewarded.

On the second day of the Show many members of the Society met at Reading to see the trials of novelty sweet peas which have been grown so splendidly by Messrs. Sutton and Sons for the Society. This year of one half each set has been grown naturally, and the other has been disbudded, so that the relative values of the varieties could be readily seen. Awards of merit were given to a glowing orange cerise variety sent by Messrs. E. W. King and Co. (which was also reserved for the gold medal) and to The Prince, a deep crimson variety, much like an improved Sybil Henshaw, sent by Messrs. Ireland and Hitchcock. Although they did not gain awards, there were several varieties of great garden value. No. 2, from Messrs. Robert Bolton, is a desirable blue of medium tone. No. 81, from Messrs. Atlee Burpee and Co., is a most delightful pale salmon-coloured variety. Pinkie, a new variety from Messrs. C. C. Morse and Co., is a valuable sweet pea in shades of pink. Sunkist, from the last-named firm, may be termed a Youth with a cream ground, and, although it has been shown splendidly by Messrs. Dobbie and Co. at the R.H.S. Hall, it does not appear to do so well out of doors as when grown under glass. Two very useful purple varieties were sent by Messrs. E. W. King and Co. Messrs. Sutton and Sons most generously entertained the members to lunch and to tea, and, after having inspected their own trials, many members of the Society took advantage of the opportunity of visiting the varied and excellent general trials of Messrs. Sutton and Sons.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Replacing Old Helianthemums.

After a few years the helianthemums, though perhaps still flowering freely, get ragged in growth and lose the level appearance that shows the blossoms most effectively. They seed, of course, very freely, but the seedlings are rather difficult to move safely and their colouring is always doubtful.

By far the safer way of replacing the old plants is to cut off a well shaped branch just below a fork and as soon as the plant is dug up, put the branch into the same ground, first filling the hole with water. It will root immediately and the following season you will have a good sized plant flowering freely and, of course, true to colour.

Now that the flowering season is over, it is well to provide a new stock of these invaluable plants. All that is necessary is to take a good sized cutting and put it where you want it to grow. No plants strike more easily and cuttings sent by post to friends, if placed for an hour in water on arrival, will be just as satisfactory.—G. H.

Present Treatment of Strawberries

Few people realise that the time of the year at which strawberry plants make most of their growth is in the months of July and August, so that, after the fruits have been picked, the beds should receive a thorough cleaning and hoeing between the plants, and in order to encourage root growth, a little soil should be drawn up around the crowns of the plants, especially those of one year old plants, where heavy rains have washed it from around the crowns. This earthing up also acts as a preventive against the disease known as red plant.—M. H. G.

Home-Made Bird Bath.

The only materials necessary are a small quantity of cement, an earthenware saucer, such as is used to stand large flower pots on, an ornamental piece of tree trunk about 2½ft. long, preferably oak and stripped of bark, and a little cement-coloured paint. Select the spot where the bath is to stand and plant the tree trunk in the ground to a depth of about 1ft., previously tarring the end, if possible, in order to preserve the wood. Give the portion above ground a coat of paint. Next give the earthenware saucer a coating of cement, smearing it on in a rough fashion, as the result is more artistic. When quite dry, fill with water and place upon the top of the tree trunk stand. Plant clusters of flowers at the foot of the bird bath as this gives it a softer and prettier appearance.—J. A.

Hints on Chrysanthemums.

The leaf miner when dry weather sets in spoil many chrysanthemum leaves and are difficult to eradicate when once established. In this case prevention is better than cure, secured by syringing occasionally with "Abol" or quassia and soft soap solution, and picking off and burning all damaged leaves. Whenever aphis is seen, damp the foliage and sprinkle tobacco powder in the tops; it is better to do the whole lot to prevent the pest getting a hold. Earwigs give much trouble in a dry season; these must be caught and can be trapped by hanging bean or other hollow stalks (I use polygonum stems), by a piece of twine about a foot long, going over the plants twice a week blowing them into a tin of water and paraffin; this solution can be used the whole season; a large batch can be blown out in a few minutes.—G. W.

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OUR SERVICE BUREAU

Blight on the Foliage of Apple Trees.

We have a splendid crop of apples this year, but, unfortunately, there is a sort of blight in some of the trees. I am enclosing three of the leaves and shall be glad if you can instruct me how to deal with this trouble.—A. J., Langley.

In reply to your enquiry, the blight on the apple tree foliage sent for our inspection is called the rosy apple aphis. Trees infested with this should now be sprayed with a strong contact wash, such as nicotine wash or "Katakilla," the spray being applied forcibly and very thoroughly. In January next the trees should receive a spraying with a tar distillate wash, such as "Mortegg" or "Carbokrimp," to prevent a recurrence of the trouble next year. Unless this particular blight is very widespread over the trees, there is little danger of it spoiling the development of the fruit, though, of course, it has a decidedly weakening effect upon the trees, especially if left unchecked. We trust that you will, by these methods, be able to rid your trees of this pest.

Leaf-Spot on Tomatoes.

Can you tell me what is wrong with my tomato plants, and what I can do for them? The plants are in a small greenhouse, and all the plants are affected.—M. I., Edinburgh.

The tomato leaves sent for our inspection show early signs of leaf-spot, due to a fungus, Cladosporum fulvum. We advise you to spray the plants with Bordeaux mixture and look to ventilation. There is probably too much moisture in the house and too little ventilation.

Insect Pests on Buddleias.

I am enclosing a leaf of a buddleia tree which has been attacked by some form of pest but which is not discernible. Would you kindly inform me what it is, and what is the best remedy I can apply, as the pest is very rapidly spreading.—D. S. P., Hurlingham.

The buddleia leaves have been attacked by weevils, probably the clay-coloured or raspberry and the nut-leaf weevils. They are nocturnal feeders, so that their presence is often overlooked until the damage is done. The best remedy is to spray with lead arsenate, at the rate of 1lb. paste to 12–15 gallons of water. Care should be taken to keep the liquid agitated to prevent precipitation of the lead arsenate. Apply through a fine nozzle to avoid drenching, as it should be the aim of the operator to produce an even film of poison over the whole plant. Many weevils may be captured by placing pieces of rolled-up sacking around the attacked plants, for they will seek such quarters during the daytime.

Remedies for the Leaf-Rolling Saw-fly.

What is wrong with the rose branch that I have forwarded, the leaves of which are rolled up? It started last year on a newly planted rose, Viscountess Folkestone, and this year has spread to others on the same rose bed. They are not so badly attacked as this particular one. Would you kindly tell me what is the cause of it, and if there is any remedy. There are about 100 roses in the bed, and many are tainted with it this year.—H. D., Oswestry.

The roses sent for inspection are attacked by the leaf-rolling saw-fly, Blennocampa pusilla. We advise you to hand-pick the rolled leaves, in which are to be found the larvæ, and burn them. Spray soon after the buds open with paraffin emulsion, to act as a deterrent to egg-laying by the female saw-flies. Remove the top 4ins. of soil during December and bury deeply in order to kill the pupæ, and replace with fresh soil. This pest is often introduced into gardens on new roses. It is a good plan to wash all roots free from soil before planting.

Insect Pest on Runner Beans.

I am enclosing a couple of leaves off my runner beans which are being eaten by something. Can you please tell me the cause of the trouble and the remedy? I am troubled with ants in parts of the garden, but I do not think they are responsible in this case for the damage. Do you think so? I have found tiny green insects on the under side of some of the leaves, and suspect these are the cause of the attack. What measures do you suggest I should take? The plants themselves seem healthy enough, and are growing sturdily.—H. D., Sutton.

In reply to your enquiry, the leaves of your runner beans are not badly eaten. Ants do not eat them, but burrow down near the stems. The leaves sent are slightly eaten by slugs or small shell snails. Scatter some dry soot, or lime, on the soil near the rows, but not on the plants. We do not think you need worry about the condition of the plants.

Culture of Hydrangea hortensis.

I was very interested in the article appearing in the June 11th issue on the treatment of hydrangeas after flowering. I have for two seasons grown a collection of the newer varieties with unsatisfactory results; the plants proving anything but free-flowering. The larger percentage of growths, though strong, failing to terminate in a flower truss. This trouble is apparent both in specimen plants and those grown for flowering in 5in. pots (single truss). I should be very grateful for your opinion, especially in regard to the following points: (1) A large number of my plants produce lateral growths from the lowest portions of their stems, also basal suckers; when these occur before the flowering period, being apparently useless, could they not be removed with advantage to the main flowering growths? (2) The plants are potted in a compost of loam, leaf-mould, peat and coarse sand, no manure whatever is added to the compost, and the plants are not fed until the flower trusses become visible. This is in accordance with the strict instructions given me when I purchased the plants. Though I have followed this advice, I must admit it seems that the plants ought to receive some form of feeding long before the flower trusses become visible, the pots being well filled with roots quite early in the season?—H. L. B., Maidenhead.

The best flower heads are produced at the ends of the shoots of the previous year. Hence every effort must be made to preserve unharmed the tips of the shoots through the winter. The lateral side growths and basal growths which interfere with the main shoots should certainly be thinned, if not all removed. In the case of the 5in. pots with a single truss, all side shoots must be removed. Old decayed manure should certainly be added to the potting compost, and the plants given liquid manure when growing freely, even before the flower heads are visible.

Striking Cuttings of Azalea rosæflora.

I have in my rock garden a very beautiful Azalea rosæflora and should much like to increase my stock. I should be glad if you could let me know whether the plant is easily raised from cuttings and the best method of doing so.—D. M., Eltham.

Cuttings of Azalea rosæflora root fairly readily in July. Pull them away with a gentle downward pull from the parent plant, leaving a very thin skin or "heel" at t base. Insert in a pot of sandy peat, cover wi a bell glass and place in a greenhouse, pr pagating case or cold frame, from which a is excluded, except for one hour daily.

SOCIETY NOTES

The Windsor Rose Show.

THE Windsor, Eton and District Ro and Horticultural Society is fortunat in having as patrons the member of the Royal family and in being allowed t hold its shows in the grounds of Windso Castle.

On July 9th was held the most successfu Show for at least the past twenty-five years Roses were, of course, the chief feature and these were shown splendidly. Messrs Frank Cant and Co. added to their many triumphs and made history at Windsor b winning the King's Cup for the fourth successive year. Their forty-eight varieties include Countess of Lonsdale, Gladys Holland, The General, Mabel Morse and Mrs. Henry Bowles. Messrs. B. R. Cant and Sons who were second, had the satisfaction o winning the first prize in the class for twelve varieties, three blooms of each with a magnificent exhibit. Their trios included Lemon Pillar, The Bell (a new hybrid tea of excellen shade and pale lemon colour with a flesh pink heart and sweet perfume), and Alice a fine deep rose hybrid tea variety.

Tea roses were not of such high quality and some of the blooms showed signs o the stress of recent weather; but the decorative roses were exceedingly beautiful. The best eighteen vases were set up by Messrs A. Warner and Sons. Mr. F. Spooner was a good second.

The amateurs' roses were admirable in the open classes. Dr. R. C. Turnbull, Colchester, won the Windsor Challenge Cup for the third successive time, and he had twenty-four particularly good blooms. The outstanding varieties were Avoca, Lady Inchiquin, The General and George Dickson. Mr. F. H. Fieldgate, the second prize winner, won first prizes in two classes for growers of limited numbers of plants, and Mr. W. E. Moore had, in Candeur Lyonnaise, the best hybrid perpetual and in Mrs. Foley Hobbs the best tea blooms in the amateurs' classes. The best hybrid tea was a specimen of Mrs. Henry Morse, shown by Mrs. Walter Legge.

Sweet peas generally were not quite up to the Windsor standard of quality, but Major C. B. Krabbé, Reading, won the Prince of Wales's Challenge Cup with twelve superb vases of Hawlmark Salmon, Powerscourt, Youth, Constance Hinton, Picture and other good varieties. Dr. R. C. Turnbull won the Aird Cup with an admirable collection of sweet peas which included vases of Mrs. H. T. Wright, Annie Ireland and Magnet.

The trade supported the Show finely and their exhibits contributed towards its success. Mr. J. C. Allgrove won Lady Carter's Challenge Cup with an excellent group of hardy border flowers, and also showed roses and sprays of flowering shrubs. Messrs. Waterer, Sons and Crisp had a very beautiful group of Japanese irises. Mr. William Yandell staged a large collection of violas and pansies. Hydrangeas and roses were grouped by Messrs. William Cutbush and Son. Mr. Charles Turner displayed miscellaneous plants. Messrs. S. Bide and Sons had a large collection of sweet peas; while roses were arranged by Mr. J. H. Pemberton, Messrs. Wood and Ingram, Messrs W. E. B. Archer and Daughter, and Messrs. Lund Brothers. Messrs. Allwood Brothers had a large collection of carnations, and Messrs Hewitts, Limited, staged very good delphiniums.

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PLANTS FOR EDGINGS (see page 495).

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THE
GARDEN
THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2904 Saturday, July 30th, 1927 Price TWOPENCE

THE accompanying illustration is of that magnificent climber, the Flame Flower, or Tropæolum speciosum There is no climbing plant that can compare with this for brilliance or beauty of colouring. It is a climber which requires support, but it should never be trained It is best left to its own devices and does well if allowed to climb up a hedge or ramble at will over a bush It looks particularly effective when draping a yew hedge. It grows readily in all gardens in Scotland, especially on the west coast, while it will also flourish in gardens in the south. While it it is perennial in habit, the growths die down every year, and are replaced by fresh shoots in spring. As it is supplied in pots, it may be planted at any time of year, but preferably in autumn or spring. Amateurs should give it a trial by growing it through a rambler rose that is draping an arch or furnishing the house wall. It provides a vivid splash of colour.

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THE GARDEN

VOL. XCI.—No. 2904. JULY 30, 1927. PRICE TWOPENCE

THE TREATMENT OF SUCCULENTS

WE are sometimes asked by readers to give details about the treatment that should be meted out to those ttractive small members of the great tribe f succulents that are becoming increasingly opular for growing in ordinary dwelling-ouses in towns. At present their names re only known by a few enthusiasts, owing o the lack of a moderate-priced book written n the subject in English. In Germany hese plants are exceedingly popular and everal excellent books have been written bout them. It will suffice at the moment o say that forms of the following genera re suitable for pot culture in an ordinary dwelling-house—haworthia, stapelia, echinocactus, opuntia, mamillaria and pilocereus.

It may be said that these plants are grotesque in appearance, but none the less there are few who will not call them attractive at all seasons of the year, while some of them bear lovely flowers. It may be as well to mention that the flowers of the stapelias are so lovely that one may be tempted to smell them. It is better if this is done at a distance, for the concentrated odour is offensive. The great advantage of these plants is that they prefer the least possible attention; in fact, their death is always due to too much of the ordinary kindnesses that we are accustomed to give other plants in the house. Their main requirements are adequate drainage, ample sun if they are to flower and not too much water. A good compost can be made of two-fifths fine loam, one-fifth sand, one-fifth grit and one-fifth finely broken crocks. Broken crocks should be placed at the bottom of the pot and the soil packed tightly round the plant. Repotting should be done every third year. The greatest danger is rotting of the collar of the plants when they are first exposed to the air, and so watering should be done either by dipping the pots in water or by watering on the surface and tilting the pots so that the stem is moistened as little as possible. During the growing season, from April–July, they can be watered in moderation once a week, from July–October once a fortnight, and during the winter months certainly not oftener than once a month, unless the room in which they are grown is kept very hot and very dry. Although they will grow in rooms that may be practically sunless, they will not flower without sun to ripen them. You cannot give them too much sun, for remember that most of them live in dry desert country. Attractive groups may be planted together in large bowls, but these should be of unglazed earthenware and a drainage hole is essential. Little boulders can be placed on the surface and your cacti planted among them, making a very natural effect. It is as well in these large planted bowls to leave a hollow either in the middle or at the side—the excavated earth can be heaped into a mound elsewhere—and then the bowl can be watered by watering the hollow, which will prevent the moisture from reaching the collars of the plants. It is to be hoped that these easy and attractive plants will in time gain the popularity that they deserve.

This Week's Work

For Gardens in the South and Midlands.

Plant irises.

Sow cyclamen in pans and place in a cool greenhouse.

Top-dress chrysanthemums and tomatoes in pots.

Tie in shoots of Morello cherries and espalier-trained fruit trees.

Propagate rock plants by inserting cuttings in a frame containing sandy soil.

Sow spring cabbage.

Stake Michaelmas daisies, border chrysanthemums and dahlias.

Lift shallots when mature.

The Modern Dahlia.

BETWEEN the old-time dahlia and the modern types there is so great a difference that those who have not kept pace with the improved varieties of this popular flower do not always recognise them as belonging to the same family. The stiff, formal shows and fancies, and the cactus varieties which, like blushing beauties, shyly hung their heads have largely given place to graceful flowers in many shapes and colours, freely produced and carried well above the foliage on strong, wiry stems. Their adaptability for garden decoration and for cutting is evident at a glance, and that they are gaining favour rapidly is easily understood.

In order to give the public an opportunity of becoming acquainted with the various sections of the dahlia, the National Dahlia Society has arranged with the Flower Show and the Parks Committees of the Southport Corporation to devote a large border to them in the South Marine Park, adjoining the Southport Promenade. This border will be about 200ft. long by 15ft. wide, and will contain a representative collection, embracing the large decorative, small decorative, large peony, small peony or charm, star, collarette, single, Mignon, pompon, cactus, and also the show sections. Altogether there are some seven hundred and fifty plants of the best varieties in cultivation, contributed by eleven of the leading dahlia firms. For purposes of comparison, plants of the original species from which all have been evolved, will be grown alongside them, these being sent by Mr. Thomas Hay, V.M.H., M.V.O.

The different sections will be planted in separate blocks, each distinctly labelled, and with due regard to the varying heights and colours. It will thus give the border both an educational and a decorative character. From July or August until frost it will be a great attraction, and during the period of the Southport Flower Show (August 24th, 25th and 26th), will be seen by many thousands of visitors, who will be able to judge for themselves of the "infinite variety" of the modern dahlia.

This is the first time an experimental display of this nature has been made in a public park, though some thirty-five thousand dahlias are grown annually in the Southport parks.

This Week's Work

For Gardens in Scotland and the North.

Sow winter onions of the Tripoli type.

Spray roses as a preventive of mildew.

Remove all blooms of show pansies and violas ten days before exhibiting.

Sow Beauty of Nice stocks for winter flowering.

Propagate rock garden plants by means of cuttings.

Feed exhibition onions with liquid manure.

Pinch tomato plants growing in a cold greenhouse when four trusses are formed.

Stop feeding roses at end of July.

Give dahlias in bloom liberal applications of liquid manure.

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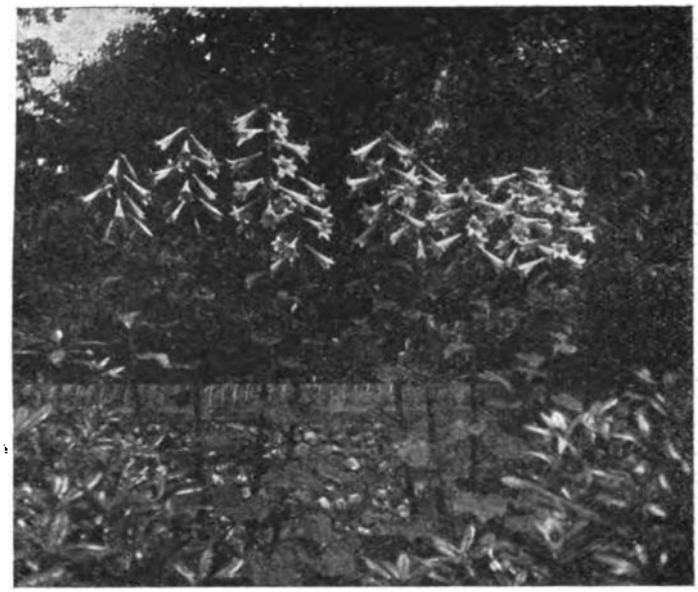
LILIES FOR EVERY GARDEN—II

SUN-LOVING LILIES.

THE second group for purposes of cultivation comprises the species that require an addition of peat to the loam and leaf-mould, as far as soil is concerned, while in the matter of exposure they will succeed in a position that is fully exposed to the sun, especially in parts of Scotland where the climate is moist and the sky frequently clouded. On the whole, however, they seem to thrive best in a spot which is shaded from the sun's rays during some part of the day. Thus they can be grown in a hardy flower border where there are trees or tall shrubs, etc., at no great distance, and where a little peat and leaf-mould are added to the soil, while on lawns and even in conjunction with bedding plants, they may be treated in the same way. Probably the ideal situation, however, for most of this group is to be found on the outskirts of a shrubbery.



A FINE CLUMP OF LILIUM GIGANTEUM.

Here all the most essential conditions will be fulfilled, provided that a spot be chosen which is only partially shaded, while the lilies will be shown to their best advantage and the beauty of the bed of shrubs in which they are planted will be prolonged and increased.

For instance, if the varieties of LL. auratum and speciosum, both of which are prominent members of this class, are planted in groups and drifts among azaleas of the mollis type, which have been set at a good distance apart so that none encroaches upon its neighbours, they will be at the height of their beauty in August and September when the beds might otherwise be dull.

For purity, grace and beauty combined, on the other hand, there are surely few, if any, hardy plants to rival L. speciosum, or lancifolium as it used to be called. The colour of the suffusions, spots and papillæ of the large, white, reflexed flowers varies from bright pink in the type to rose and crimson in such varieties as roseum, rubrum and melpomene, while album and Krætzeri are almost entirely of a pure snowy whiteness.

This is, of course, only one of the many effective combinations which may be planned — for instance, LL. Washingtonianum, Henryi and Hansoni may be used in the same way, while any of these species make very attractive groups by themselves.

L. Krameri is rather more difficult of culture than others of this group, but it is a very beautiful species and possessed a monopoly among lilies of a clear pink colour until the introduction of Lilium rubellum.

The smaller kinds, such as L. concolor and L. rubellum, are very useful on the edges of shrub beds or in any little corners that are not too deeply shaded. Care should be taken, however, not to plant them too near to anything that is very vigorous in growth, for they are quite dwarf and must not be allowed to be overrun or surrounded by coarse-growing shrubs, which would detract from the elegance of their habit and hide the beauty of their flowers. It is by no means easy to succeed with L. rubellum. Although it revels in a moist soil and partial shade, nevertheless it is most essential to provide thorough drainage for the bulbs in winter. Probably the best way to secure this is to plant them just above some thick root of a tree, choosing one which has no low branches and does not produce suckers at the base. The bulbs need only be 12ins. or 8ins. away from the bole, but should be set 18ins. below the surface of the soil.

Quite one of the most useful for this latter purpose is L. Martagon, which is also an excellent lily for the herbaceous border, as we have already seen. The deepest coloured variety of it is dalmaticum, which attains a height of 5ft. or 6ft. and bears masses of dark maroon flowers, while the white form, album, is even more beautiful.

Two other examples of this class will suffice, *i.e.*, L. Brownii and L. tenuifolium. As regards culture, the details advised for the first group may be applied to both this and the next one, while in the wild garden and with an undergrowth of shrubs the condition of the soil will be much moister and watering is not likely to be necessary.

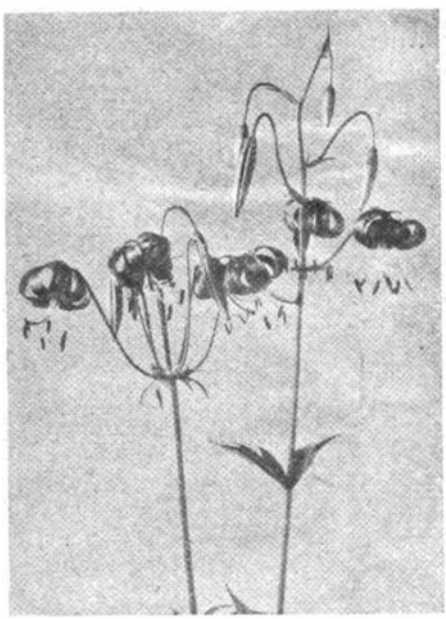
All the species mentioned above are stem-rooting with the exception of LL. Washingtonianum, Martagon and tenuifolium. The latter species, which is a charming little scarlet-flowered Turk's-cap lily, is well suited to the rock garden, and both this and L. Washingtonianum should be carefully looked after.

Much more robust is L. Brownii, with its beautiful white trumpet flowers heavily suffused with chocolate on the outside. The flowers are usually solitary on stems 2ft. to 3ft. high.

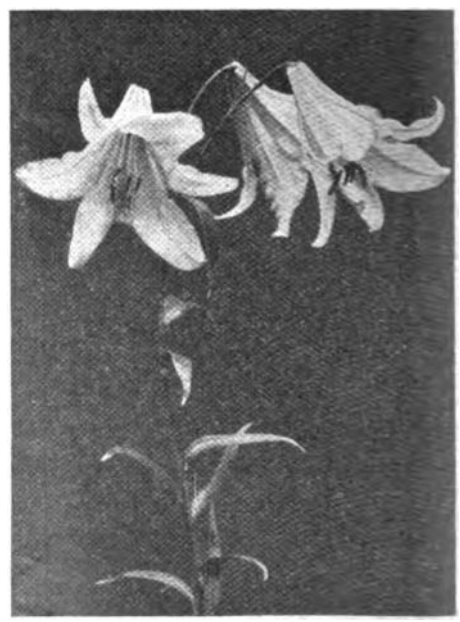
SPECIES FOR A SANDY PEATY SOIL.

Turning now to the third and last group, this consists of a few lilies which revel in a deep sandy peat soil and one that is naturally moist but not sodden—a soil that in the driest days of summer seems moist and cool on the surface. These, again, require shade during some part of the day, and may be planted in situations similar to those advised for the last group, only rather more shaded. Thus an ideal position is again to be found in a wood or wild garden where the soil is naturally peaty, while at the same time the shade must be by no means dense. If the original soil is almost pure peat, it should be deeply dug and have sand and leaf-mould and, if necessary, a small quantity of loam incorporated with it before planting. A waterlogged condition, of course, cannot be tolerated, and if such exists the site must be thoroughly drained, at least 2ft. of good soil being left. The nature of the soil and the undergrowth will then ensure moist conditions throughout the year. The shrubs among which the lilies are planted may be, as before, azaleas, dwarf rhododendron species, zenobias, kalmias, enkianthus, gaultherias, the smaller vacciniums, etc. Some of these are quite moderate in growth, while others may be kept in bounds by thin planting and the occasional use of the knife.

L. pardalinum, the panther lily of California, is one of the best of this class, being very hardy, a robust grower, and producing tall and graceful stems with often as many



THE PANTHER LILY, L. PARDALINUM WITH BRIGHT RED FLOWERS.



THE WHITE TRUMPET FLOWERS OF LILIUM BROWNII.

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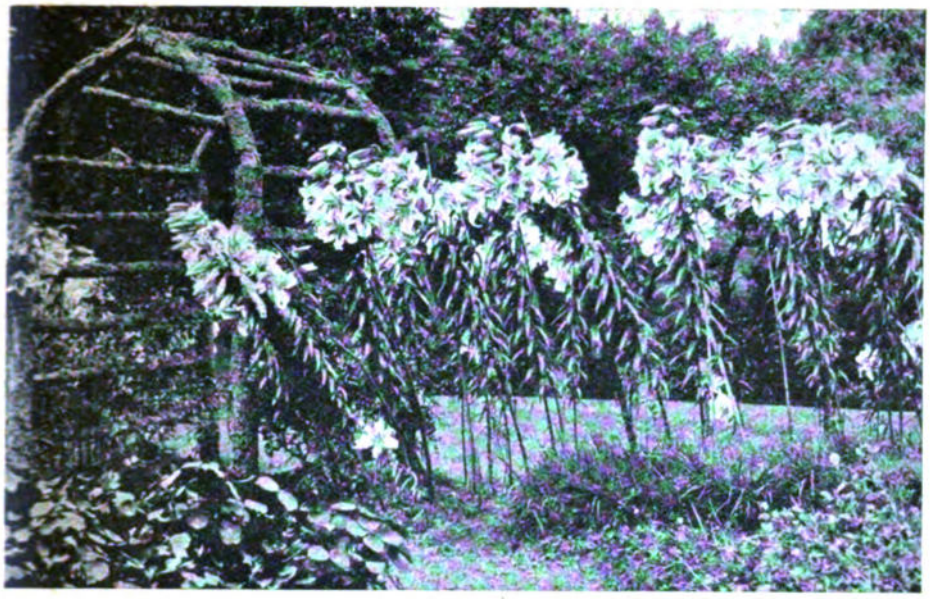


A WELL FLOWERED GROUP OF THE HANDSOME LILIUM AURATUM, THE QUEEN OF LILIES. HERE IT IS GROWING AT THE EDGE OF A SHRUBBERY BORDER.

as twenty or thirty flowers on each. The flowers are large and the petals strongly recurved, bright red or scarlet in the type, with the lower parts orange spotted with red. Since the stems will reach 9ft. in height and are very slender, ample protection from wind should be afforded; but, on the other hand, the growths must have plenty of air and light around them and resent being too crowded by shrubs.

Liliums Grayi, superbum, Parryi and canadense are all American species, well suited to this form of culture. L. cordifolium, however, is a native of Japan. It is known as the heart-leaved lily, being similar in this respect to L. giganteum, though very much smaller.

L. giganteum itself comes from the Himalayas, and is the largest species known, for it will reach a height of 10ft. or 12ft., with huge hollow stems and enormous bulbs. The bulbs must become thoroughly established before they will throw up flowering stems, and should be planted in their permanent quarters three or four years before flower is expected. When flowering, the top of the bulb will be found to be level with the surface of the soil, but as the bulbs are gradually pushed upwards they should be buried about 4ins. below the surface when planting is done. The value of the Himalayan lily lies not so much in the beauty of the individual flowers as in the elegant stateliness of the general habit and the massive beauty of the whole plant. The habit of growth necessitates a change in situation from others of the same group, for were L. giganteum to be planted actually among shrubs, the lower part of the stem would be hidden and half the grace and beauty of the plant lost in consequence, so that it is only shown to best advantage when planted in a comparatively open space. F. R.

TRELLISED WALLS FOR CLIMBING PLANTS

THERE is something abhorrent about a bare house wall to most gardeners, who lose no time in planting some suitable plant which will, in due course, hide its ugliness. Although it is a well known fact that all climbing plants do better when trained on some support which projects from the wall, many gardeners still go to a great deal of trouble to nail in the growths with shreds. This is bad both for the plant and the wall.

On high walls it is an easy matter to fix galvanised eyes through which insulated wire is threaded and strained. The insulated wire can be purchased very cheaply, and does not damage the plant either by frost or wind. Unprotected wire will often do considerable damage during frosts at the points where growth touches the bare wire.

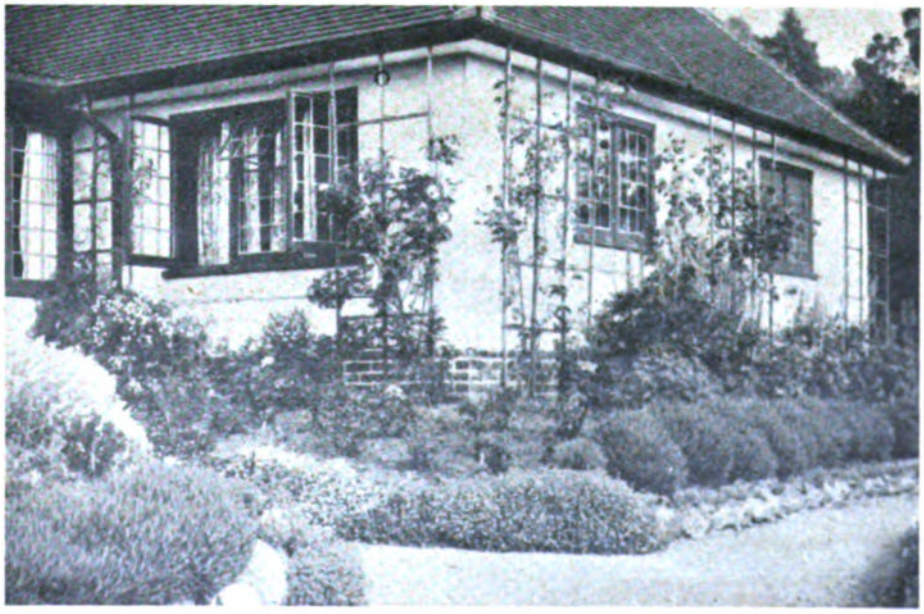
When a short wall has to be treated, such as is found in most of the modern bungalow dwellings, a square trellis serves admirably, and has the advantage of breaking up the wall space, while the plants are making their growth. In most cases such a trellis can be fixed by a galvanised nail or two driven into the eaves, the whole being rigidly held by sinking the ends into the soil. Such supports will stand a foot or so away from the wall, which makes the matter of training an easy task; the ends which enter the soil should, of course, be tarred to prevent rotting. If it is impossible to fix such a trellis to the woodwork of the eaves, the wall may be plugged, 6in. blocks or brackets being fixed to the plugs and the trellis fastened to these.

The advantage of such a trellis is seen when the house has to be decorated, it being a simple matter to untie the growths and lay them on the border until the work is completed. The square trellis can be purchased ready made, and if of oak will not rot for some years, either above or below the soil. Such trellis is, however, expensive, and a very good substitute can be obtained by constructing the trellis from builders' tile battens. Being of pine, they should be treated with one of the anti-rot preparations, which gives them a pleasing brown tone. As all plants have a strong objection to creosote in any form, the battens should be treated some time before any growths are tied to them.

The tiling battens can be purchased from any builder in a variety of lengths. They are about 1½ins. square and roughly cut, which enables the creosote to enter easily. These should be nailed together with small galvanised nails. Plain wire nails rust through in the course of time, and the trellis falls to pieces.

The squares of the trellis need not be very small, except when they form the supports for the side of a porch, when they may be 18ins. square. For ordinary wall use, 2ft. or 3ft. answer admirably. The necessary measurements having been obtained, the trellis may be constructed on any flat piece of ground; a lawn being particularly suitable. The ends should be first inserted into holes dug in the soil for their reception, the soil returned and rammed firm. The top is then nailed to the plugs or eaves.

Clematis, honeysuckle, roses and jasmine greatly appreciate such supports, which can also be adapted for placing round a porch or doorway; and can be made to give a living porch if one does not already exist. Two very suitable roses for such a porch covering are found in climbing Sunburst and climbing Lady Hillingdon. C. P.



A HOUSE WALL MADE ATTRACTIVE BY TREILLAGE AND SUITABLE CLIMBING PLANTS.

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PLANTS FOR SHADY ROCKERIES

MANY enthusiastic gardeners — and especially those dwelling in towns — find the only space they have to spare for a rockery is in a shady part of the garden, and deterred, perhaps, by the unfavourable position, give up all idea of this desirable addition to the garden. For the comfort of these unfortunates, let it at once be said that many of our most charming rockery plants will thrive in shade—providing there be no actual drip from overhanging trees—while quite a number which are usually regarded as sun-loving plants will flower quite freely in, at any rate, semi-shade.

On the other hand, there are plants that flourish altogether too well under any conditions. The white woodruff, Asperula odorata, is a delightful plant for some situations; but once let its roots get a hold in rockwork and it will become an untamable pest. Helxine Solierolii, the Corsican nettle-moss, grown for its vivid green foliage, is another rampant grower in shade, but, fortunately, it is often severely cut by frost, though it is very unlikely that the whole plant will be destroyed. Periwinkles are also favourite plants for shaded rockwork, but they will inevitably smother all other occupants, while nothing short of taking down all the stones and digging out the periwinkle roots will serve to eradicate the pest. It is wise to speak carefully of these plant pests, for in some gardens they spread freely, and in others are even looked upon as difficult plants to grow; but the above three, with the addition, perhaps, of members of the corydalis family, are almost universal nuisances. Others that should be planted with care, or even omitted altogether, are acæna, Arenaria balearica, cotula, mentha, epilobium, the stronger-growing forget-me-nots (myosotis) and Meconopsis cambrica. The last two, however, spread entirely by means of self-sown seed, and are, of course, much more easily kept in check than those monsters which creep by underground stems, and so pop up in all sorts of undesirable positions, and at that have their roots too deep to be easily removed. However, let us get on to a more agreeable matter—those plants that can and should be grown in the shaded rockery.

ONE OF THE ATTRACTIVE FORMS OF THE WOOD ANEMONE THAT WILL FLOURISH IN A SHADY POSITION.
This is variety Alleni with pale blue blooms.

Dwarf campanulas include among their numbers some of the showiest and most easily grown of all rockery plants, and, as they flower at a time when the earlier alpines are going over, they must be accounted of special value. Some of the finest are Portenschlagiana, with drooping violet flowers in profusion; G. F. Wilson, salver-shaped flowers, deep purple; pusilla, one of the best, varying in colour from blue to lilac and white; pulla, having rich violet bell-shaped flowers; pusilloides, similar, but growing tall and with much larger flowers; and barbata, with large pale blue flowers, lined inside with long hairs.

There are several attractive forms of our native wood anemone that will flourish in shade, among which should be noted A. nemorosa Robinsoniana, with large sky blue flowers; A. n. Alleni, pale blue; A. bracteata, double white, fringed with green bracts; and, of course, the beautiful typical species itself. One of the daintiest of anemones is A. sylvestris, with large pure white flowers. The drooping buds are also attractive, and have earned this species the name of snowdrop anemone.

In a moist and moderately good soil, almost all the hardy primulas will revel, and most of the species may be grown in partial shade—in fact, *must* be accorded this position if they are to thrive freely. Many are difficult plants to grow—or, at any rate, die off after flowering, but there should be no difficulty with any of the following: Bulleyana, with whorls of handsome orange blossoms; Beesiana, similar, but with lilac flowers; denticulata, with large round heads of flowers varying in colour from purple to white, and one of the most arresting of the hardy species; cortusoides, like a dainty pink P. obconica; and pulverulenta, one of the easiest of all, with tall whorled spikes of rich crimson blossoms. Besides these, there are the polyanthus primroses, which will brighten up our rockery in early spring; while the choice double primroses are also worthy of a place.

Myosotis alpestris is a true perennial forget-me-not, and valuable for its bright blue blossoms; rupicola is a deep blue variety, its colour enhanced by a bright yellow eye; and Myosotis Ruth Fischer is another choice form, with very large pale blue flowers. Another plant that will introduce a touch of blue into the rockery is Omphalodes Luciliæ, with sky blue flowers and glaucous grey foliage. Blue is also a characteristic of members of the lungwort family (pulmonaria), though one hesitates to include these on account of their spreading habits. PP. angustifolia and azurea are two of the finest sorts, but both should be planted with caution.

Perhaps the most delightful of all rock plants are the saxifrages, many of which will thrive in shade. Chief of these sorts are the

THE BRIGHT BLUE FORGET-ME-NOT, MYOSOTIS ALPESTRIS IS A TRUE PERENNIAL.
It will succeed well in any rockery.

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mossy saxifrages, with lightly cut emerald green foliage, and masses of white or pink flowers in May and June. Species that can be recommended are cæspitosa (white) and its many hybrids, including Clibranii, crimson; bathoniensis, brilliant red, almost scarlet; and Guildford Seedling, bright red. Other species of merit are: trifurcata, with graceful sprays of pure white flowers; Wallacei, large fragrant white flowers; and Rheii, of a pretty shade of pink. Among miscellaneous species, the popular London Pride must not be forgotten; while our native meadow saxifrage is very pleasing, especially the double form, S. granulata fl. pl.

B. D. SHAUL.

ATTRACTIVE PATH EDGINGS

THE ideal plant for a permanent edging to a herbaceous border is one which is not only attractive when in bloom, but neat and pleasing to the eye when the flowering season is over. Both these desirable qualifications are possessed by the old fringed white pink Dianthus plumarius fimbriatus, which, in addition, is to be reckoned among the most fragrant of all hardy plants. It is usually grown in a straight band along the edge of a border, but in Fig. 1 it is shown planted in clumps alternately with those of one of the mossy saxifrages, a rather original arrangement which has the advantage of securing a succession of bloom. Yellow or purple crocuses, by the way, may be planted under an edging of pinks and will look extremely pretty coming up through the grey-green foliage in spring, although their heavy masses of leaves in the dying-off stage are not very good for the pinks, perhaps. This objection scarcely applies, however, to the autumn-flowering Crocus speciosus, the big, violet blue, orange-anthered blossoms of which are most beautiful seen rising out of the cushions of either saxifrages or pinks. And the less tall varieties of Spanish iris—such as Bronze Queen (18ins.) and the bright yellow Belle Chinoise (20ins.)—may be planted under the pinks with a distinctly happy result. There is a pretty rose-coloured form of the fringed pink; a single white one; and the well known old pheasant's eye; all of which are suitable "edgers," as is the large-flowered Mrs. Sinkins. A typical edging of the latter is the subject of Fig. 2, the border to which it makes a charming finish being planted with blue flowers—lupins, delphiniums and Linum narbonense.

The colour of the common thrift is a rather muddy pink, but Armeria maritima rosea is a good shade of rose, and there is a new variety still deeper in tone, named—not very happily, it seems—Vindictive. The white thrift is ineffective by itself, but if planted alternately with the rose-coloured kind the two together make a very satisfactory edging. Of the perennial candytufts, Iberis sempervirens Little Gem is one of the best; but I. correæfolia Snowflake and I. c. Climax are equally desirable. These candytufts should be clipped back after flowering and occasionally renewed from cuttings taken from the most compact and floriferous plants. If grown from seed the height of the plants will vary and some will turn out shy bloomers.

AN ATTRACTIVE PATH EDGING WHICH REMAINS IN FLOWER OVER A LONG PERIOD.

It is planted with clumps of fringed white pinks alternating with tufts of mossy saxifrages.

Where space is not limited, nothing is more beautiful than an edging of Nepeta Mussini, with its clouds of soft purple flowers, especially if it has as a background a border filled with herbaceous phloxes in shades of pink and lavender. The fine display of catmint shown in the third illustration, however, edges two mixed borders which are divided by a paved path of sufficient width to allow the plant to be seen at its best. In some districts the nepeta is, unfortunately, not absolutely hardy, a proportion of the plants being apt to die off if the winter is severe; hence it is well to strike cuttings yearly as a reserve.

Many of the dwarf campanulas are most suitable for edging purposes, notably pusilla, garganica and Portenschlagiana. The white variety of the first is particularly pretty and dainty-looking. Viola cornuta is another free-flowering edging plant. Of this there are varieties ranging from light to deep purple and a pure white one which, in my garden, seeds itself freely and comes true, although, according to some authorities, this is not always the case. Tiarella cordifolia, the foam flower, is not very often seen as an edging, but for a slightly shaded and rather damp border it is as suitable as London pride and far prettier.

Veronica incana, with silvery leaves and violet flowers, is a sturdy little dwarf plant; but VV. repens, prostrata and rupestris require something in the way of rockery stones to ramble over; and the same may be said of the aubrietias.

Of edging plants whose merit depends on their foliage and not their flowers, some of the most satisfactory are Euonymus radicans argenteus Silver Gem and E. r. variegatus, the gold and silver thymes; the dwarf silvery-leaved groundsel, Senecio argenteus; Cerastium Biebersteinii; Stachys lanata, and Santolina chamæcyparissus. The latter shrub makes a neat edging if kept well trimmed, and can be easily struck from cuttings.

R. E. HEAD.

AN EDGING OF PINKS, EITHER THE WELL KNOWN MRS. SINKINS OR THE NEWER WHITE LADIES, GIVES A NEAT FINISH TO A BORDER.

ALONG A STONE OR GRASS PATH NOTHING IS MORE BEAUTIFUL THAN AN EDGING OF CATMINT.

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THE BUSY MAN'S PAGE

The First Potting of Bulbs for Forcing.

THE first bulbs to be potted are those of Roman hyacinths and narcissus. These can be grown from the potting to the flowering stage without any fire heat. If a greenhouse is heated the flowering is hastened, of course, but fire heat is not absolutely necessary. The bulbs can be grown in a compost of leaf-soil two-thirds and loam one-third; or in loam and leaf-soil in equal proportions. If the compost is mixed several weeks prior to the date of its use, it will be improved in quality. Such composts should be mixed now, and the pots, preferably 5in., 6in. and 7in. ones, washed and dried in readiness for the potting of the bulbs directly they are received from the bulb merchants. The crowns of the Roman hyacinths must be left just clear of the surface of the soil in the pot, but narcissi bulbs may be covered with soil several inches deep. To obtain many blooms in a pot, several bulbs may be placed near the bottom and covered with soil, then more bulbs may be placed on them and also covered. All will flower at the same time. Directly the bulbs are potted, apply water, and, one hour afterwards, bury the pots under sand, ashes or common garden soil—sand for preference. In about five weeks time the bulbs will be ready for removal to a cold frame.

Schizanthus in Pots.

THE schizanthus is widely appreciated for flowering in the greenhouse in spring and summer; but the majority of amateurs appear to overlook the fact that it is equally effective in autumn. Plants from seed sown in July will be in full bloom in October and remain in beauty several weeks with the minimum of artificial heat. Sow in pans or pots of light soil, and ensure sturdy growth by allowing the seedlings plenty of light and air. From the seed-pans transfer to 3in. pots, and later into those 5ins. in diameter in which the plants will bloom. A compost of loam, leaf-mould and well rotted manure—the two latter constituting about one-half of the bulk—will grow fine specimens.

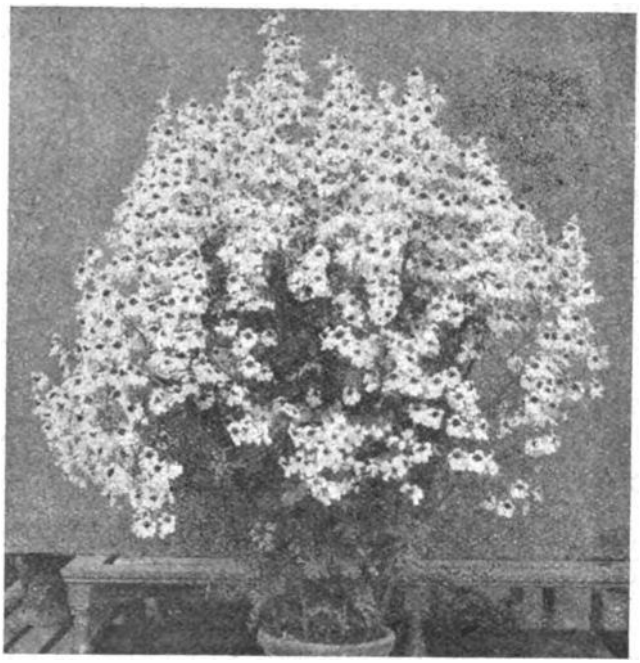
Watering Plants.

MANY amateurs seem to think that the first sunny day requires him to use the watering can in his garden—and the tragedy is that often in long droughts he becomes thoroughly tired in time and turns to golf or cricket. Now, the soil retains moisture for quite a long time. At a shallow depth it is cool and moist even after many rainless days, and the roots of plants find all they need there. Moreover, continual driblets chill the ground and, by preventing a full and natural aeration, tend to induce a certain sourness; again, they may defeat their own end, for plants, finding daily water so easily, fail to root moderately deep, and when the driblets are withheld they suffer at once. It would be better for the amateur to use his hoe much oftener—and it would be easier for him, too. Except in very light soils, the hoe tends to conserve the natural moisture of the soil, and in the light soils a surface mulch is easily superior to continual running with the can. Yet water must be given. First of all let it, if possible, stand in the sun all day, *i.e.*, avoid icy-cold tap water; then give large plants a good dose, hoe next night and let them go for a time. Seedlings, however, may require applications more often, but a light dewing overhead from the syringe often serves instead. Apply water in the morning or evening; hot sunshine and hot breezes, curiously enough, chill the ground after water is applied.

What to Do Before Going on Holiday.

MANY an amateur gardener feels some anxiety as to what will happen to his garden when he is away on holiday. Providing the vacation is not very prolonged, a good deal can be done to help the plants to take care of themselves, or, at any rate, to minimise the harm that a certain amount of neglect will bring about. One very good thing is to hoe the ground thoroughly before one's departure. This will not only destroy the weeds, but it will also help to prevent an undue evaporation of moisture from the soil. The next thing is to go the round of the borders and remove every flower that is open; in the case of sweet peas, and many annuals, it is rather wise to pick off any buds that are likely to expand within a week or so. Peas, runner beans, vegetable marrows and any crops of the kind should be gathered closely. In this connection it is really a good plan to get a friend to come in now and again, during one's absence, to gather all flowers or vegetables that seem ready for picking. This will make certain that production does not cease through seed setting and the maturing of crops. Some plants will stand particularly in need of moisture, such as vegetable marrows, runner beans, dahlias, tomato plants, etc. In these cases, hoe the soil well round the plant and then cover with a thick mulch or top-dressing of manure or even grass clippings, dead leaves and similar litter. This mulch should be well soaked with water just before leaving the garden, and it will prove of great assistance to the plants if there is a long dry spell. Mow the lawn closely and trim the edges the day before your departure, or the grass will present a very ragged appearance on your return.

Where there is a very considerable number of pot plants, it is desirable to make some arrangement whereby these can be watered. In the case of a few plants, which may be used about the house or in a small conservatory, it is best to arrange these in a cool shady spot out of doors, where the wind will not damage them. Stand on a layer of cinders or on boards, to prevent worms working up through the holes in the pots. Loosen the surface soil with a hand-fork and then cover with a thick layer of fibre, moss, or anything similar. Press the material well down and soak through and through with water. In the case of ferns, it is rather a good plan to stand the pots in saucers of water as well. Treated in this way, pot plants will not suffer to any great extent for a week or two, and should there happen to be a few showers of rain no harm will come to them at all.



A WELL GROWN PLANT OF SCHIZANTHUS GROWN FROM SEED SOWN IN EARLY AUGUST.

The butterfly flowers are most useful for greenhouse decoration during winter and early spring.

How to Sow Seed of Herbaceous Calceolarias.

THE pouch-like flowers of these plants are exquisitely marked, and are borne in great numbers on well-grown specimens. The flowering period is the spring of the year; and seed sowing is done during the middle of the summer. The plants thrive best in cool quarters, so that at this season of the year special care must be taken, not only with the seeds, but also with the seedlings, or the latter may be lost. A consistent state of moisture, both in the atmosphere and in the soil, is essential to success. Pots or pans should be used, not boxes, and both the pan and the crocks used, to ensure adequate drainage, should be clean and dry. Equal parts of loam and leaf-soil should form the compost, with just sufficient coarse sand to make it porous. Manures are not necessary. On the crocks place a few half-rotted leaves or some fibrous turf to prevent the soil falling among the crocks and clogging the drainage. Three-parts fill the pan with the compost and make it level and moderately firm by pressing with a piece of board or the bottom of an empty pot. Apply water through a fine rosed watering can and, one hour afterwards, sow the seeds very thinly on the moist surface. Do not cover the seeds with sand or soil, but place a square of glass on the pan and cover the glass with moss or brown paper. Then there is the question of position for the pan. There is not any better than in a frame fixed on the north side of a wall. If the pan must be kept in a greenhouse, then provide special shade for it and a bed of damp ashes as a base. Directly the seedlings can be seen, remove some of the covering material; do it by degrees and also, at the same time, raise the glass a little. On no account must the seedlings be exposed to direct sunshine—plenty of light, but not sunshine. If the glass was left on and the sun shone on it, the heat would be so great in the small space that the tiny seedlings would be scalded wholesale. Cool, airy conditions throughout are essential. Once the seedlings have made their second pair of true leaves they can be pricked off.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

The Best Town Flower.

Hints on Layering Carnations.

IT is safe to say that no hardy flower—except, perhaps the rose—is so popular as the carnation. The reasons for this are not far to seek. Its perfect hardiness is beyond question, and the "bloom," or grey colouring matter on the leaves, which is really a thin layer of wax, enables it to withstand the fog and dirty atmosphere of towns. Although carnations can be raised from seeds, the best varieties are perpetuated by layering. An old plant will continue to flower for two or more years, but the best blooms are obtained from young plants, and a few should be raised each year for renewal purposes. The following is the method to adopt: First prepare the soil round the plants, by adding light soil to a depth of 2ins. Decayed turves are the best for this, but in any case the soil must be friable, and sandy if possible. The other preparations necessary are the provision of a sharp knife, and a number of wooden pegs such as can be cut from hazel twigs.

How to Layer.—There are two kinds of shoots to the plants—those with flowering stems, and side shoots which will not flower until next year. The latter are the ones to be layered. Carefully remove from the base of the shoot selected two pairs of leaves. Now make a cut in the stem, slanting upwards from just below the lowest joint from which the leaves have been removed. The stems should be nearly severed, the cut being nearly 2ins. long, and seven-eighths of the way through the stem. Peg the layer down into the soil so that the cut is open and covered to a depth of about 2ins. In about three or four weeks roots will form from the open cut, and a new plant will have been formed. Generally, about six new plants can be made in this way from each old one. When the layers have become well rooted, sever them from the parent plant by cutting with a sharp knife through the stem near the old plant. Leave them undisturbed a few weeks longer, to make sure they are well established, when they can be removed as desired.

Lime the Soil.—The wild carnation grows on old walls and in limestone regions. This fact should not be lost sight of in preparing the soil. Lime, and especially old plaster rubble, should be mixed liberally with the soil when dug. Bone-meal is a safe fertiliser.

In Boxes or Pots.—If it is desired to increase plants in boxes, the process is similar to that in the open border, except that frequent soakings of water will have to be given. In pots, the plants are layered by sinking the pot in a box of soil or a frame, if one is available.

Among the Summer Flowers.

The Importance of Thinning Out.

IN my garden the vegetation grows too quickly. Seedlings and weeds, left alone for a week, race each other to fill the all-too-narrow borders. But this quick growth of weed and flower is healthy. Beginning at one end of the border, I shall pull out the weeds and ruthlessly thin out each group of seedlings. Clarkia, sweet sultans, sweet alyssum, and such annuals, will be left 6ins. or more apart. Those who watch will call me callous and hard-hearted, but I smile and work steadily through the throng.

Thin Perennials, Too!—Michaelmas daisies, heleniums and other perennials also receive a thinning. From each root I remove thin growths, leaving only about six of the strongest shoots to each. This makes fine blooms in autumn. And how much more beautiful is a solitary stem of Michaelmas daisy than a crowded mass!

Hoe! Hoe! Hoe!—This is the constant cry of this season. After the weeds are slain, and the plants in my border thinned out, I sprinkle a little soot and a pinch of fertiliser round each plant. This I hoe in, using a small hand fork where the plants are too close to allow the use of the hoe. After which it needs but a sunny day and a night of rain, and the border is a sight fit for the gods!

A Use for Waste.—Do you burn an acetylene lamp on your cycle or in the house. Then empty the spent calcium carbide into a box in an out-of-the-way corner of the garden. It is largely composed of lime, and can be used instead of this substance; but before use it should be allowed to weather for a time.

A Popular Greenhouse Perennial.

HYBRID strains of streptocarpus make a fine show in an amateur's greenhouse. The best flowers are obtained by treating the plant as a biennial. Seeds can be sown now for next season's flowers. They can be grown in a cool house in summer, but frost must be kept out in winter. While the flowers are in bloom, the atmosphere should be kept dry.

All the modern hybrids are the result of crossing several wild species, notably Dunni with one huge leaf, and brick red trusses of flowers; S. Rexi, with bluish flowers; and parviflorus, with white flowers. Later on the progeny was crossed with other species, like S. Wendlandi, clear blue. All are natives of Africa. The flowers are bell-shaped and vary from pure white to crimson, mauve, rose, cerise, purple and other shades. There are no yellows. Special kinds can be propagated from leaf-cuttings. These plants revel in sandy loam and leaf-soil. Plenty of air is needed at all times, and the winter temperature should be somewhere between 40° and 50° Fahr. If they are given these conditions they grow readily.

THE STREPTOCARPUS IS A FIRST-RATE PLANT TO GROW IN A SMALL GREENHOUSE. *Seeds can be sown now.*

How to Succeed with Rockfoils.

LONDON PRIDE, the commonest of the saxifrages, or rockfoils, is known to everybody; but there are many others (over 300 species) known to us. Saxifrages are readily increased by division or from seed. Ordinary soil is suitable for their cultivation, but in the case of those with silvery encrusted markings a limestone soil, or one containing lime in some form, is necessary. For convenience, saxifrages are grouped according to their habit of growth. Saxifraga Burseriana and S. apiculata are two examples of the fascinating cushion saxifrages. Some of the members of this group are difficult to cultivate. As a rule, they like an open sunny position, in well drained, light, gritty loam with plenty of lime.

Mossy Saxifrages.—This group of saxifrages has dense tufts of moss-like foliage. They are very effective used as edgings, especially alongside stone-paved walks. The variety muscoides will form drifts of red flowers, which are most attractive. Then there are the silver or encrusted saxifrages. Their rosettes of stiff leaves lie close to the earth, and from their centres rise the loveliest spikes of flowers. Aizoon and longifolia are two of the best of this group.

Creeping Rockfoils.—Many of the saxifrages have a creeping habit, very useful in clothing the rock garden. Oppositifolia is a variety with rosy crimson flowers, and there is also a white form of this plant.

When once planted, saxifrages need very little attention. Weeds need to be pulled out as soon as they appear. This is of special importance in the case of the mossy saxifrages, among which grass will sometimes appear and grow so rapidly that it will smother the plant. Smoke is an enemy to the saxifrages, particularly those of the silver type. But London Pride and several of the mossy saxifrages will grow almost anywhere.

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NOTES ON THE FLOWER GARDEN

What to Do in the Flower Beds and Borders Next Month.

TO keep the flower beds neat and trim an effort should be made to go over them regularly with hoe or spud, etc. Water where necessary or mulch to prevent those flowers requiring moisture becoming too dry if the weather is so inclined. Remove faded leaves, flowers and weeds. Pinch off any excess of shoots anywhere to preserve the outline of bed or border. There is certainly a certain amount of beauty in a straggliness here and there. Severe and formal lines are too cold to appeal to the artistic eye or the real lover of flowers. But some slight effort at the maintenance of orderliness must at all events be made, especially in regard to carpet bedding.

Give such plants as echeverias and sedums a little liquid manure (well diluted if the soil is dry). It will improve them. If sedums look irregular, they may be pressed down in the centre with finger and thumb. This is best done very slightly and repeated if necessary.

Dahlias will also require a little weak manure liquid. Tie the shoots to stakes as they grow. A wire trellis is suitable for dahlias grown in rows. For exhibition the plants must not be allowed to bear many shoots or blooms. A judicious thinning is the way to score with fine blooms.

Roses and any other plants subject to mildew will need repeated dustings with sulphur. Fasten climbing roses to supports. Thin out weak shoots from roses, shorten strong-growing shoots so that there may be no undue flow of sap to the formation of wood. Stake and tie chrysanthemums and gladioli, etc. Lift double-flowering herbaceous plants, divide and plant again when past flowering.—J. W.

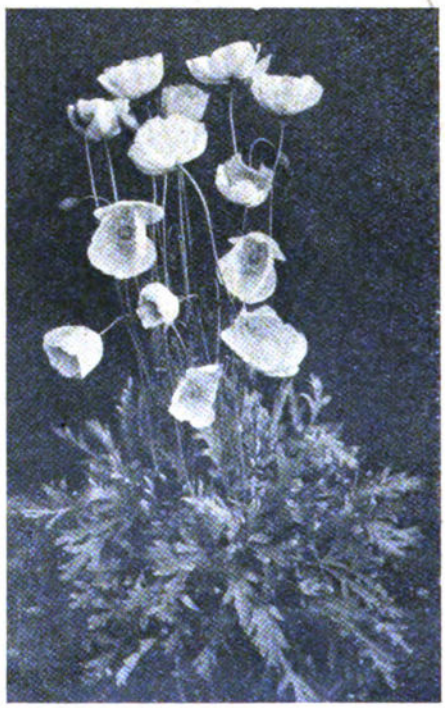
How to Cure Damping-Off Among Seedlings.

A HEAVY toll of mortality among seedlings is claimed every year by the disease commonly known as "damping off." The fungoid disease attacks the young seedlings just above or just below the ground level, causing them to collapse and die, owing to the destruction of the stem tissue. The fungus enters the plant through the root-hairs. Once having gained admission, it spreads with great rapidity through the soft tissues, causing the death of the plant cells.

Control Measures.—The chief line of treatment is the sterilisation of the soil. This is effected by different methods: by steaming, baking or chemical treatment. All pots or boxes used for seed-sowing should be scrupulously clean and, if necessary, treated with a two per cent. solution of formalin. Water tanks should be emptied, scrubbed with a strong fungicide, and refilled with fresh water. As a means of prevention, thin sowing of seed should be the rule. Conditions favourable to the disease are: (1) lack of sunlight; (2) an abundance of moisture; (3) lack of ventilation. Therefore, it behoves the gardener to be extremely careful with the use of the water-pot, and admit plenty of air on all suitable occasions. Plants which have contracted the disease should be thoroughly dusted with fine flowers of sulphur. Affected plants should be removed from the seed-pans or boxes with great care. For the efficient control of this disease a compound, known as the "Cheshunt Compound," has been used with great success. The recipe for making is as follows: 10 parts by weight of ammonia carbonate, 2 parts by weight of copper sulphate. The ingredients should be ground very fine separately, and then thoroughly mixed together. Store in a dry place. For applying, use 1 oz. to 2 gallons of water. The soil may be watered with this solution before the seed is sown, or after sowing. Apply another application once before "pricking off" and once when potted into "sixties." If this method is adopted, very satisfactory results will be obtained. An old remedy which is often used is permanganate of potash; this is, to some extent, useful, as the potash confers a certain degree of immunity; it also acts as a tonic on the plants, thus assisting them to resist the fungus.—J. E.

Iceland Poppies for Next Year.

THOSE who desire to raise a stock of Iceland poppies from seed, should not omit to sow during the next few weeks in order that the young plants may be got into nursery beds or a cold frame for the winter. As the seeds are so small, it is much better to sow them in boxes, rather than in the open ground, and to this end boxes of light soil should be prepared, the top surface being made fine by passing through a sieve. Thin sowing is essential, and if, afterwards, they are watered in with a fine-rosed pot, no covering of soil will be needed, a sheet of brown paper answering as a covering until germination takes place. Young plants are best pricked off into pans or boxes until large enough to go out of doors, when they should be found a place under the shelter of a wall or fence if possible. If this cannot be done, it is best in a time of frost to intersperse among them a little straw or hay. This applies more particularly to first year plants, as established clumps are hard enough to do without such protection. Iceland poppies may give little or no signs of life much before February or March, but they soon make progress as spring approaches. For the first winter it pays to be extra careful with young plants, by affording them protection. The flowers of the Icelands are most useful for cutting, and the modern sorts as represented by the Sunbeam strains, are even more so. To anyone thinking of sowing seed I commend the latter. Of one point about gathering flowers of these poppies which is not always considered—and that is the need to cut the stalks, as, if one attempts to pull them, in most cases, roots are disturbed, if a section of the plant is not uprooted.—F. W.



ICELAND POPPIES ARE VALUABLE FOR BOTH GARDEN AND HOUSE DECORATION.

Plant Freesias Now.

THERE is a mistaken notion, held by some amateurs, that to grow freesias one must be able to give them heat above the normal to be found in most greenhouses, and that it is useless to attempt their culture otherwise. A further mistake sometimes made is to think about them only when ordering the spring-flowering bulbs in November. Freesias require long growth, and should be planted either during July or August. Planted later, weak puny growth results, and they are never satisfactory. They are most effective when planted in pans, fifteen or so bulbs to a pan, or six or seven bulbs in a 5in. pot. A compost made up of sandy loam, a little leaf-mould and decayed manure will suit them. Special attention should be given to drainage. They can either be kept in a cool part of the greenhouse or in a cold frame for a few weeks, but on the approach of frost must be removed indoors. One may, if so desired, introduce them to the warmth to be found in the striking-pit—say 65° Fahr., and so have early flowers in spring; but, grown under temperate conditions, blooms will follow not long afterwards. Freesias are so valuable, on account of their exquisite perfume, that, having regard to their not very great expense, one may have flowers for succession over a longer period by keeping them in a frame, free from frost, and introducing them to heat as occasion requires. They benefit when in full growth by plenty of moisture, and liquid manure given once a week in a diluted form will help them. Bulbs increase rapidly—so much so, indeed, that to an amateur the question of raising from seed is hardly worth while, as a couple of years must elapse before the young bulbs bloom.—CLAREMONT.

Double Daisies for Edgings.

Divide the Plants Now.

AMONG our oldest garden flowers are the double-flowered daisies, which, though not very frequently found in the garden of the present-day amateur, are admitted to be both decorative and useful. When used nowadays it is mostly as a carpet for some early summer border, but they make efficient and attractive edgings, or they can prove of great use in a mixed bedding design. In order to retain these daisies at their best they must be treated like the polyanthuses and divided up annually, or, at least, every second year in summer; planted again after division, they take readily to their new quarters, but many people prefer to grow them on temporarily in a shaded, moist bed, where they quickly attain to large size. Giant doubles, almost as large as asters, are readily raised from seed sown about this time; these are very fine in beds, but the best plan is to raise fresh stock every year. Sow the seed thinly and transplant the seedlings into a moist, cool bed at earliest; bed them out in late autumn or next spring. Giant singles in pink and white can also be raised from seed; the flowers are really semi-double and very graceful, preferred by some growers to the other kinds. In doubles one may have, from seed, whites, reds of various shades, and a fiery scarlet called Firefly. The old named doubles are still to be had from certain nurseries; though I have lost one or two kinds in the rush of work, I used to grow Dresden China, Rob Roy, Victoria, Eliza, Alice, Hebe—all

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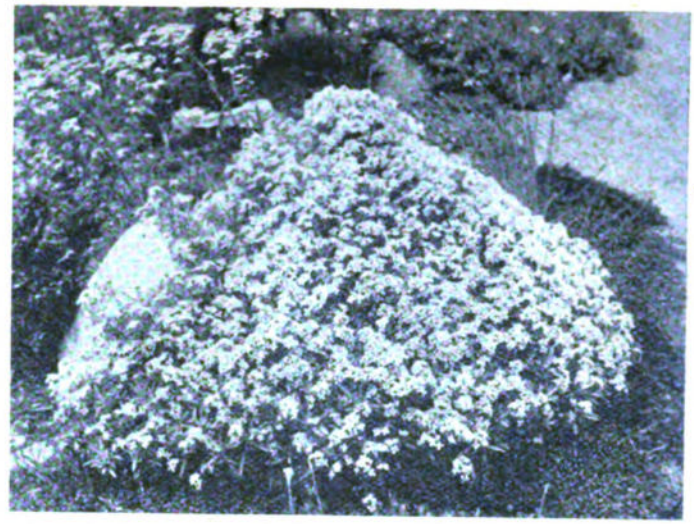
in different shades of red. In whites, I had Venus, The Bride and Albino. One of my losses is the hen-and-chickens variety, which produced round the flower as it faded a number of miniature daisies similar to the centre flower.—HUGH AITKEN.

Worry with Sweet Peas.

SWEET PEAS are but seldom infested with insects, but should any appear in destructive numbers, then the grower must at once spray with some good proprietary insecticide and repeat the application five days later. Fungus diseases are, however, much more prevalent. and beginners must understand that, if they are to be cured at all, it is a fungicide like Bordeaux mixture, liver of sulphur, lime sulphur or a proprietary compound which is required. Streak disease, which seems less prevalent than it used to be, cannot at present be cured. Root out a plant infested badly, burn it, and syringe plants and soil with permanganate of potash, a quarter ounce in a large pail (2 gallons or more) of water. Root rot and collar rot also cannot be cured, for when the plants begin to collapse they are beyond recovery. Carefully root them out and lime the spot well. Mildew and mould are apt to come when climatic conditions bring muggy, damp weather. Nothing much can be done, but I always like to spray with liver of sulphur, 1 oz. in 3 gallons, and to apply alongside a little fertiliser to stimulate growth. Preliminary sterilisation of the soil is essential when any disease is suspected to be lying dormant in the garden, but even then the fungus may blow in from nearby clover fields.—H. A.

An Attractive Dwarf Evergreen.

THERE is no more attractive little evergreen among the ledums and their nearer allies than the sand myrtle, Leiophyllum buxifolium. For a cool spot in the rock garden, the front of the mixed border, or associating with dwarf heaths, this is an ideal shrublet, its compact habit, small and glossy dark green leaves and amenable disposition never failing to win admiration at any season. But that is not all, for L. buxifolium is a flowering subject of distinctive merit. In early spring it becomes studded with clusters of pretty rosy crimson buds, and when these, breaking into crystal stars, are fully expanded, the whole plant becomes a mass of scintillating white blossom which lasts for several weeks. Though usually classed as a peat plant, L. buxifolium will do well in any lime-free loam, often in a quite sandy root-run, and it is one of those subjects which will carry on " for many years with unfailing satisfaction. Propagation may be effected by layering some of the outer branches in a bed of sand and leaf-mould, or by cuttings about 1½ins. long struck in pots of sandy peat in August. But it is often possible to detach rooted portions from an established plant, and these, of course, will come away more quickly. A full-grown specimen does not usually exceed 8ins., and there is a prostrate form of only about half that stature.—N. WALES.



A NEAT ROUNDED HUMMOCK OF ALYSSUM SPINOSUM.
A useful rock plant.

Erigerons from Seed.

ALTHOUGH growers generally sow perennials in May, or even earlier, I find that the erigerons succeed quite well from sowings made at this time in a moist, semi-shaded bed. Thinned out and transplanted when they are quite small, they grow rapidly, and by late autumn make excellent plants, which may then be put into permanent sites. There being nothing quite like them in mid-summer, the erigerons may be raised from seed on a more wholesale plan and used in suitably arranged summer beds; indeed, I have frequently had them in this fashion and found them highly satisfactory. Speciosus, also known as the summer or mountain daisy, is the most common variety grown in borders. The flowers are a distinct, clear, but pale mauve with yellow centres of the daisy type. Coulteri is a white, the earliest of the genus, a plant in great demand in summer for cut bloom. Aurantiacus hybrids include various shades, white, pink and yellow predominating; these are dwarfer than the others, but very fine and showy border plants. Some varieties of alpinus and other species less frequently met with also succeed quite well from seed sown as late as this. I recommend readers, in addition, to save seed of fine named varieties which they may have, this seed to be sown next summer. Most varieties set seed freely. Note that slugs and snails are very destructive to seedling erigeron, and great care must be taken lest the pests ruin good work.—LANARKSHIRE.

AN ATTRACTIVE EVERGREEN SHRUB FOR THE BORDER OR ROCKERY, LEIOPHYLLUM BUXIFOLIUM.

A Useful Rock Plant.

UNDER the name of Ptilotrichum spinosum stands that sub-shrubby crucifer known to catalogues as Alyssum spinosum. A more useful plant of its sort for any really hot, dry spot where the soil is poor I do not know, for it is as drought-proof as a cactus and of no small merit both in foliage and flower. Pt. spinosum forms a neatly rounded bush rather under a foot in height, its mass of spiny, tortuous branches and silver-grey foliage clinging together in a springy hummock which is always neat and attractive. In early spring the little white flowers appear in great profusion, sheeting the plant with white, and these will often prevail until summer is far advanced. In addition to the type plant there is a variety, Pt. s. roseum, whose blossoms are faintly tinted with lilac, this giving the mass a rosy flush. For the rock garden where silver-leaved subjects are desired, Pt. spinosum is indispensable. It is quite hardy and easy in a stony, dry soil, and by no means difficult to increase by short summer cuttings struck in pots of sandy soil in a cold frame.—A. T. J.

A Free-Flowering Bramble.

FOR several weeks past large specimens of Rubus deliciosus have been quite a feature in many gardens, carrying a host of large snow white flowers fully 2ins. across. It is a native of the Rocky Mountains and is known as the Rocky Mountain bramble, and it is a plant well worthy of attention, not only for the shrubbery, but also as isolated examples in close proximity to the rock garden, while as a wall plant, where it is not too confined, it will be a decided success. It thrives best in a sunny position and is not particular in regard to soil, although the best results are obtained in a loamy root run.

The leaves are somewhat similar to those of the black currant and it can be increased by cuttings similar to that fruit, but the percentage of failures will be greater, in fact, a few only will probably form roots. Layering is another method of propagation. After flowering a large number of new growths will appear, and now is a good time to carry out any pruning. This consists of cutting out some of the old wood to prevent congestion, and as a rule the branches or shoots should be cut back to new growth. No set system of pruning is advocated. Much will depend on the space allotted to the plant, its position and general health. Nevertheless, remove as much old flowered growth as possible, and encourage the current season's shoots, which will be a mass of bloom from June onwards.

R. deliciosus is one of the best flowering shrubs, the blooms resembling a single white rose. Moreover, it is hardy and can be recommended as a garden shrub of real merit. There are two forms in cultivation, and the best one ought always to be chosen.—W. B.

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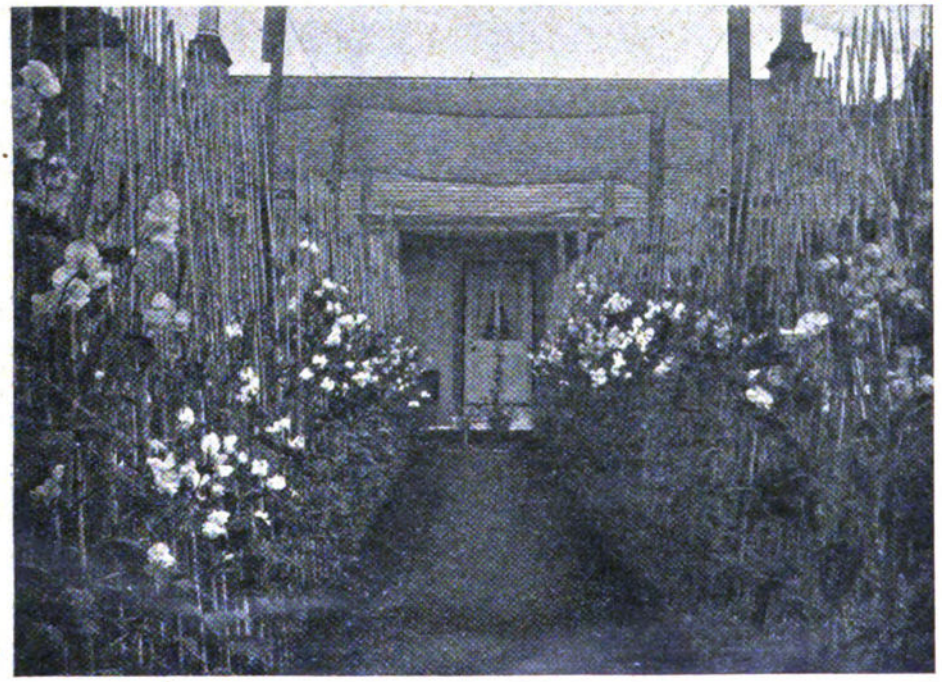
FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

"LEAVES have their time to fall and flowers to wither," but weeds belong to every season, and in the average garden they are a source of perpetual trouble, causing an expenditure of time and labour that can be ill spared in the busy season. This unsatisfactory state of things is in large measure due to the supply of farmyard or stable manure that is dug into the soil annually, for it is a common experience that as that commodity becomes scarcer its quality and value as a fertiliser depreciates. With the object of increasing the available supply, the modern manure heap has become the dumping ground for every kind of refuse, and the strange and undefinable mixtures frequently sold under the generic name of manure accounts for many of the new weeds that make their appearance in the soil. Not so long ago I laid in a stock of so-called manure in the autumn at a cost of 12s. 6d. per cart, and when the time came to incorporate it with the soil the surprising discovery was made that it was largely composed of apples and oranges in an advanced state of decay. When the attention of the purveyor was called to the fact that he had been paid for manure and not for rotten fruit, he replied quite seriously that apples and oranges were the best things that could be put in the ground. Of a truth, we gardeners are always learning, and in the search for knowledge I found out a beautiful villa garden where excellent results were obtained without the aid of organic manure. The herbaceous borders, rose beds, fruit and vegetable quarters were conspicuously clean, and the various subjects were strong and healthy as the result of the owner's personal attention and treatment. Herein lay the secret of success. All the grass cuttings and lawn mowings were utilised as plant food. Throughout the summer the grass was carefully collected and, after being mixed with soil and sulphate of ammonia to promote decay and destroy insect life, it was stored in a heap and, as the successive weekly cuttings were added the dimensions of the mound were materially increased by the end of the season. When spring comes round the accumulations of the previous summer are dug into the soil and are also used as a compost for pot plants. A small quantity of last year's stock, which was reserved for begonias, was in such a fine condition that it passed freely between the fingers. Such a cheap and easy method of providing a clean and natural plant food is within the scope of every gardener.

The presence of so many "rogues" in the Scottish Sweet Pea trials is a testimony to the sportive character of the popular annual, and emphasises the difficulties which beset raisers in their endeavour to produce varieties that are true to type. It is beyond question that certain sorts have defied all attempts made to fix them. I can recall a beautiful variety named Audrey Crier, a bright rosy pink form of Countess Spencer with slight flush of salmon on the standard, which was first exhibited in 1905. In the following year it received a first-class certificate and the silver medal of the National Sweet Pea Society awarded to the best variety of that year; but in the trials at Reading it was found to be so sportive that the raiser was asked not to put it on the market until it was more fixed. In later years Messrs. Dobbie and Co. offered a strain which gave a high percentage of flowers true to type, but Audrey Crier was never properly fixed. To that somewhat ancient example may be added a modern illustration. At the recent Chelsea Show the Edinburgh firm staged a meritorious white sweet pea which throws an equally good cream form in the proportion of approximately three white to one cream. Specimens of each were exhibited side by side, and Mr. David Cuthbertson assured me that all attempts to fix it had failed. Twenty years ago one of our leading raisers of sweet peas was Miss Hemus of Upton-on-Severn, who produced Paradise, Evelyn Hemus and other desirable varieties. Some sorts, however, did not come true, and complaint was made that she was in too great a hurry in distributing her new varieties. Although a considerable improvement has been effected since that time, the results of the Scottish trials show that raisers encounter similar difficulties to-day. No better proof of this need be quoted than the appearance of a rogue in Boy Blue.



SWEET PEAS GROWN FOR EXHIBITION PURPOSES AT THE SCOTTISH SWEET PEA TRIALS.

My attention has been called to the colour variation in the flowers of catmint (Nepeta Mussini), an old hardy perennial that has advanced rapidly in public favour within the past two or three years. Some shades suggest deep purple and others deep blue, whereas the true colour is pale purple or blue that has the appearance of lavender when seen at a distance. According to Nicholson's *Dictionary of Gardening*, the flowers of N. Mussini are pale blue spotted with white towards the throat, while the anthers are purple. Other authorities describe the colour as lavender blue; while a lady writer says it is "Smothered from spring to autumn with a cloud of misty blue-mauve flowers." Because of the natural straggling or spreading habit of the plant, it must be given plenty of room, and when used as an edging it may be necessary to shear and trim it in order to keep it within bounds. It has been introduced in the floral schemes of railway stations, and the effect is very pretty, especially when used to decorate fireclay vases and hanging baskets.

Mildew, which is an annual menace to certain varieties of roses, has already made its appearance in several gardens located in the West of Scotland. This virulent parasite is in its primary stage when the greyish-white mould appears on the upper and under sides of the foliage, causing the leaf to curl or shrivel, and as the weather is a contributory cause of infection, growers need not be surprised if the disease becomes epidemic in August and September. On the principle that prevention is better than cure, a systematic course of syringing should be initiated at once, and having regard to predisposition endeavour to keep your plants in good heart. Until recently there was no known remedy for mildew, but "Kuremil" is guaranteed by Messrs. McGredy to be a cure and a preventive. This preparation is sold in the form of a powder, and a 2s. 6d. packet is sufficient for 32 gallons. Then there is a simpler and more economical remedy which the *American Rose Annual* says "has been most effective" in the United States. The formula for this is to dissolve 1 oz. to 1½ oz. of common baking soda (bicarbonate of soda) in 1 gallon of boiling water, which, of course, is afterwards cooled before use. With the object of causing the spray to adhere to the foliage, 7½ oz. of whale oil or fish oil is added to 5 gallons of the mixture; but ¼lb. of soft soap will serve the purpose as well. The late Rev. J. H. Pemberton found that 1½lb. of Calvert's carbolic soft soap melted in a 2-gallon pail of water was efficacious as a spray. This preparation entails no danger from an overdose, and the foliage is cleansed and stimulated thereby. A 3 per cent. or 4 per cent. solution of the best quality soft soap is also recommended by the National Rose Society; and dusting with flowers of sulphur every ten days is said to be sufficient to control the disease. Try one or other of these prescriptions, and begin the treatment at the earliest opportunity.

NEW SWEET PEAS.

Novelties at the Scottish Trials.

SWEET pea enthusiasts north of the Border made their annual pilgrimage to Helensburgh on Saturday, July 9th, for the purpose of inspecting and passing judgment on the eighty-nine new varieties not in commerce which are under trial by the Scottish National Sweet Pea, Rose and Carnation Society. Mr. John Smellie, the energetic secretary

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of the Society, is responsible for the cultivation of the plants, and his work is somewhat handicapped at the very beginning by the late delivery of the seeds. These were not sown until the middle of October, which is about three weeks behind the time for autumn sowing in the west of Scotland, especially when germination is obtained without the aid of artificial heat. The seedlings were planted out in the first week of March, and in view of a recent note on the subject it may interest readers to learn that the peas were transferred from the pots without disturbing the roots. In his long experience Mr. Smellie has tried both ways, and unless where the plants have been established for a long period in the pots and there is a mass of roots in ball formation he favours that system.

As was to be expected, the peas were not in the forward state of growth experienced in the two previous years. For this the weather was entirely responsible; but as the plants, which are cultivated on the single stem principle, were in a robust and healthy condition, that defect will disappear as the season progresses. Generally speaking, the standard of quality also compared unfavourably with that of the 1925–26 trials. Two and three bloom stems were the rule. Judged on the condition of the flowers on our visit, it must be admitted there was not an outstanding sweet pea in the whole trials. Even Mrs. Searles, the beautiful cerise introduction and one of the successes of last year's trials, was disappointing; while Sunkist, the cream-ground Youth so much admired at the Chelsea Show, revealed the colour defect that seems to be inherent in the picotee edge class. In their later inspections the judges will doubtless discover a number of meritorious examples; but a larger proportion than usual are already out of the running because they are not true to colour. Rogues seemed to be on the ascendant, and two or three varieties were so badly mixed that the type was in a minority.

The first two rows were occupied by pink-coloured peas of which there were twenty-six varieties, representing nearly one-third of the total entries. When the too-much-alike varieties and the unfixed are eliminated, there will probably remain half a dozen in the final test. Among those that passed muster on our visit were two cream pinks, showing double standards, a strong-growing deep pink with bold, well formed blooms; and Pinkie, which bears a close resemblance to Hebe.

If the truth be told, the white class must be written down a failure, for there was not one of the seven lots which could pass the elementary test of fixity and purity.

Lavenders and purples suffered badly in comparison with the grand specimens in the 1926 trials.

The cerise varieties, ten in number, suggested the condition of the curate's egg, being good in parts. No. 8 was one of the few sorts showing four flowers on a stem, and the large blooms were well placed. It also had the merit of coming true. Mrs. Searles is a lovely bit of colour and, while the stems only carried two or three blooms, the size of the individual flowers testified to the capabilities of Mr. Bolton's grand pea. A cerise scarlet and an orange scarlet also gave promise of better things in future.

The rose shades contained one good specimen; and the honours in the blue section were shared by No. 86, a fixed medium shade, and No. 61, a big bold pea of an intense deep colour. Among the other classes was a strong-growing crimson and a big frilly pea in the fancy class, both of which attracted attention; but to our mind the most distinctive-coloured pea in the trials was No. 41. It is described as lilac by the raiser, but that term does not do justice to the colour. Some of the standards are double in form, while the colour is of a deeper shade than that of the wings, producing a pleasing effect which is emphasised when arranged in a vase.

ST. MUNGO.

WHAT OUR READERS SAY

BUDDLEIA ALTERNIFOLIA.

SIR,—I am much surprised to find an idea existing that Buddleia alternifolia only bloomed on the old wood, and in consequence many of these shrubs lose their refined habit of growth through a lack of pruning.

Every spring I cut this shrub back to strong buds or shoots as near as possible to the crown. It thus retains its dwarf and graceful habit and never fails to bloom profusely, rendering it very desirable for the rock garden.—P. E. E. C., *Cornwall*.

A LOW DRY WALL FOR A SLOPING LAWN.

SIR,—A dry wall substituted for a sloping lawn and border often greatly improves a garden. The first picture shows the sloping lawn and border before alteration. In the second one, the lawn has been sunk to a depth of 2ft., thus levelling it out and permitting the introduction of the stone steps which add dignity to the garden. The dry wall planted with suitable creeping plants provides beauty and interest.—H. RUSSELL THOMPSON, *Gloucestershire*.

GERANIUMS WITH PRETTY FOLIAGE.

SIR,—As a constant reader of your valuable paper for some years past, I read with interest the article by "W. F." on "Geraniums with Pretty Foliage" (page 420), and I fully endorse his remarks and put in an earnest plea that these old favourites may once again come into fashion, if not for our flower beds, at least for the greenhouse staging, for summer and winter decoration. The varieties he mentions may be old, but with the exception of Flower of Spring and Mme. Pollock, the others are quite new to me in this part, but he has omitted to mention the very best tricolour of all, Mrs. Henry Cox, which I only see is listed in J. W. Cole's list, at Peterborough. I have a batch of these adorning the centre stage of my tomato house and the sight is most effective. I keep this centre stage for geraniums only, and the soft blooms of pink Victory tone well with a good broad edging of Mrs. Henry Cox, and make a most pleasing sight.—C. W. HAMMOND, *Glos.*

HELIOTROPES IN TUBS.

SIR,—The method of growing heliotropes in tubs by H. Allan is very interesting and will, no doubt, be widely read. But as we all have different ways it may also be interesting to give the method by which I have been able to form a full tub of heliotrope in one year. That method may be useful to those who are anxious for quick returns, and who have not the convenience for wintering large tubs. Unlike Miss Allan's method, however, it involves the growing of several plants to fill the tub. Usually when I have the opportunity I make a practice of growing the heliotrope as a standard, and always have fresh plants each year. To form a standard in one year means that there must be a long season of growth, and to ensure this I take the cuttings during the last week in July. The cuttings are rooted in sand in the greenhouse and when rooted planted in a box. When they have made nice plants they are potted into 3in. pots. From this size they are in due course transferred to 5in. pots, and after the turn of the year to 7in. pots, which is quite large enough to plant from. I have tried moving them to larger pots before planting them out early in June, but it has not been successful. During growth the plant is kept to a single stem till it reaches a height of 4ft.

HOW TO TREAT A SLOPING LAWN TO MAKE IT EFFECTIVE.

A low retaining wall may be built and planted up with suitable rock plants to provide beauty and colour.

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when the top is nipped out and the three or four upper side growths allowed to develop, these in due course being also stopped, usually when they are about 6ins. in length, but all these growths are stopped at one time. In the spring side growths from the lower part of the stem are allowed to grow to such a length as to give cuttings for making dwarf plants. Now we come to the formation of the make-up of the tub, which may be done in May. Three of the tallest of the standard plants are chosen and set centrally in the tub of soil. Then shorter standard plants, which have been pinched at a foot lower than the tall ones, are planted, also in the tub round the others, and some more well grown dwarf plants are planted for the bottom. These plants are all staked, and as they grow the growths are tied so as to make a good outline so that when they are well grown they look like one huge plant. Of course, the tub might be kept for another year, if desired, but for the purpose of standards, I always prefer young plants and I do the same for those furnishing the tubs.

I might also mention that I have also filled some tubs of ivy-leaved pelargoniums (Mme. Crousse), in a similar manner. For these my plan is to put three cuttings in a 3in. pot in late July, and to grow these along without division, tying the growths tightly together and not pinching or disbudding them in any way.—WILLIAM F. ROWLES.

A SHRUB WORTH GROWING: COROKIA VIRGATA.

SIR,—The profusion of species from which amateurs have to make choice is now so vast that it is desirable that none but the best in each genus should be recommended. I I do not think "B." would have written so favourably of Corokia Cotoneaster (page 451) if he were acquainted with C. virgata, which is much superior to it. It has not the contorted growth of C. Cotoneaster, the habit of the plant being upright, with straight stems and branchlets. I do not know how high it may grow, it is now over 8ft. here and is a pretty object when crowded with yellow starry flowers in May, to be followed by yellow berries.

The late Mr. T. F. Cheeseman, in his "Flora of New Zealand," describes only three species, but adds that he had collected "what may prove to be a fourth species . . . a twiggy bush, 6ft. to 12ft. high, not tortuous. . . . Flowers and fruit not seen." This has now been identified as C. virgata and is figured in the *Botanical Magazine*, t. 8466.—HERBERT MAXWELL, *Monreith*.

LORETTE SYSTEM OF PRUNING.

SIR,—It would be very interesting to know if any of your readers have tried the "Lorette" system of pruning. It has been tried with some success here with apples and pears. Stone fruits I have not troubled about as yet.

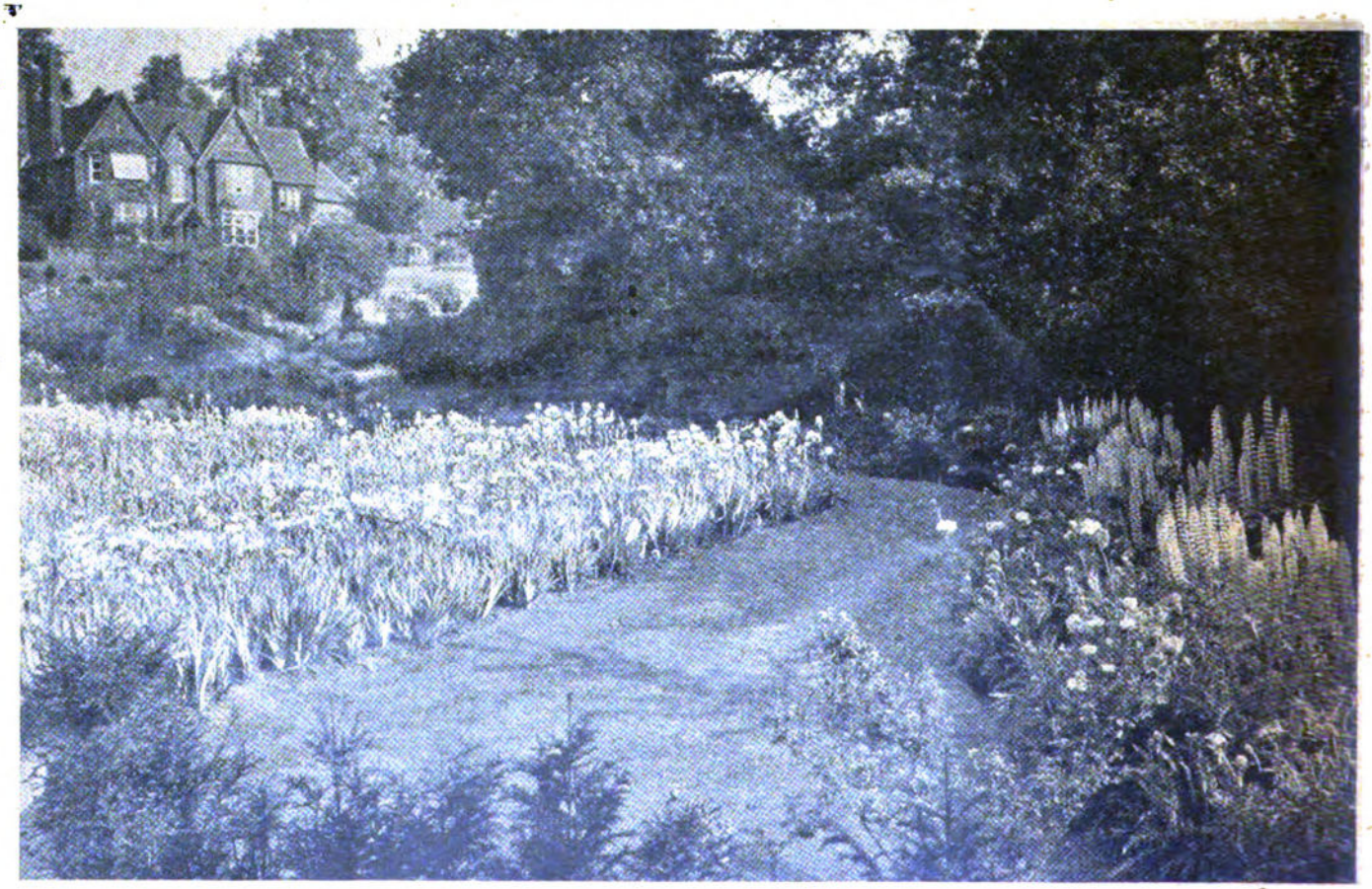
I find that young trees pruned straight into the system do well, older trees must be taken over three years to get them into the "Lorette" system, but we find a marked difference in the fruiting and growth of the different methods.

One thing especially in the system of cutting the bark close to a dormant eye, to get growth in espaliers, cordons, etc., is very successful. The time of pruning mentioned in the book on the subject must be retarded quite a fortnight in this district.

I should very much like to know if any of your readers have tried it and with what success.—H. IMPEY (gardener to Colonel D. C. Phillott), *Felsted*.

OUR PHOTOGRAPHIC COMPETITION

This week we publish several photographs showing various ways by which the surroundings of the house can be made attractive. Each photograph illustrates a different treatment, and shows how the owner in each case has attempted to create an arrangement that is not only uncommon, but which greatly adds to the appearance of the house itself. A garden should always be, as far as possible, in keeping with the house. The treatment of the immediate surroundings of the house often proves a problem to many amateurs. These illustrations, accompanied by personal notes, may serve to furnish ideas and assist those who desire to beautify the precincts of the house. Other readers have, no doubt, photographs of other arrangements which they have carried out successfully. These, if published, would serve to widen this field still further, and indicate other ways of creating an effectives urround. For this reason they will be welcomed for our competition pages.



This photograph illustrates a pleasant association of irises and lupins. A grassy border of irregular width separates the two borders and leads round the corner of the shrubbery and rockery up to the house. The lupin and poppy border which bounds the iris garden, and whose inmates flower at the same time as the irises, greatly adds to the display in early summer. This year it has been particularly fine, and it is a combination which many amateurs should try in their gardens for a colour display in June and early July. **The guinea photograph**, *sent in by* F. ROBINSON, *Uplands, Sandhurst, Berks.*

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This photograph shows the beginning of a dry wall, which is being built between two lawns of a different level. This part which is illustrated was made about sixteen months ago, and shows how well antirrhinums, nepeta, dianthus, and sedums will grow in such a position. Rather heavy loam with a very little leaf-mould with burnt rubbish incorporated was used as a binding between the stones. The display during July is most effective and greatly adds to the appearance of the house. MISS R. TOCEHURST, *Tenterden, Kent.* Award of 5s.

That quite an attractive garden can be made in a short time is shown by the accompanying illustration. The garden is the result of about a year and a half's work, and was carried out entirely by myself. The ground was of virgin grassland when I took possession. The soil is light with a gravelly subsoil. The lawns were raised from seed, while the majority of the flowers were also grown from seed. The total cost of making the garden was about £20, including the making of the paths R. C. RIDGWELL, *Hornchurch.* Award of 5s.

A porch, if suitably surrounded with plants, can be made to look most attractive. This photograph, taken last month, shows how many shrubs can be used effectively even in a small garden. A wistaria drapes the entrance to the house, while in the shrubbery border are Ceanothus Veitchii, hardy fuchsias and Veronica salicifolia. A tree peony can be seen in the foreground. The brick path with the narrow edging of rock plants gives a finish to the entrance. Altogether the effect is a most pleasing one. MISS A. DUNELL, *Norwich.* Award of 5s.

When I took possession of this small garden three years ago, the view here shown was a chicken run with the usual assortment of fowl-houses, wire fencing, etc., backed by a bare brick wall. The small rock garden has been built up with local stones picked up at odd times, and is now to me a pleasure to look on. In contains a good assortment of rock plants, saxifrages, sedums, campanulas and many others. At every season of the year there is something interesting to look at. It afforded me an immense amount of pleasure in the making of it. J. DURSTON, *Wellington, Som.* Award of 5s.

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THE FRUIT AND KITCHEN GARDEN

Vegetables in August.

VACANT ground should be planted with late broccoli, savoys, colewort, etc. Two fine varieties of winter cabbages to plant now are Rosette colewort and the Heartwell marrow. In late districts sowings may be made for the main crop of next year. Sowings of winter spinach and globe turnips may also be made in rows 12ins. to 16ins. apart and about 1½ins. to 2ins. deep. If the soil is very dry, it will be an advantage to water the bottom of the drills before covering the seed. Endive and lettuce may be sown broadcast in beds to be transplanted out when the seedlings are just large enough to handle.

Crops of shallots and garlic still in the ground should be taken up and dried before storing them. Sow radishes and small saladings for successional crops.

In northern districts onions should be sown early in the month for spring and summer use. Sow rather thicker than for spinach, lest the onion fly prove troublesome. Autumn-sown onions often succeed in gardens where spring sowings are generally a failure.

When digging potatoes it is a good plan (followed by many thrifty old gardeners) to select good seed-sized tubers and green them in the sun. I have heard it said that "greened" potatoes do not store so well as ungreened ones. But that is not quite true. It depends upon the method of storing. Greened tubers in bulk, as in clamp, pie or pit, are certainly more apt to "heat" and go bad than ungreened; but greened tubers put up in boxes and stored away out of reach of the winter's frost keep very well, and sprout vigorously in the springtime.

Earth up celery, etc., and keep the hoe at work among all growing vegetables. Water and mulch if required.—J. W.

How to Plant Cabbages.

IT is essential for the amateur to pay strict attention to a few important hints concerning the planting of cabbage and kindred plants. In the first instance, the plants should be a fair size when removed from the seedling bed. As far as possible, planting should be done in showery weather or immediately after a good rain.

The tap root of each plant should be nipped off as indicated in Fig. 1 of the accompanying illustrations at point marked X.

Mistakes are often made when actually planting the cabbage. For instance, it is quite a simple matter to leave the cabbage planted as indicated at (A), Fig. 2. This is incorrect, since an air space is formed into which probably more than half of the root projects. The mistake may easily be avoided if a hole is first made with a dibber, into which the plant is inserted, afterwards taking care to push the soil well round the root,

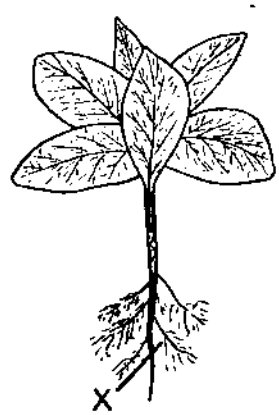

FIG. 1.—NIP OFF THE TAP ROOT WHEN PLANTING.

so that no air space is formed, as indicated by (A). The plants should be well bedded, as shown by the second view (Fig. 2), the air space being absent. In cases of considerable periods of dry weather, the plants should be set out as indicated by Fig. 3 (B). A recess is first made by scouring round with the dibber and planting then done in the usual way in the bottom of the recess, as clearly indicated at (B), Fig. 3. When planting in very wet soil, it is good policy to mould the stem as indicated at (C), Fig. 3.

By paying attention to details of this kind, the plants will make better progress than they otherwise would do.—W. J. SAUNDERS.

Selecting and Storing Seed Potatoes.

SEVERAL diseases cause the potato plant to produce small tubers, and, as these cannot be distinguished in bulk, I invariably advise the careful grower to select his seed when the crop is in growth, *i.e.*, to mark down a row or more of healthy plants from which he will eventually select his seed sets. Again, the latent energy of immature tubers is so universally recognised that it is a very good plan to "lift" the plants selected before the haulm dies down; in this way the small, hen's-egg sized tubers which he lays aside are immature. Needless to say, no scabbed seed should be saved; the best seed, in all cases, is the best guarantee of a good crop next year. Having obtained his requisite seed for next year plus a small margin in addition, the next thing is to "green" the tubers; they are left exposed to sun and air for three or four days to toughen the skin and to become green. At last they are ready for storage—in trays, in a special clamp, or in a box or bag within the ordinary clamp, but in all cases safe from frost.—CLYDESDALE.

When Summer Pruning.

THERE is one little point which should never be overlooked when the summer pruning of fruit trees is in progress. That is, to avoid the too great exposure of developing apples, pears, etc., to the light. Experience has shown that growing fruits are much better for being somewhat heavily shaded by leaves. To let a sudden flood of hot sunshine on the immature fruits will bring about a hardening of the skin, which will make it much more difficult for the specimen to expand to its proper size. When the fruits are fully grown the more complete the exposure the better, for, at this time, sunshine plays an important part in ripening and generally improving the flavour of the fruit. —L. B.

Stopping Outdoor Tomatoes.

AT the end of July and during the early days of August the cultivator should very closely examine his outdoor plants. A few trusses of fruits have set well on the more forward plants and, owing to the recent rains, the plants are making much growth of stem and leaf. Well balanced plants will not require any special attention, but all will need stopping forthwith. But the very strong specimens must have the tops pinched off immediately above the last truss of flowers formed. Owing to the strength of the plants the latter should ripen the resultant fruits very well. The more weakly plants should be stopped at the joint just above the last truss of fruits formed, because it will be enough for the strength of these plants to ripen the few fruits they bear. In each case, from the early part of August, every small side shoot should be

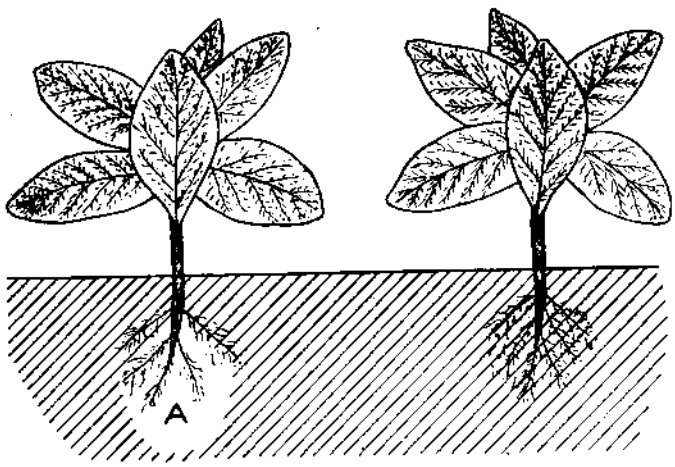

FIG. 2.—THE WRONG AND RIGHT WAY TO PLANT OUT CABBAGE.

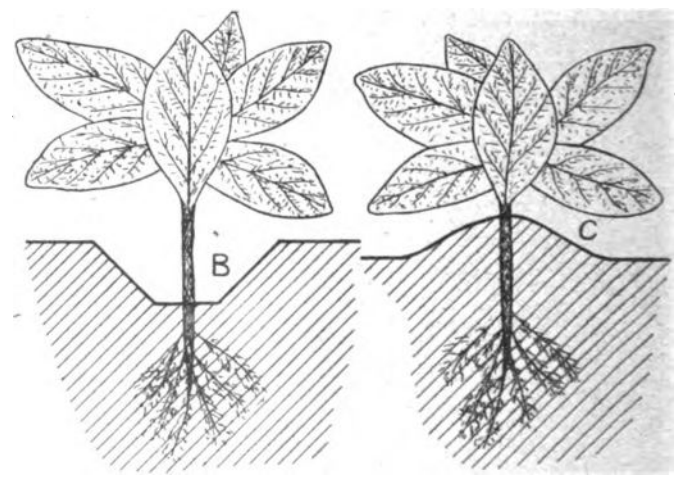

FIG. 3.—HOW TO TREAT THE PLANTS WHEN PLANTING IN DRY AND WET SOIL RESPECTIVELY.

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rubbed out weekly. If the plants are not stopped they will continue to grow and form huge heads of foliage and flowers, also tiny fruits; but none of the latter will ripen, and all this superfluous growth will have robbed the plants of much-needed nourishment and then have to be cut away and discarded. If the weather is dry and hot, manure water may be applied; if it is dull and wet, a little artificial manure will be the most beneficial.—CHRISTCHURCH.

Jerusalem and Globe Artichokes.

THESE are two valuable vegetables and are much neglected by cultivators generally during the summer months. The tubers of the former may be lifted and stored in the autumn, or they may be left in the ground. The succulent heads of the globe artichokes are gathered every summer regularly, but the plants are rarely helped in any form. How seldom do we see Jerusalem artichokes earthed-up like potatoes, yet this operation is beneficial and should be done now. Draw up soil to both sides of the row, then the plants will retain their basal leaves longer and the tubers will swell better. Weakly plants can be much benefited now by lightly forking in some rotted manure on both sides of the row prior to the general earthing-up. Globe artichokes are much strengthened by weekly applications of liquid manures and by surface dressings of rotted manure. Furthermore, as the leaves are of a spreading nature, ordinary rainwater rarely saturates the soil immediately under them—only the centre of the plant receives the water. Copious waterings from the can will help the plants to swell up the heads and the scales composing them will be more succulent.—GEO. GARNER.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Hints on Flower Show Table Decoration for Amateurs.

1.—Some time beforehand choose flowers and suitable bowls or vases with supports. Clean and polish.

2.—Mixed colours, if well chosen, are usually more attractive than single colour schemes.

3.—Gather young flowers overnight after sundown and put in cold water in dark cellar.

4.—If possible take flowers to show tent in water. Allow sufficient time to arrange (one hour).

5.—Aim at lightness and freshness. Table should be covered (*i.e.*, do not allow for places set).

Centre bowl should be higher than surrounding vases for best effect, though not high enough to obstruct view. Foliage light and in keeping with flowers.

Flower heads or foliage are usually more effective than a table centre on the compulsory white cloth.

6.—*Colour schemes.*—Shades of lemon, orange, red and russet. Orange and delphinium blue, etc.—E. H.

Damping Off of Herbaceous Calceolarias.

To avoid damping, which often occurs in the seedling stage, I find nothing better than shifting them several times when small, instead of pricking off singly as soon as the second pair of leaves appear, I prefer placing them in small pans in bunches, three or four together in rich soil with plenty of crushed bricks mixed with it until a little more root is made. A cool frame facing north is best for these subjects. Plunge the pans in sand or sawdust to conserve moisture. A tiny frame within a frame is ideal at this early stage of growth. The idea is to keep the seedlings on the move, without giving much water, as this tends to sour the soil. Once watered, then use the syringe.—F. W.

Tamarisk Cuttings.

I recently had occasion to propagate a quantity of tamarisk. This, by the way, is an excellent low shelter plant for exposed seaside positions. I first tried to strike cuttings from the young tips, but the result was not satisfactory and hopelessly slow. I therefore cut up some older stems, choosing those about a quarter of an inch in diameter, into three inch lengths. These were inserted in sandy potting soil and given a little bottom heat over the greenhouse pipes. Every one struck, and what is more, the subsequent growth was compact and dense.—H. D.

A Home-Made Incinerator.

A very cheap but effective incinerator for burning all kinds of garden refuse can be constructed from old pieces of fairly strong wire netting. Take a strip of netting 2ft. to 2ft. 6ins. wide and about 7ft. long and bend round to form a cylindrical shape, fastening the two ends together by overlapping slightly and threading through some fairly stout wire. Form a bottom with another piece of netting cut roughly to shape and fasten to the upper portion already constructed by threading wire through the adjoining edges. Stand the contrivance on four bricks and it is ready for use. After a fire has been started with paper and wood or dry rubbish, quite damp refuse will burn in this incinerator, particularly if a breezy day is chosen for the operation.—L. K.

Making Liquid Manure in Small Quantities.

Now that liquid manure is in demand as a stimulant for all fruit and flowers, those who are not fortunate enough to possess an old cask will welcome the following hint:—Remove rose from watering can. Three parts fill the can with stable manure (failing that, horse and/or cow dung) add a spadeful of weathered soot, fill up with water (rainwater preferred) and allow to stand a few days. Raise can on some structure and place brick at rear to tilt can forward, when the liquid will pour freely from the spout, free of all solid matter, and can be caught in a bucket. By continually adding water to the manure, several gallons of excellent liquid are obtained. The residue is useful for cucumber or marrow beds, mulches for fruit trees, currant bushes peas, etc.—F. B.

Treating Autumn-Sown Onions.

At this time of the year autumn-sown onions (Tripoli) are apt to run to seed, and in some instances more than 50 per cent. will bolt and be spoilt. A very simple and effective remedy is to take a sharp-pointed knife and pierce the stalk of every seed onion about half-way between the bulb and the green, 1½ins. long. The seed stalk will then grow through the cut and continue to grow on the side of the bulb without stopping the growth of the bulb. Every onion thus treated will bear comparison with any onion that has not gone to seed.—E. H.

SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with each enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Pruning Lilacs.

I have some lilacs which have been allowed to overgrow badly, and also some young lilacs 5–6ft. high. I wish to cut my old lilacs down to decent size, and to keep my young lilacs at their present height of 5–6ft. How do I prune, and when?—E. L., Wilmington.

We advise you to cut down the old main stems to within 3ft. to 4ft. of the ground at the end of March. It is too late this year to do anything other than shorten very long shoots and cut out thin, weak stems. Thin the new growths of the young bushes now if numerous, removing the weaker. In subsequent years shorten several of the longest branches immediately the flowers fade, to maintain the desired height.

Frost Damage to Apples.

Please tell me what is the matter with the enclosed apples, that are scored around the stem. They are Bramley Seedlings, and nearly all, not a large proportion, that I have found in this condition are ones of pairs of apples from the same eye. In January I sprayed with "Mortegg," and at the fall of the blossom with arsenate of lead, for Codlin moth, of which, so far, I have seen no trace—a most unusual thing, which I put to the credit of "Mortegg." I discovered this defect when thinning the fruit. Some of the leaves of my Bramleys are infested with fly, which has curled the foliage and turned them scarlet in colour. I expect I missed them when syringing in January.—J. T., Woodford.

The scars on the Bramley's Seedling fruits sent for our examination are not caused by any kind of pest or disease, but by frost. It is a very curious trouble and one seldom seen. It occurs this way: Rain or dew settles or is collected in the calyx—the eye or flower end—of the fruitlet when it is quite tiny. Frost comes, freezes the water or dew, and so injures the skin of the fruit where it has been frozen. Hence the scars, which, as the apple increases in size, become more marked and cracked, as in the sample sent. Bramley's Seedling apples, having a large, cup-shaped "eye" in the young stage, suffer more than do most varieties from this trouble, the "tight eyed" Codlins and the like seldom, if ever, suffering. It is not a trouble you can avoid, and, fortunately, it is only in seasons when late frosts are rather severe—as in this year—that damage of this kind may be anticipated.

Remedies for Rose Mildew.

Will you kindly let me know what is the matter with the enclosed rose leaves, and the remedy? They have, of course, a touch of mildew, but the other trouble seems more like blisters than the usual "black spot." Only a few of my rose trees at the bottom of my bed are in this condition. I have had a certain amount of black spot in my roses for the last year or two, developing later on in the season, and I have picked off all leaves and used Mr. Murrell's black spot remedy in the early spring; but I do not feel convinced that the present trouble is the same thing.—M. F., Townhope Hereford.

Many of the spots on the rose foliage are due to an early attack of mildew. Others are due to a fungus which causes "leaf scorch." There are two remedies which can be tried, which are as follows: (1) Spray the foliage

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with liver of sulphur, ½oz., soft soap 1 oz., and water 1 gallon, in spring when the leaves are half-grown, and repeat several times at intervals of ten to fourteen days. (2) Remove all diseased leaves remaining on the bushes in autumn, and collect all leaves which have fallen to the ground and burn.

Roses for Arches.

Will you kindly advise me as to the best rose trees for an arch over a gateway, and also three rustic arches 4ft. wide in the garden? The situation is rather exposed on the south coast, but sunny, and the soil is good. They must be strong growers. Is it better to have the same kind on each side of the arch, or two kinds to mix?—C. E. L., Walton-on-Thames.

The most suitable roses for the arch over gateway are as follows: American Pillar, Paul's Scarlet Climber, Excelsa, Albéric Barbier. For the arches in the garden we should advise you to try Emily Gray, Jersey Beauty and Hiawatha. We should not advise you to mix the varieties.

Propagating Clematis.

Will you kindly tell me the correct way to propagate clematis—the hardy climbing species? I wish to increase the stock of an old plant of a very unusual colour.—P. L., Woolpit, Suffolk.

The most successful way of propagating clematis is by taking what are known as internodal cuttings—that is, cuttings half-way between two joints. One cutting should contain at least two nodes, and they may be inserted in a sand frame with mild bottom heat, either next month or in August. After rooting, the plants can be placed in pots and grown on there until required for permanent planting. When planting out clematis it is inadvisable to spread out the roots; they are best planted in a ball.

Insect Pests on Pine Trees.

Could you kindly tell me what is attacking young shoots of Pinus sylvestris and P. austriaca (enclosed), and a remedy? Very many trees are attacked out of a plantation made in December, 1925. Trees 2ft. high, many weakened by the planting. Pest now noticed on the young shoots after a long spell of dry weather.—I. C., Bath.

The pine shoots sent for our examination are attacked by the larvæ of the pine shoot tortrix moth, Retinia buoliana. The only remedy is to pick off the injured shoots, in which will be found encased larvæ and pupæ, about the middle of June, before the moths emerge, and burn them. This has the effect of diminishing attack the following year.

Clematis montana which does not Flower.

Could you give me advice about my plant of Clematis montana. For the last two or three years the buds have all been ready to burst open when suddenly they have turned brown and dropped off. It is most disappointing as the clematis is sheltered and faces south. Previously it used to be a mass of flowers.—E. S. G., Ilkley.

It is possible that your plant of Clematis montana has rather impoverished the soil and needs a liberal mulching with manure. Climbers against walls often suffer for want of water. Unless the wind blows direct on to the plants, very little rain will reach within a foot of the stems of the plants. Water freely and also give liquid manure when the mulch is exhausted.

Unhealthy Gooseberry Bushes.

What is the nature of and cure for the disease which has attacked my gooseberry bushes? They were planted in November, 1925, and have shown the brown marks on leaves and fruit each year, and make but little weak new growth.—H. E. B., Dawlish.

There is no disease attacking the berries or leaves of your gooseberry bushes. The browning of the leaves and the berries is caused by a shortage of either potash or nitrogen in the soil, perhaps both. You will find that a spring application of sulphate of potash and a good manure mulch applied in late March each year will do much to eradicate this discoloration, though it may be a season or two of continued treatment before the soil is sufficiently improved. Of course, some varieties of gooseberries normally have the red blotching or streaking on the berries just as in the sample sent, though the small, wizened berries are typical of potash-starved bushes. Feed the bushes well—if only with the annual manure mulch—and we feel sure the trouble will disappear in a season or so.

Treatment of Apple Affected with "Scorch."

I am enclosing some leaves from a Claygate Pearmain apple tree (seven years old). Could you tell me exactly what is affecting them and, if possible, suggest a remedy, immediate or in the future? The trouble has developed within the last few days, and many of the leaves are now affected. The tree, however, looks otherwise healthy, and is bearing fruit fairly well for its age.—H. B., Newton Abbot.

There is nothing much wrong with the apple leaves you send. The brown blotching and discoloured patches are what is commonly called "scorch," probably due to lack of potash in the soil. You will find that a spring application of sulphate of potash will do much to remedy this failing. You should also lay a good mulch of stable or farmyard manure on the soil over the tree roots in spring each year, and if this has not been done it could very well go on now. It will certainly promote more healthy foliage. There is just a trace of the common apple mildew on the leaves. It is little use spraying to control this trouble—at any rate, at this stage—and the best plan is to cut off and burn all shoot tips thickly coated with the white powdery mildew and prune the trees hard in winter, so that diseased wood is removed and burned. If these points are attended to you should have little further trouble with the tree.

Lilacs from Cuttings.

I wish to obtain some lilac bushes from one I have in London to take down to Sussex. The bloom is a regular cone shape, and the leaf slightly larger than the ordinary lilac. Would it be possible to strike from slips, or how would you recommend this being done?—E. G. T., North London.

Lilac cuttings should be inserted early in July in pots of sandy soil. They should be placed in a heated propagating case or covered with a bell glass, shaded from the sun and kept moist.

Transplanting Anchusa and Pruning Roses.

I should be glad if you would give me information on the following points: (1) Can you divide anchusas, and, if so, in what manner and when? Can they be propagated from cuttings? (2) How should one prune a climbing hybrid tea rose such as Lady Waterlow and a Wichuraiana such as Dr. Van Fleet?—W. M., Bromley.

The anchusa may be divided in the autumn. Propagation by cuttings is not very satisfactory, nor is it easy of accomplishment. A climbing hybrid tea rose is pruned by removing, entirely, all very weakly shoots and any old wood over two years. Weaker shoots should be pruned back to two eyes, stronger ones to four. Prune, in your district, early in April. Wichuraiana roses should have very weakly shoots entirely cut out and the unripe ends of the others—those retained—cut off.

A Clematis for a Greenhouse.

I should be much obliged if you will kindly inform me if there is a species of clematis suitable for growing in a cool greenhouse under a grape vine.—A. H., Ealing.

A suitable plant for the position you mention is Clematis Armandii.

Trapping Moles.

Can you tell me what is the best way to deal with moles? My garden is a new one, surrounded outside my fence by open fields. I am uncertain whether the moles come in from outside, or whether they are actually in my garden. Anyway, they are making a mess of the borders with their tunnelling. I read that calcium carbide placed in the runs got rid of them, but this measure has had no effect, though I opened up several runs and placed the carbide in position.—S. L., Blackpool.

Undoubtedly the best way to get rid of moles is by trapping them. The traps should not be placed in the vicinity of the mounds, but the small runs should be traced back as far as possible to what you consider to be the main run, and the traps placed there. The main run can generally be detected by the ground being as hard as cement. This can be felt by pushing a thin wire into the soil. Probably you will not be able to detect this yourself, but an expert mole catcher should be able to do so. The idea of placing traps in the main runs is that a number of moles would be caught in this way, while in the small runs only one or two of the animals would be caught. Wooden traps are usual, but there are now some metal traps on the market, obtainable from horticultural sundriesmen advertising in this paper.

Treatment of Asparagus Beds.

Our asparagus was not at all a success, either this year or last. What is the best dressing for the beds, now that we have finished cutting? When finishing up beds for winter we made the earth fine and then placed a thick layer of horse manure on top. My present man reverses the order, and puts a thick layer of manure and earth on top of this. It seems to me that on this heavy land the beds are never fine, as manure is left on, even when supposed to be taken off before growth is starting in spring. I shall be much obliged for your advice.—K. M., Herts.

As your soil is naturally heavy, the best course to take would be to apply once a week until the end of August a good soaking of liquid manure, to feed and strengthen the growing plants. When the ripe "grass" has been cleared away, apply a light dressing of littery manure with a sprinkling of fine soil on the top simply to keep the manure in place; the litter is to keep the roots of the plants secure from frost, and can be removed in due course.

Quick-Growing Creeper for Trellis-Work.

I have some trellis-work facing east, and also some in a more sheltered position. I want to train something up them, and should be glad if you could give me a little advice. The growth is intended in each case to hide a door, and I am wishful to plant something which would bear foliage during the winter. As I am anxious that the doors may be hidden as soon as possible, a quick-growing creeper would be preferable, if you can suggest one.—J. B., Kendal.

For the trellis-work facing east, we would suggest that you plant Lonicera Halliana, a fast-growing evergreen honeysuckle. In the more sheltered position, Escallonia langleyensis would be a useful and attractive evergreen with rosy red blossoms.

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NEW SEEDLING ROSES

IT was hoped that the special show of new roses which was held by the National Rose Society at the Horticultural Hall on Friday, July 15th last, would bring forth some new seedling roses of noteworthy perfume. It will be remembered that last year the *Daily Mail* gave the Society a valuable gold cup to be awarded to the raiser of the best new fragrant rose, and that the judges considered none of the novelties sent in competition was of sufficient merit to justify the award of the cup.

The offer of the cup was repeated for the Show under notice and the conditions were altered slightly. The chief condition was fragrance. The selected rose might be of any class, provided it was raised in Great Britain and Ireland, but it must have fragrance. As we all know, fragrance is an elusive quality and, to paraphrase, "every nose forms its own fragrance." Unanimity on such a point could scarcely be expected, but it was interesting to find that outside the ranks of the official judges, the majority of those who may be considered competent to form a reliable opinion were agreed that they would have selected several others of the new roses in preference to the judges' choice.

Altogether there were nearly a hundred new roses to be seen, and it is safe to state that never before have so many new seedlings been gathered together. Over sixty of them, shown under numbers, were in competition for the gold cup and all were eligible for the Society's medal awards. As may be expected, there were roses of all classes, from the ideal perfectly formed hybrid tea rose to the small flowered cluster variety, with single roses, coarse hybrid teas, of cabbage shape and almost cabbage size, and shapeless roses in between. Many had a pleasant perfume that was readily perceived, while in others it required imagination to attribute that precious gift of fragrance to them.

While we do not agree with the findings of the many judges appointed by the Council, and we suspect they did not agree among themselves, we appreciate that the award was the result of a prolonged consideration of all the possible claimants, to the honour and the gold cup, which was awarded to a crimson hybrid tea variety which we conclude is to be known as the "*Daily Mail* New Scented Rose." It was raised by Messrs. W. E. B. Archer and Daughter, whose charming single pink rose, Dainty Bess, was awarded a gold medal at the autumn rose show of two years ago. The new rose is stated to have been raised from Château de Clos Vougeot and K. of K. It is somewhat like the former variety, but very like Etoile d'Hollande, which, in our opinion, is a more fragrant rose. Of the scented roses, our choice would have been Portadown Crimson, a well formed crimson hybrid tea, heavily flushed with maroon, shown by Messrs. S. McGredy and Son. No. 25, shown by Messrs. B. R. Cant and Sons, was another fragrant rose. It is of rather more than average size, goblet shape and stippled with bright pink. No. 37, a hybrid musk rose, shown by Mr. J. H. Pemberton, is what is called "old-fashioned" in shape and bears plentiful clusters of flattish, pink flowers of delicious fragrance. No. 38, a pale lemon hybrid tea of good form and shown by Messrs. Alex Dickson and Sons, was pleasantly fragrant. No. 58 had a most refreshing perfume. It is a rounder, compact hybrid tea of pale flesh pink colour, deepening in the heart of the bloom, and was shown by Messrs. G. Longley and Sons.

The following is the list of new varieties which received award :—

MARGARET ANNE BAXTER.—This we considered to be the best new rose in the Show. It is a perfectly formed hybrid tea variety and appears to be suitable for all purposes. The flowers are borne on long, clean stems, the foliage is good and the plant which was shown indicates a robust and free habit. The substantial petals are white and there is a suggestion of pale flesh pink in the heart of the bloom. Gold medal. Shown by Messrs. T. Smith and Sons.

FLAMINGO.—A double hybrid tea rose of glowing rosy cerise colour and very beautiful in the bud stage, but poor when mature. It is inferior to Lady Inchiquin, which variety it resembles to a certain extent. Gold medal. Shown by Messrs. Alex Dickson and Sons.

FORTUNA.—A large single hybrid musk rose of delicious fragrance. The rounded flowers are of bright, light rose colour when first opened and pass to dull rose with age. It is free flowering, dwarf and of good habit. Gold medal. Shown by Mr. J. H. Pemberton.

Daily Mail NEW SCENTED ROSE.—A medium sized double hybrid tea variety of velvety crimson colour flushed with maroon. Similar to Etoile d'Hollande, but not quite so fragrant. Gold medal and gold cup. Shown by Messrs. W. E. B. Archer and Daughter.

FRANK READER.—A handsome fully double hybrid tea variety of good form, large size and pale creamy yellow colour, deeper at the base of the petals and tinged with apricot at the heart. It received the R.H.S. award of merit on July 13th, 1926. Certificate of merit. Shown by Messrs. D. Prior and Son.

GEORGE HOWARTH.—The recognition of the merits of this glowing rose, flushed scarlet hybrid tea is somewhat belated. We recall admiring it at the autumn show of last year and previously. The flowers are of medium size, freely produced, and there is a touch of gold at the base of the petals. Certificate of merit. Shown by Messrs. Bees, Limited.

PORTADOWN CRIMSON.—As we have already remarked we consider this the most fragrant new rose in the Show. It is a medium sized rich crimson hybrid tea, flushed with maroon. Certificate of merit. Shown by Messrs. S. McGredy and Son.

LADY LESLIE.—Like Flamingo, this variety is at its best in the earlier stages and then it is very handsome. The well formed blooms have broad substantial rosy cerise petals, but the colour of the outer petals all too soon becomes tinged with magenta. There is a curious short vertical line of gold on the middle of each petal at the tip. Certificate of merit. Shown by Messrs. S. McGredy and Son.

COMPETITIVE CLASSES.

The various classes in which any roses might be displayed were a very attractive feature of the Show. The groups arranged on separate tables were all of great merit, and the quality of the many flowers thus displayed was far higher than might have been expected in view of the recent inclement weather. The first prize was won by Messrs. Alex Dickson and Sons, with a particularly handsome group which was well finished. They included beautiful baskets of Lady Inchiquin, Betty Uprichard and Sunstar, supported by adjoining pillars of Lady Helen Magloona, Lady Worthington Evans and Mrs. Henry Morse. Messrs. B. R. Cant and Sons were a good second in this important class and they had a gorgeous centrepiece of Betty Uprichard and pillars of Los Angeles, Margaret Dickson Hamill, Mme. Butterfly and Mrs. Henry Morse. In his third prize exhibit, Mr. Elisha J. Hicks displayed lovely blooms of Betty Uprichard, Lady Inchiquin, Mrs. Henry Stevens and many other good roses. Mr. J. H. Pemberton and Dowtry's Roses Co., both set up admirable displays of roses.

The competition in the above class was outdone in that for collections arranged on tabling set against the wall, for no fewer than eleven firms set up collections and these made a gorgeous display. Messrs. Chaplin Bros. were first with a generous arrangement of Emma Wright, in a large basket, pillars of Mrs. Herbert Nash, Mrs. Henry Bowles and Lady Inchiquin, while in front there was a charming vase of Etoile d'Hollande. Mr. George Prince was second, and he showed excellent masses of Angele Pernet, Hortulanus Budde, K. of K., I. Zingari and Lady Roundway. The third prize was awarded to Messrs. R. Harkness and Co., for arches of K. of K., Mabel Morse and Mrs. Henry Morse, spanning blooms of other good sorts. Mr. Ernest Hicks, who was fourth, showed fine blooms of Golden Emblem, Padre, Lady Inchiquin and Frau Karl Druschki.

But good as were these roses in the groups, it was the exhibition blooms in boxes that reached the high-water mark of excellence at the Show. Messrs. Frank Cant and Co. had been winning honours at different shows with good exhibition blooms, but we question if any were so superb as those which won them the first prize on the present occasion. Their twenty-four distinct blooms were of even quality, fresh, well formed and of good size. The chief sorts were Mrs. G. Norwood, Mildred Grant, Mrs. G. Marriott, Courage, George Dickson and Gladys Holland. Messrs. D. Prior and Son were second with a good collection, which included specimens of Marcia Stanhope, J. G. Glassford, Duchess of Normandy and Augustus Hartmann.

The amateurs also earned big honours with the quality of their blooms, although there were only two exhibits of twelve distinct varieties in the open class. Mr. W. E. Moore, Ickenham, was first with a superb board of George Dickson, Mrs. Henry Bowles, Red Star, Louise Crette, Mrs. Charles Lamplough and other good sorts. Mr. H. Robins, Margretting, was second, and he included Lady Inchiquin, Mrs. Herbert Nash and Frau Karl Druschki of good quality. The best six distinct varieties were staged by Mr. L. F. Roberts, who had excellent specimens, including Mme. Jules Gravereaux, George Dickson and Mrs. C. Lamplough.

New Plants at Vincent Square.

THE Floral Committee of the Royal Horticultural Society gave awards to an unusually large number of plants on July 19th, 1927, and many of them were quite old inhabitants of our gardens.

CLETHRA DELAVAYI.—This is an exceedingly handsome Chinese shrub. The stems of the young shoots and the stalks of the flowers are reddish. The broadly lanceolate leaves are crinkled and dark green above and glaucous beneath. The round white flowers are much larger than those of any other species, and are densely set on terminal racemes. First-class certificate. Shown by Mr. G. W. E. Loder, Hawkhurst Place, Ardingley.

CARMICHELIA AUSTRALIS.—A half-hardy New Zealand shrub which has elegant pinnate leaves and an abundance of pale pink flowers. Award of merit. Shown by Mr. G. W. E. Loder.

FEIJOA SELLOWIANA.—This is a handsome wall shrub for sunny aspects in the southern and western counties. The under sides of the leaves are silvery and the flowers are myrtle-like, but much larger, and the fleshy buff-coloured segments recurve, showing the bright rosy purple insides and large cluster of filaments. When in full bloom it is a very striking shrub. Award of merit. Shown by Mr. Ingram Whitaker, Pylewell Park, Lymington.

GAULTHERIA (?) FARRER 1191.—The correct name of this attractive little shrub has to be determined. It is a spreading little bush furnished with small, alternate, ovate shining leaves which are minutely toothed, and bears relatively large berry-like blue flowers.

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The large fleshy calyces curve inwards and have green centres. Award of merit. Shown by Mr. Lionel de Rothschild, Exbury, Hants.

HYMENOCALLIS SPECIOSA.—Formerly this fragrant white lily was very common in our stove houses and was known as Pancratium speciosum; but it is rarely grown now. Award of merit. Shown by Sir William Lawrence, Bt., Burford, Dorking.

LOBELIA TUPA.—This half-hardy herbaceous plant was introduced over a hundred years ago, when it was considered to be of a poisonous nature, but we have no record of any justification for this. It is a robust, handsome plant, bearing large leaves and spikes of scarlet flowers. Award of merit. Shown by Mr. G. W. E. Loder.

LOMATIA FERRUGINEA.—This Chilian evergreen is frequently included in collections of shrubs shown at Vincent Square and at Chelsea, but rarely in flower. But it flowers regularly and freely in several Irish gardens, though the short racemes of flower are mostly hidden by the luxuriance of the handsome pinnate leaves. The branches now sent show the flowers more than usual. Their structure is interesting and unusual. The disposition of the long curved pistil makes the expanded flower appear to have lost one segment, and the anthers are set in a little pouch at the tip of one floral segment. The colour is golden buff on the outside and bright scarlet within. Award of merit. Shown by Mr. H. Armytage Moore, Knowallane, Saintfield, County Down.

MITRARIA COCCINEA.—This is quite a common shrub in the warmer parts of the country and is sometimes grown as an informal hedge, when, in flower, it is especially attractive. It bears small delicate green leaves and long-stalked, bright crimson, tubular flowers. Award of merit. Shown by Mr. G. W. E. Loder.

MARANTA PORTEANA VARIEGATA. — This white and green leaved sport from M. Porteana has beautiful purple colouring on the under sides of the large leaves. It requires tropical conditions. Award of merit. Shown by Messrs. L. R. Russell, Limited.

SABBATIA CAMPESTRIS.—This is a showy American annual which becomes about 18ins. high and bears bright pink, star-like flowers which have deep yellow centres. Award of merit. Shown by Mr. T. Hay, Hyde Park, London.

TECOMA JASMINOIDES.—The award is subject to the verification of the name, which seems to be very necessary, for the flowers have much more the appearance of a thunbergia than a tecoma. It has shining pinnate leaves with the stems grooved, and bears large trusses of stippled pink flowers, which have dark crimson hairy throats. Award of merit. Shown by Mr. G. W. E. Loder.

SOCIETY NOTES

Society Meetings.

August 1.—King's Lynn Horticultural Society's Exhibition; Romsey Gardeners' Association meets; Ticehurst Flower Show; Wadhurst Flower Show, Pershore Flower Show, Slapton Horticultural Society's Show.

August 2.—Royal Caledonian Horticultural Society meets.

August 3.—Royal Horticultural Society's Show (Plums, Peaches and Early Apples); Scottish National Sweet Pea, Rose and Carnation Society's Exhibition (two days); Northampton Horticultural Society's Exhibition (two days); Royal Horticultural Society of Ireland's Exhibition (three days).

August 4.—Harrogate Agricultural Society's Exhibition (three days).

August 5.—Accrington Chrysanthemum Society meets.

August 6.—Blackburn Horticultural Society meets.

August 7.—Wakefield and North of England Tulip Society meets.

August 8.—United Horticultural Benevolent and Provident Society meets.

August 9.—Jersey Gardeners' Society meets.

August 10.—Taunton Deane Horticultural Society's Exhibition, in conjunction with the National Gladiolus Society's Exhibition (two days); Sheffield Chrysanthemum Society meets; Stonegate Flower Show; East Anglian Horticultural Society's Exhibition.

August 13.—Cannock and District Horticultural Show (two days); Highfields and District Show.

August 15.—Harrogate Horticultural Association meets.

August 16.—Royal Horticultural Society's Show, Gladioli (Foremarke Cup); Clay Cross Horticultural Society's Exhibition; Edmonton Horticultural Association's Show (three days).

August 17.—Bangor Horticultural Society's Exhibition (two days); Shropshire Horticultural Society's Exhibition (two days), Shrewsbury; North Western District Post Employees Horticultural Society's Show.

August 18.—Royal Horticultural Society of Aberdeen's Exhibition (three days).

August 19.—Montrose Horticultural Society's Exhibition (two days).

August 20.—L.M.S. Horticultural Society's Exhibition; Charfield Flower Show; Newton Heath Allotments Society's Show.

August 24.—Southport Flower Show (three days); Littlehampton Horticultural Society's Exhibition; British Carnation Society's Show at Southport.

August 25.—Dundee Horticultural Society's Exhibition (three days); Paisley Floral Society meets; Ruthin Horticultural Society's Show.

August 28.—Eppleton Colliery Welfare Flower Show.

August 29.—Royal English Arboricultural Society meets (five days).

August 30.—Royal Horticultural Society's Show.

A Cup for Gladioli.

THE annual competition for the Foremarke Challenge Cup for Gladioli will take place in 1927 at the Royal Horticultural Society's Fortnightly Show at Vincent Square, Westminster, on August 16th. The cup is offered for the best twenty spikes of named gladioli in not fewer than ten varieties. Not more than two spikes of any one variety may be shown. The competition is open to both amateur and trade growers. Entry forms may be had on application to the Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.1, by whom the completed forms must be received not later than by the first post on Wednesday, August 10th, 1927.

Wolverhampton Flower Show.

THE torrential rain on the day before the Show, followed by a renewal of thunder and rain on the opening morning, caused whole areas to be under water. In the marquees the mud was inches thick, boards had to be laid throughout, and as these were narrow some inconvenience was caused. The flowers, however, were not spoilt, and altogether a very fine display had been arranged. The groups of herbaceous plants and ornamental foliage in the open classes were very fine indeed. Messrs. Webb had a well staged exhibit of sweet peas in great variety, with groups of stocks, fuchsias, lilies, etc. We noticed Sweet Pea Flora All Purple, which was uncommonly good. Messrs. Baker had a formal herbaceous garden in which the plants and flowers were well and tastefully arranged. Among them being Delphinium Anne Baker, a new variety which gained an award of merit at the Royal Show at Newport last week. Messrs. Carters were showing many of their well known varieties of vegetables. Their dwarf broad bean Royal Dwarf Fan was noticeable and should become popular as a good early bean. Their new cauliflower Quality was also very good, with a fine firm flower. Messrs. Bees had a wonderful collection of delphiniums and herbaceous plants, prominent among them being their D. Cambria. Mr. Herbert was showing his new Pink Princess Elizabeth, but his Model seems to us hard to beat. Among the amateurs Major S. S. Thompson's begonias were one of the best exhibits in the Show. Lord Leconfield's collection of vegetables were very well grown and clean.

AWARDS TO BEARDED IRISES

THE great collection of bearded irises which have been under trial at Wisley for several years have been judged, and the following awards made by the Council of the Royal Horticultural Society on the report of the Joint Committee of the Royal Horticultural Society and the Iris Society. A full report of the trials will appear in the Journal of the Royal Horticultural Society.

Many varieties in the trial are still awaiting judgment, and the following is to be regarded as a preliminary list.

AWARDS OF MERIT.

White or Nearly White Varieties.—Istria, a collected form from Mr. W. R. Dykes, sent by the Orpington Nurseries, Kent; White Knight, raised by Mr. Saunders and sent by the Orpington Nurseries, Kent; Mystic, sent by the Orpington Nurseries, Kent.

White Standards, Coloured Falls.—Rhein Nixe, raised by Messrs. Goos and Koenemann, sent by Messrs. Barr of Covent Garden, Perry of Enfield and Waterer and Crisp of Bagshot.

Purple Bicolors.—Lord of June, raised by Mr. G. Yeld, sent by Messrs. Lowe and Gibson of Hayward's Heath; Leonato, raised by Sir Arthur Hort, sent by Messrs. Wallace of Tunbridge Wells; Souvenir de Mme. Gaudichau, raised by Messrs. Millet, sent by Messrs. Wallace; Titan, raised by Mr. A. J. Bliss, sent by Mr. P. L. Pilkington; Imperator, raised and sent by Messrs. Cayeux and Le Clerc of Paris; Kharput, sent by Messrs. Barr, and Perry.

Purple Selfs.—Corrida, raised by M. Millet, sent by Messrs. Wallace; Mars, sent by Messrs. Barr; Kochii, sent by Messrs. R. Veitch, and Barr; Kurdistan, raised by Mr. W. R. Dykes, sent by Messrs. Wallace.

Standards of Shot Shades.—Mary Gibson, raised and sent by Mr. A. Perry; Alcazar, raised by Messrs. Vilmorin and sent by Messrs. Waterer and Crisp; Tenebrae, sent by the Orpington Nurseries; Troades, raised and sent by Mr. A. Perry; Billia, raised and sent by Mr. A. Perry; Cardinal, raised by Mr. A. J. Bliss and sent by Messrs. Wallace; Prosper Laugier, raised by M. Vardier, sent by Messrs. Barr; Ambassadeur, raised by Messrs. Vilmorin, sent by Messrs. Vilmorin, Andrieux of Paris.

Varieties with Yellow Standards and Coloured Falls.—Marsh Marigold, raised by Mr. A. J. Bliss, sent by Messrs. Lowe and Gibson; Fro, raised by Messrs. Goos and Koenemann, sent by Messrs. Waterer and Crisp.

Yellow Varieties.—Amber, raised and sent by the late Mr. W. R. Dykes of Worplesdon.

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HYACINTHS FOR ALL (see page 510).

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THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2905 Saturday, August 6th, 1927 Price TWOPENCE

THE bulb planting season is fast approaching and preparations must be made this month by obtaining and planting all bulbs that are required for furnishing a decorative display either in the home or in the greenhouse. Outside plantings may be left until the end of this month and during September. Bulbs for forcing must be planted as soon as possible now to secure as early flowering as possible Among the many bulbous plants which are suited for placing in pots or bowls there is none more decorative or more popular than the hyacinth. With its stately habit noble flower spikes and wide colour range, it is a flower to be grown by all. Its culture is simple Even a beginner may succeed in growing fine plants at his first attempt Good bulbs, early planting, combined with a little attention immediately after planting are all that is necessary Cultural hints will be found given in an article on these attractive plants in this issue.

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THE GARDEN

VOL. XCI.—No. 2905. AUGUST 6, 1927. PRICE TWOPENCE.

SEASONABLE WORK IN THE ROCK GARDEN

THE rock garden needs constant attention during the summer and autumn months of the year if it is to look well. The summer is the season of growth, and with the large variety of plants grown in a rockery it is very necessary that those which make rampant or excessive growth should not be allowed to swamp the slower-growing subjects. Where plants are growing vigorously and occupying more than their allotted space they should be carefully cut back. Straggly plants should also be trimmed and bushy plants thinned out.

It will be necessary to pay particular attention to watering during the hot, dry summer days. Owing to the artificial nature of the rockery, the drainage is good and the plants will tend to suffer from lack of moisture during the summer, especially as their natural habitat is one of greater altitude and, consequently, cooler conditions. The sprinkler should be set going during the evenings and, if very dry, during the early morning; or, if a sprinkler is not available, a watering through a fine rosed watering-can will do.

During the summer and early autumn the propagation of a number of the alpine plants on the rockery by means of cuttings can be effected. The best place to use as a propagating pit is a cold frame. The frame should be well drained and some good garden soil placed in to a depth of, say, 6ins., and on the top of this a layer of silver sand 2ins. deep.

As an alternative a bell glass may be used, and, if desirable, the cuttings can be placed round the edges of pots over which the bell glass is placed. Wherever possible, the cuttings should be taken with a slight heel and should be growths of 1–2ins. in length, according to the subject.

There are quite a large number of rockery plants which may be treated this way. Among them are arabis, Campanula muralis, C. pulla, C. Raineri, etc.; Iberis sempervirens, I. correæfolia, onosmas, Phlox subulata, P. divaricata, aubrietia, Androsace lanuginosa, Lithospermum prostratum, L. p. Heavenly Blue (in autumn well ripened shoots), saxifragas (encrusted and allied sorts), Veronica saxatilis, ericas, Sedum Ewersii, zauchneria, Cherianthus alpinus, Viola gracilis, V. cornuta, helianthemum (in autumn, semi-woody twigs), etc. When aubrietias have finished flowering they may be cut over and a lot of new growths suitable for cuttings will appear.

The cuttings should be placed firmly in rows in the frame and well watered in; the frame being kept close for a few days and shaded in sunny weather. When the cuttings have started to root, air should be admitted, and in a week or so after rooting they may be transferred to thumb pots for growing on. Some subjects take much longer to root than others, so that, if there are not too many plants to be propagated, a bell glass has many inducements to offer as a propagating place, since rooted cuttings in pots can be removed with but little interference to the remaining cuttings.

This Week's Work

For Gardens in the South and Midlands.

Pot up Roman hyacinths for forcing.

Place grease bands round fruit trees.

Remove spent flowers from bedding plants in order to prolong the display of bloom.

Thin late-sown turnips and prick out lettuces.

Cut out old fruiting canes from raspberries.

Start potting up lachenalias and freesias.

Strike lavender from cuttings.

Water strawberry runners regularly.

Clip evergreen hedges.

London Gardens Exhibition.

THE London Gardens Guild, in conjunction with the *Daily Express*, is again organising an exhibition of flowers at the Temple Gardens, Victoria Embankment—lent by kind permission of the Honourable Society of Benchers of the Inner Temple—on September 3rd, 4th and 5th. This will afford an opportunity for Londoners to see some of the beautiful flowers grown in the gardens entered for the recent All-London Gardens Championships (in which there were over 12,000 entries), as there is a special section devoted to the prize-winners in that competition.

The exhibition is being run on a much larger scale this year, and a very comprehensive schedule has been compiled, which includes sections for individual, as well as corporate displays by local garden societies, of London-grown flowers. This is one of the rare occasions when those outside the professional status are afforded the chance to exhibit at a great public show.

In addition to these exhibits, there will be displays from municipal authorities, and famous firms in the gardening industry will also be showing, including trade growers who specialise in plants which thrive particularly well in the London area. There will also be replicas of the prize-winning gardens.

Large gold, silver and bronze medals will be awarded for the best exhibits in each of the sections, and for each of the championship classes.

Schedules and entry forms are now available, and can be had on application to the Organising Secretary, London Gardens Guild, 124, Walworth Road, London, S.E.17

Rhododendron Association.

AT the first Council meeting of the new Rhododendron Association, the following were elected Honorary Life Members of the Association: Mr. J. C. Williams, Professor W. Wright Smith, Mr. W. J. Bean, Mr. E. H. Wilson, Mr. George Forrest, Captain F. Kingdon Ward. It was further decided that any persons joining the Association prior to December 31st, 1927, should be known as Founder Members.

We are indebted to Messrs. Sutton and Sons, Reading, for the use of the illustration which appears on our front cover this week.—ED.

This Week's Work

For Gardens in Scotland and the North.

Begin planting freesias in pots for frame culture.

Remove spent blooms from biennials and shrubs.

Pot up cinerarias and herbaceous calceolarias.

Clean up strawberry beds after cropping is over.

Begin budding roses.

Prick out late sown biennials.

Prepare traps for earwigs on dahlia plants.

Continue spraying roses for green fly mildew, etc.

Remove old raspberry canes.

Plant vacant ground with winter vegetables.

Take cuttings of geraniums, fuchsias, and hydrangeas.

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HYACINTHS FOR ALL

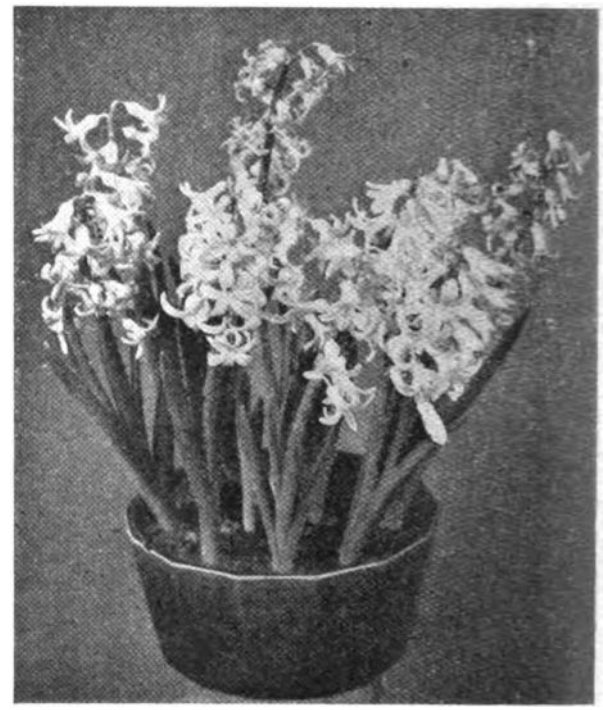
Now that the bulb planting season is approaching, preparations should be made for planting all bulbs for house decoration in winter and early spring. The hyacinth is one of the best for this purpose, and if the hints given in this article are followed, amateurs will find their trouble and expense well repaid by a brilliant show of colour and bloom indoors in the dull months of the year.

THE very name must remind each and every reader of some beautiful bed, border, pan or maybe single plant in pot or glass that has at some time fixed itself in your memory, and you fancy even now you can still feel the lingering scent of the flowers.

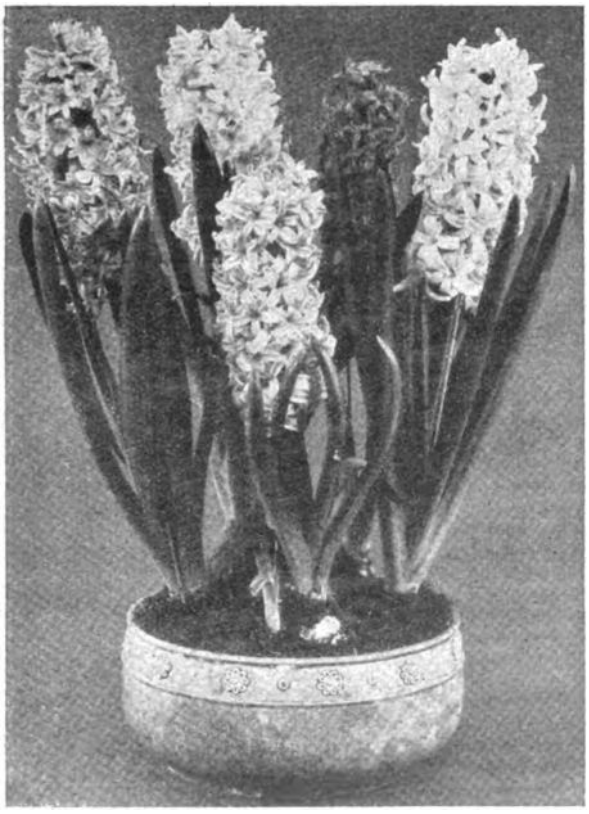
Hyacinths are considered by many to be stiff and formal subjects. They may be, but a little consideration and forethought with regard to combination of colours, and the many plants that may be used in conjunction with them, entirely removes this, shall we say, prejudice. However they are used, they are delightful; there are so many ways in which hyacinths may be grown and few plants can give such a choice diversity of colouring. So soft and clear; furthermore, the flowering season covers at least four months. First, we have the French Roman hyacinths, which can easily be flowered at Christmas, as also may be the prepared Dutch varieties. Bulbs should be procured as early in August as possible and potted up as soon as received in a good mixture of soil, consisting of rich fibrous loam, three parts, and one part each of well decayed cow manure and leaf-mould, with a quantity of coarse sand to make the whole porous; it is advisable to mix this thoroughly several days before using and then it should be moderately moist only.

Old pots, well cleaned, are much preferred to new ones, as the latter absorb so much moisture and are likely to injure the delicate roots. The soil should be pressed fairly firm round the bulb and the crown be just above the level of the soil, which should reach up to half an inch from the rim of the pot, thus leaving room for watering. When potted, place in a cool position outdoors on a bed of ashes or boards, then cover the pots to a depth of 5ins. or 6ins. with finely sifted cinder ashes or fibre. Some growers of specimen hyacinths put an inverted 3in. pot over each bulb, a small piece of slate being placed over the hole of this pot; undoubtedly a good protection from injury to the shoot by slugs or damage from the plunging material.

After the bulbs become well rooted and active growth has commenced, which will, generally speaking, be from six to eight weeks, remove to a cold frame or shelves near the glass in the greenhouse. A good plan is to cover the young growth with a sheet of brown paper for a few days to allow them to harden off gradually, as too fierce a light will injure them in their blanched state. Never bring hyacinths into full light until the flower spike is well through the neck of the bulb, or the tips of the bells will become green and spoil their full development. Do not at this stage allow them to suffer from an insufficiency of water; as soon as the bells begin to raise themselves to a horizontal position and show colour, liquid manure, well diluted, with a little soot added, should be liberally given. Support the spike early and shade if necessary.



THE CYNTHELLA OR MINIATURE HYACINTHS SHOULD NOT BE OVERLOOKED WHEN PLANTING THIS SEASON. *They make charming plants for pots or bowls.*



A DECORATIVE BOWL OF MIXED HYACINTHS. *Nothing looks more attractive in the house in early spring than a collection of hyacinths in flower.*

We will mention the names of a few varieties which will grow freely and with a minimum of attention. L'Innocence, British Queen, La Grandesse (pure white), Lady Derby, Moreno, Queen of the Pinks (pinks) General Pelissier, King of the Belgians and La Victoire (reds), Dr. Lieber, Grand Maitre and Myosotis (blue), Marie and King of the Blues (dark blue), City of Haarlem and Yellowhammer (yellows), Lord Balfour and Sir William Mansfield (mauves). These are some of the best for general purposes, but should a few choice sorts be desired, we may mention the following: Queen of the Whites, Salmon Queen, Orange Cerise, King of the Reds, King of the Blues, Ivanhoe, (dark blue), Orange Boven, Prince Henry (deep yellow), and Remembrance (reddish mauve).

The cynthella, or miniature, hyacinths must not be overlooked as they make charming subjects for growing in china or fancy bowls in prepared moss fibre or furnishing window boxes, etc. Batches may be grown in shallow boxes for successional plantings, as the plants may be transferred from one receptacle to another. If this be carefully done and the roots not damaged, they are not in the least affected by the removal.

It may be as well here to mention that prepared moss fibre will absorb a lot of moisture, and it is advisable to lay it out and sprinkle with a water can, rain water preferable, for several days before using, turning the fibre over many times until it is thoroughly moist right through.

Nothing is more bright and pleasing in the spring than a nice bed or border of hyacinths, and there are so many beautiful tints to choose from that it is possible to suit any taste. Small beds are best planted with one shade only, but the larger beds can be laid out in designs of contrasting colours or again with two colours planted alternately, such as dark and light blue, cream and dark blue, or white and pale pink; in fact, there is no limit to the beautiful combinations that may be used, and very charming is a groundwork of myosotis, silene or double white arabis. Polyanthus, violas, alyssum, iberis, saxifrages and primroses are also very useful for this purpose and help to give a finish to the arrangement. Hyacinths may also be planted alternately with narcissi, an arrangement which produces a most graceful effect.

When a carpeting is used to the beds of hyacinths, care will be necessary in selecting colours that will harmonise properly. It is also necessary to allow the hyacinths an additional amount of space so as to show off the groundwork adequately.

Hyacinths in the borders are very effective either planted in long sweeping lines in double rows, all of one shade, or in groups of mixed dark blues, light blue shades, rose and pink or red shades.

For bedding, 9ins. to 12ins. apart is a good distance to plant, and the bulbs should be covered with soil to the depth of 4ins. to 5ins. above the crowns. The number required for a given area, however, must be determined by local conditions and the object

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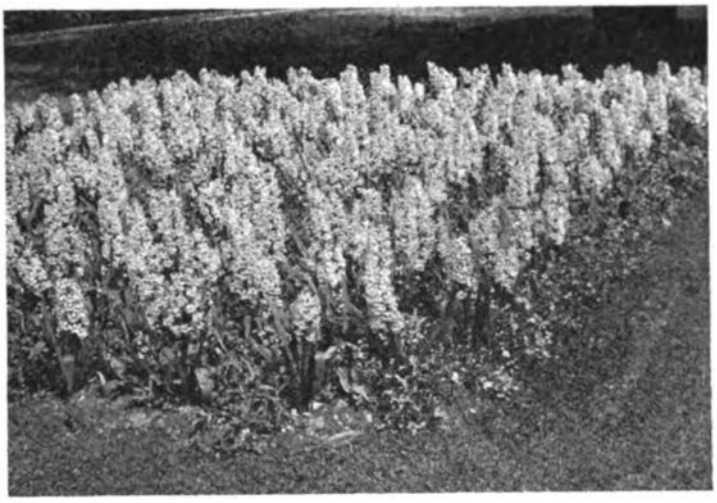
in view; a large bed in the distance need not be so closely planted as a small bed in the immediate foreground, and, of course, a smaller number will be necessary in either case if a groundwork of myosotis, silene or arabis be provided.

One thing to remember is that the hyacinth is a hardy subject and does not need to be coddled; perhaps the most injurious practice is to keep them, especially if grown in fibre in fancy bowls, in too dry an atmosphere, in gas-lighted rooms or near the stove, they like nothing better than being stood out in a fine rain, but care must be taken not to leave them out if frost is likely, as the water collected between the leaves, if frozen, will cause the spike to be thrown out.

The growing of hyacinths in glasses seems likely to become popular again, and very interesting is the method, showing the development of roots, foliage and flowers. October is quite early enough to set them, as at this time the roots at the base of the bulbs are eager to make away, which they certainly do if kept in the dark for a few weeks. Do not allow the bulb to touch the water, which should be changed occasionally.

When the bulbs are placed in the dark they should be looked over at regular intervals to see how root-growth is developing, and immediately there is about an inch or so of stem growth they should be transferred to a position outside where they receive a half light. After two or three days they can be given a position in a sunny window.



A BED OR BORDER OF HYACINTHS ALWAYS LOOKS MOST EFFECTIVE. *It can be suitably edged with other spring flowers like forget-me-nots.*

MODERN FREESIAS & HOW TO GROW THEM

IT will soon be time to prepare for freesias, and it is certainly time that they were ordered. The best time to pot them is August, and they can be potted safely until November, possibly December, but I have never tried this, because the results could never compare with those potted in August. As the coloured varieties are later in ripening than the common white, which is imported chiefly from abroad from a warmer and earlier climate, it is generally about the middle of August before they are available. I am writing this article as a freesia grower with a good deal of experience, and I am absolutely convinced that thorough ripening of the corms is essential if good flowering results are desired. It is, therefore, quite useless to hasten the harvesting and ripening process merely to satisfy customers with early delivery. It may satisfy them at the start to send the corms on August 1st, but, if not properly ripened, they will not be satisfied at the end with the flowering results. If, therefore, the corms are potted from mid-August to mid-September, there will be nothing of which to complain.

In our uncertain climate ripening of the corms is often a long job; possibly a difficult one, and, in spite of a great shortage of rain in my district up to the end of June, which would lead one to expect an above the average amount of fine sunny weather, yet it appears to me that this year freesias are later than usual, especially those planted out in beds in the house.

As soon as the corms are received they should be potted. I prefer to use 2 parts good loam, 1 part rough sandy top spit, and almost 2 parts of coarse silver sand. A small quantity of fine bone-meal is added but no manure.

Use well crocked clean pots of "Long Tom" type. Six corms to a 5in. pot is a good figure to work on. I prefer the "Long Toms" on account of their extra depth, which allows the big fleshy contractile roots more room than the ordinary pots. After potting the corms, which should be just below the surface, the pots should be stood under cover either of a cold greenhouse or a cold frame and given plenty of air. On no account cover the pots with any material, such as ashes or fibre. Goodness only knows why it has been done to freesias or, for that matter, any bulbs. Why cover them with an additional wet, cold blanket, giving the wretched bulbs hard labour to push up through to air and light? It seems to me all wrong. Anyhow, give your freesias full air and light, and sufficient water to create root action and maintain it, but no more. The growth will be strong and healthy from the start. If you are not convinced try the old method—plunge the pots under ashes, let the rain and/or the water-can do its worst or best out of control, let the corms expend part of their energy pushing up through that black blanket, and finally release them—showing them to have provided you with a few inches of weak, white, straggly growth instead of the sturdy green growth of those under cover of the house and under control of rain and/or the water-can. So much for that.

Freesias, being very nearly hardy, require but little heat, and the best results are obtained by growing them as cool as possible with very little more heat than is necessary to keep out frost. The cooler and slower the treatment the better the results—better flowers, better colours, better stems. I find this is far the best way, hence my exhibits at Vincent Square are seldom seen until the end of March.

Water should be given sparingly until there are sufficient roots and growth to require and absorb more. If insufficient water is given at the start, there is a possibility that growth may not start at all and the corms will remain dormant the whole season. This behaviour sometimes occurs from this cause, but not often; but when it does occur it is usually the result of insufficient or improper ripening. But the corms do not die. They form a new one on top of the old one. I wonder whether, in their native land, they get severe droughts—when there is insufficient moisture to create root or leaf growth that Nature has provided this method of reproduction to prevent the total loss of the species. The flower spikes will begin to show early in February, but before this some means of support will have to be

A FINE DISPLAY OF COLOURED FREESIAS AND THE FEATHERY PRIMULA MALACOIDES IN A SMALL GREENHOUSE.

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given—not because the growth is weak, but because it is not sufficiently stout to withstand the laws of gravity when it gets to a certain height. There is nothing better to use than Allwood's carnation wire rings. The smallest size can be used for 5in. pots—and I hope to get the firm to make a smaller size than this. They last for years, and are easily adjusted and inconspicuous and in every way satisfactory.

When the flower spikes appear, liquid cow manure in diluted doses can be given, changing the diet with soot water or some fertiliser, such as Clay's. The feeding should be carried on after the flowers are over and when the foliage begins to turn yellow; gradually reduce the watering down to none at all. Then let the pots gradually dry out, and give them full sun warmth and absolutely dry treatment to ripen them off thoroughly. In ripening off my stocks the temperature of the house goes up to 120° Fahr., and this, with slight air on in the middle of the day to prevent it becoming too hot, goes on for three or four weeks before harvesting begins.

My advice is: If you cannot grow and ripen the corms properly, leave them alone and buy a fresh batch each year, for, unless treated properly, they will give nothing but dissatisfaction.

The flowers last well when cut, but you cannot cut flower and foliage and expect to get first-class corms the following season. Great care should be taken in cutting to leave sufficient growth on the plant to enable it to finish its work.

And now as to varieties. There were freesia trials at Wisley this year, and the awards were recently published, and these may be of assistance in selecting the varieties. I recommend the following, none of which is expensive:

Yellows. — Apogee, Buttercup, Golden King and Treasure.

Mauves. — Bluebeard and La Frappante.

Pink Shades. — Apotheose, Conquest, Jubilee and Mouette.

But a descriptive price list will tell you all about them.

I cannot recommend freesias for growing in bowls in fibre. I do not think the fibre is what they like, and the only results I have had have been failures. Also, they do not seem to like the atmosphere and conditions in which hyacinths, daffodils, etc., will succeed. If freesias are grown in a cold frame care should be taken that they have sufficient head room and that, in frosty weather, they get sufficient covering to prevent damage.

They can be planted out in a bed in a cold house or frame, provided ample drainage is given and sufficient water only and no more. Personally, I find they succeed best when grown thus, as the roots get a deeper and freer run than when grown in pots, and, the drainage being all it should be, they never get troubled by wet, cold and sour soil.

Colours are being improved every year, and many of the older sorts have long been discarded; but as yet these new varieties are expensive, and the beginner will, no doubt, be content to start with older and cheaper sorts. Let him—or her—make up his or her mind to start now and order some for the coming season.

G. H. DALRYMPLE.

ONE OF THE BEST OF THE PINK VARIETIES, FREESIA APOTHEOSE.

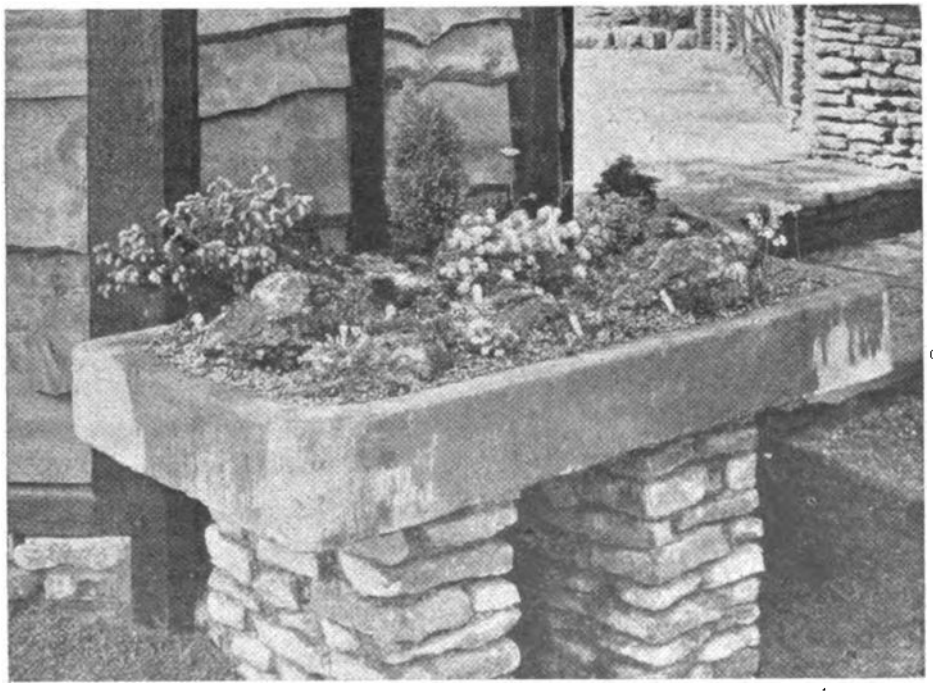
A NOVEL ROCK GARDEN

Alpine gardening in sinks is a vogue that is certain to increase in popularity. It can be accomplished in small space and at a minimum of expense.

WE often hear the words "Not anything is wasted," and although it is a scientifically proven fact, nevertheone might be forgiven for not realising that an old disused stone sink can be turned into a thing of beauty and a joy for ever, for within its comparatively small area can be constructed a charming little garden with miniature rocks, trees, shrubs and brilliantly coloured choice alpine plants.

While these miniature moraine gardens may be purchased complete with the plants well established, it is possible that some readers would like actually to construct a miniature garden themselves.

The first thing to do is to look around for a suitable sink, which should be as deep as possible to admit of a good depth of soil. The sink having been procured, no attempt should be made to clean or improve the outside portions of it—these should be left in as rough and weathered a condition as possible. The inside, in which the soil is to be placed, should be well scoured and thoroughly washed out with soap, soda and water. The drainage hole must not be stopped up, but covered with broken crocks; in fact, the base of the sink should have a thin layer of broken crocks or coarse ashes. Upon this should be arranged, in as natural a position as possible, the selected rock stone, which may be either a grey waterworn limestone or a yellow sandstone, depending upon the class of plants with which it is intended to furnish the sink. Having fixed the position of the rocks, forming suitable pockets for planting, the sink should then be filled with a compost composed of rich loam, coarse sand, leaf-soil, with a small proportion of charcoal nuts and limestone chippings, and possibly peat. Individual pockets may be provided, where the compost might be principally peat for any peat-loving subjects. Here the charcoal may be mixed, but the limestone must be omitted. Care must be taken to work the soil between and around the rocks to keep them in position, and the compost should be pressed or rammed hard to form a suitable planting bed. Alpines, in common with nearly all plants, cannot be planted too firmly, providing the compost has been properly prepared and is of a porous nature.



A SMALL SINK GARDEN PLANTED WITH ALPINES TO FORM A MINIATURE ROCKERY.

The planting may now be undertaken. The range of plants suitable for such a garden is certainly too numerous to mention, but later on we note a few that occur to us as being eminently suitable for the purpose. When planting it is desirable to have in mind the position which the sink is to occupy. Should this be a sheltered position with full exposure to the sun, sun-loving plants which thrive in dry positions should be chosen. If the sink is to be placed in an exposed position open to the four winds of heaven, only the hardiest of alpines are indicated. Where the sink is to stand in partial shade, primulas and other shade-loving plants and also some plants which thrive in peat will form the best selection. At least one or two choice dwarf conifers

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should be used, such as Cupressus obtusa nana, and in no case should Juniperus hybernica compressa be omitted.

The choice of plants for the body of the sink is large and varied. An attempt should be made to select the small-growing varieties with the idea of getting in as many plants as possible flowering at different periods for the purpose of obtaining a show of bloom from early spring to late autumn. Naturally, the following at once suggest themselves: Primulas, saxifrages, alpine phlox, lithospermum, gentiana, alpine campanula, dianthus and androsace. In the early spring quite a gay fulfilment is secured by including small bulbous subjects, such as scilla, chinodoxa, Muscari azureum, Narcissus minimus and one or two varieties of the hardy cyclamen.

The planting being completed, an enhanced appearance is obtained by dressing the soil between the plants with a thin coating of limestone or granite chippings. A word of caution may be given here. It is advisable, when the sink garden is first introduced, that four sticks should be inserted at each corner in an upright position and one in the centre, from which should be threaded cotton for the purpose of preventing the too inquisitive birds alighting thereon and destroying the blooms.

While there is no doubt a beautiful effect is obtained by planting the sink with many different varieties of plants, equally successful results are obtained if the planting is confined to one class of plants alone, for instance, a long period of bloom can be obtained if the sink is planted with primulas only, with, say, three conifers to enhance the broken-up effect provided by the rocks. In this collection should not be omitted the following: Wanda, Juliæ, marginata, rosea, farinosa (Craven Gem), Linda Pope and The Jewel. Again, another beautiful result might be obtained by employing only campanulas. With these it is possible to provide bloom for even a longer period of time than is the case with primulas, because the majority of the latter are early-flowering subjects. Among the campanulas the following might be used for the front, having a pendulous habit: Istriaca, muralis major, pusilla Miss Willmott, and for the body of the sink the following new varieties should not be overlooked: Bellardii Miranda, garganica W. H. Paine, and Lauri, which came from the Greek Islands and throws a beautiful shade of lavender blue bells.

As regards sinks of saxifrages, it is not advisable to mix the mossy varieties with the kabschia. One sink should be devoted to the mossy and one to the kabschia, but two or three of the encrusted varieties might be employed in both of the other sections for the purpose of giving height. Among the most useful encrusted varieties are longifolia, lingulata Albertii and Cotyledon Caterhamensis. Among the mossy varieties Aldenham Pink Queen of the Belgians, Apple Blossom and Wenlock Peach should not be omitted. Among the kabschia section Borisii, Irvingii, Myra and Jenkinsæ should not be omitted.

A sink garden should stand 2ft. to 2ft. 6ins. above ground level. There are innumerable positions in most gardens where one may be placed with advantage. In formal sunk gardens recesses are generally provided either for seats or ornaments. Such a recess is quite a suitable position. A sink placed on each side of the entrance door to a house produces a nice effect. The illustration portrays one of two garden sinks which stood on pedestals at the back of a Tudor garden house which formed the viewpoint of the formal garden exhibited by Messrs. William Wood and Son, Limited, of Taplow, at the recent Chelsea Show. It will be observed that the sink stood on one side of the entrance to the formal garden and suitably balanced the stone wall on the other side of the entrance. In addition to balancing the retaining wall, the sink tended to break the rather austere lines of the Tudor garden house which backed on to the public pathway. The possibilities of improving a small town garden are greatly increased by the use of a stone sink garden, for it can be arranged to provide an interest and charm usually furnished by a rock garden.

A PLANT FOR A SUNNY SITUATION

THE Peruvian lilies (alstrœmerias) are worthy of much more general cultivation than they receive, for these plants are very distinctive and beautiful. Of course, some of the species of alstrœmeria are not hardy, and others require some protection during the winter; but there are several kinds, and quite a number of hybrid forms which, with reasonable conditions, will grow almost anywhere in England. The best place for the culture of alstrœmerias is a south border or along the front of a wall having a warm aspect where, if the soil is not light and dry, it should be brought into that condition. If the ground inclines to be heavy, the position should be prepared at the outset. Dig out the ground to the depth of 3ft. and spread 6ins. or so of brick rubbish over the bottom of the border. Shake over the drainage a layer of dead leaves or half rotten manure to prevent the soil from working through the cracks and so preventing the passage of water. The soil which is finally added to make up the border should have sand and road grit added to it if this seems needful. The plants must be set about a foot apart, and in cold districts it is well to have the roots from 6ins. to 9ins. deep, so that they may be protected from frost.

Alstrœmerias may be propagated by means of root division, but this is not always a very successful method. Established plants greatly dislike being disturbed, and a very satisfactory way of increasing the stock is by means of seed. These can be sown when ripe, or in the spring, in pots or boxes and kept under glass. When the plants are about 2ins. high they should be moved to a fresh box or pot and finally placed in their permanent quarters. If the seeds are sown out of doors in the spring, or after ripening in the late autumn, the results are often extremely good. Cover with from 2ins. to 3ins. of soil where the plants are to remain, and put three or four seeds in a patch so as to make sure of getting at least one fine plant. With good treatment plants raised in this way will begin to flower when they are a year old. Alstrœmerias will give a much longer display of bloom if, during dry weather, they are watered. Remove the dead flowers, as seed setting is on a very profuse scale and it will tend to exhaust the plants and render them less free flowering in the following season. The stems of alstrœmerias should never be cut down, and it is always better to allow these to die away naturally.

A. aurantiaca is the most vigorous growing kind, which sends its stems to the height of from 2ft. to 4ft. The orange red blooms (which vary a good deal in different localities) are borne during the summer and autumn. This species is such a free grower that it is easily naturalised in loose sandy soils, or even those of a heavier nature, which have been thrown up into banks. The plant is a most useful one for placing in association with shrubs and trees where the situation is not heavily shaded. Here the clumps will remain for years and require very little attention. A. chiliensis is a hardy species of great beauty which is also very variable; the flowers ranging from a rose colour through red to an orange shade. A. Ligtu and A. pelegrina are both beautiful, but they are somewhat tender. In many localities these thrive out of doors, especially if the roots are protected with fern or similar material during the winter. A. pulchella is a very distinct plant with crimson-purple blooms that are not quite so brilliant as the other kinds named. Most of the hybrid forms of alstrœmeria are worth growing, and an exceptionally fine one is A. Errembaultii, which has flowers most curiously tinted with crimson, yellow, and white. L. B.

ALSTRŒMERIAS SUCCEED WELL IN A WARM DRY BORDER IN FRONT OF A WALL.

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THE BUSY MAN'S PAGE

August Reminders.

CARNATIONS may be layered during the early part of the month.

Dahlias should be tied up where needful, and if unnecessary shoots are pinched out the production of flowers will be greater.

Plants like dahlias, chrysanthemums, gladioli, herbaceous phloxes, hollyhocks and cannas will greatly benefit if they are given liquid fertiliser once or twice a week.

Many herbaceous plants which have gone out of flower will blossom again if cut back rather severely.

Remove all faded flowers from annuals to prevent seed setting, which will soon bring the production of blossoms to an end. Cinerarias, Chinese primulas, etc., grown in cool frames must be kept protected from strong sunshine.

Seedling auriculas, pansies, polyanthuses, etc., may be transplanted to about 6in. apart.

Cuttings of zonal pelargoniums may be inserted in pots or in the open ground.

Roses may be budded during the early part of the month.

New plantations of strawberries may be made.

The canes of raspberries that have fruited may be cut down to the ground and thin yearling shoots also cut out.

Fruit trees on walls or fences should have young wood tied in and all others not wanted cut out.

Finish planting out green crops for winter use and keep the hoe going between others that are growing to maturity.

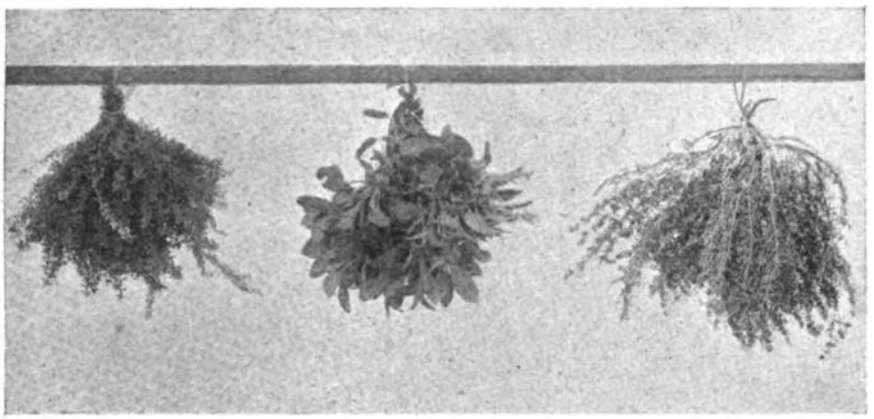
Second early potatoes will be fit to lift and the land occupied by them may be filled with cabbage crops, spinach, turnips, onions, radishes, carrots (early stump varieties), etc.

Early celery may be earthed up.

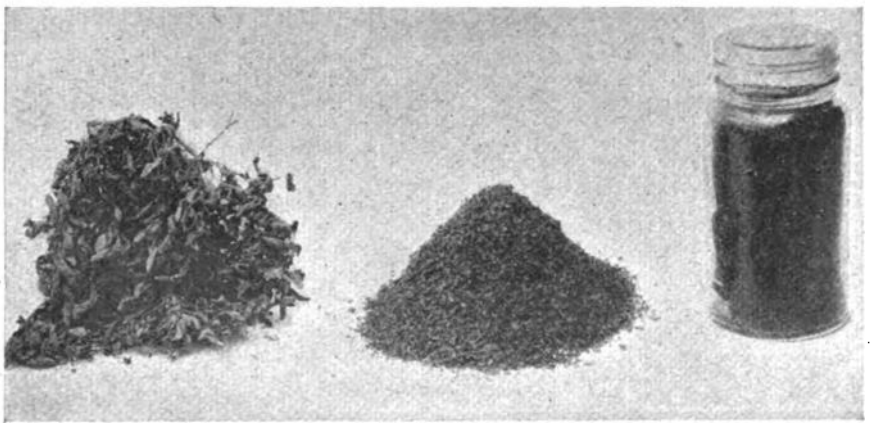
Lettuce for winter may be sown.

Drying Herbs.

IN most cases the early part of August is the best time for herb drying. Herbs should be gathered on a dry day, and when the leaves are free from dew. Tie the sprigs in small bunches, and then, for a few hours, hang these in a shady place where there is a draught of air. Then place the herbs on wire trays or large dishes in an oven where the heat is declining. Turn the bunches about repeatedly, and, when the foliage is crisp, the drying process is complete. The dried herbs may be enclosed in brown paper bags which are suspended in some suitable situation. A better way is to work the leaves from the stalks and then place these in well stoppered bottles. The bottles should be kept away from strong light, which tends to affect the flavour of the herbs.



THE METHOD OF DRYING HERBS.
The sprigs should be tied in small bunches.



WHEN DRY, THE LEAVES SHOULD BE RUBBED THROUGH A FINE SIEVE AND STORED IN AIRTIGHT BOTTLES.

New Lawns from Grass Seed.

YOUNG grass, raised from seeds sown in August, is always more likely to make a good lawn the following year if it successfully passes through the winter, than the young grasses resultant from seeds sown in spring, when a dry spell of weather follows. Of course, it is not always convenient to sow grass seeds in August, but where it is much valuable time is saved. Where it is absolutely necessary to dig deeply to remove the roots of weeds, or where it is necessary to fill up with new soil and there must be time allowed for it to settle down, such work should be done as soon as possible, but the actual sowing should be deferred until the following spring. If the ground is fairly level and the soil clean—free from the roots of tap-rooted weeds, convolvulus and couch-grass, then it is inadvisable to dig deeply. Simply loosen the surface portion, break up the largest lumps, make the surface level and the soil fine, firm it thoroughly and it will be in a suitable state for sowing. If it is convenient to do so, sow the seeds on a calm day, first mark out the plot to be sown into squares, 3ft. by 3ft., then it will be much easier to sow the seeds evenly. If the soil is rather dry it will not adhere to the roller when the latter is passed several times over the sown ground. Very small grounds may be beaten with a clean spade instead of being rolled. If rain follows immediately, the seeds will soon germinate.

How to Raise and Grow Mignonette for Winter Flowering.

JUST now and during the month seeds of the best strains of mignonette should be sown. The plants, when grown under glass, are liable to become drawn and straggly, and the inferior strains are the worst offenders in this respect. The naturally dwarf, compact-growing varieties are the best, and, with ordinary care, very fine specimens can be grown and flowered in 6in. pots. As the seedlings do not transplant satisfactorily, they should be sown in small pots and, in due course, re-potted, or sown direct into 6in. pots and duly thinned out to one, two or three plants, as the case may be. If one plant is flowered in a 6in. pot, the spikes are very large; if more plants in a pot there are more spikes, but the latter are smaller. Be sure that the loam is quite free from wireworms. The loam should be from a heap cut and stacked about six months ago, so that all the grass roots will have perished. A small proportion of sweet leaf-soil will be beneficial, and a small quantity of the compost should contain a sprinkling of bone-meal, to be placed in the bottom of each pot, the bulk of the compost, without the bone-meal, being placed on the top and the seeds sown in the latter. Drop the seeds thinly near the centre of the pot and cover lightly. A cold frame will be an ideal place for the pots and the resultant seedlings. Thin out the young plants at an early stage of growth; pot on from smaller pots when the latter are becoming filled with roots. In every case be sure that clean pots and crocks are used. Expose the plants to full air conditions when the weather is fine. Stop the plants when they are 3ins. high, early in October. Winter the plants, if convenient, on shelves in the greenhouse and begin to feed them early in February. Bismarck, Machet and La Triumphant are good sorts.

Gardening Soaps.

SOAP is used for many purposes in the garden, such as the washing of greenhouses, frames, tools, etc. Then soft soap enters into the composition of certain mixtures employed to kill pests. In all cases it will be found that disinfectant soaps are much better than the ordinary kinds. These are no more expensive, and with them it is possible to form penetrating insecticides which will work their way into cracks and crevices and destroy lurking pests. Lifebuoy or carbolic soap, and Izal disinfectant soap, in both the hard and soft forms, are excellent.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Chrysanthemum Culture.

THE chrysanthemum grows in popularity each season, chiefly, no doubt, because of its value as a cut flower. The enthusiast who wishes to grow specially fine single blooms should just now give a little more attention than usual. For large flowers, the side buds must be rubbed off as soon as they appear. Those who, like myself, prefer a natural spray of rather smaller flowers, will have to stake and tie the shoots carefully to prevent breakage by winds. In staking, always allow each shoot plenty of room for the sun and air to reach the leaves. A little fertiliser sprinkled on the soil round the plants will make healthy foliage and help to resist the leaf miner.

Sweet Violets.

MANY gardeners have an empty cold frame at this season, which they will not be needing until seed sowing time next year. This could be used with advantage for growing violets, which grow more freely when protected in this way. Plant the roots as soon as they are received, 15ins. apart each way. A rich soil is needed, and the bed should be made up to within 9ins. of the glass. Decayed leaves should be removed as soon as noticed. Ventilate the frame freely except in the most severe weather and give only a very little water during the winter. Princess of Wales is a deep blue, long-stemmed variety, which would repay a little extra care of this sort. There are also violets of a reddish shade which are extremely attractive and add variety to the collection.

A Prize Garden.

ONE of the gardens which was awarded a first prize in the local Garden Competition, organised by the Gardens Guild in Acton this season is shown here. All the trellis work, arches, etc., were home made, and the plants grown by an amateur. Such a picture shows how much can be achieved in a limited space by exercising a little ingenuity. The arches add variety to the garden and make it appear larger than it would otherwise do, besides forming ideal supports for climbing roses and other plants.

Plants in pots find a home on the shelves which stand against the walls. The advantage of growing a few extra pots of flowers is two-fold. Failures in the garden, or gaps that appear from time to time as plants die off, can be filled up with plants that are almost in bloom. In addition, a supply of room plants can be maintained, the plants being changed often so that all of them get the advantage of a period in the open air.

A PRIZE WINNING GARDEN.

"None So Pretty."

THE oldest saxifrage in our gardens is familiar to all by its cloud of pink flowers, which appear in June, and its rosettes of spoon-shaped leaves, which make a charming edge to a border or rockery, remaining green throughout the year. Saxifraga umbrosa is the botanists' name for it, but it is known variously as Pretty Betsy, London Pride and None So Pretty. It is sometimes thought that the name London Pride was given to it on account of its suitability for London gardens, but actually it derived the name from London, of Messrs. London and Wise, the florists, who first put it on the market. It thrives everywhere, but seems most at home as an edging to a rockery or border. To get fine sprays of blossom and healthy foliage, divide the plants now. Cut with a trowel into pieces with three or four heads to each and replant where it is desired to flower.

Cuttings from Summer Flowers.

A NUMBER of the flowering plants which are making such a brave show in our gardens now can easily be increased by cuttings. Pentstemons, whose stately flowers are well able to withstand the air of towns, make plenty of side shoots suitable for cuttings. Short-jointed branches, not very sappy, are the best to select. They root easily in boxes or pots of soil. If possible they should be kept close for a week or two, and where a cold frame is not available, a deep box and sheets of glass will do. As soon as the cuttings have rooted, give them all the air possible, removing all coverings until the frosts arrive. Geraniums, fuchsias, heliotropes, snapdragons, in fact most of the perennial plants can be increased by cuttings taken at this season. But if you have no means of protecting the young plants from frosts, then propagate only the hardy plants which do not need wintering under glass.

Lambs' Ears.

CERTAIN plants seem to have claimed the old-fashioned cottage garden for their home. Such a one is Stachys lanata, called Lambs' Ears, from the grey woolly appearance of the leaves. This plant will soon establish in a garden and needs very little attention. The striped flowers are useful for cutting, and when placed in water, go on producing flowers after the habit of forget-me-nots.

A Good Shrub.

A NOTED authority on shrubs says of the Spiræa ariæfolia (discolor), which is here illustrated, that "in any selection of spiræas this must be placed in the best half dozen." Those who know its masses of creamy white flowers which grace many a shrubbery at this season will certainly agree. It is a handsome shrub, generally 8ft. to 12ft. high, but sometimes much more, and it is seen to the best advantage if planted against a background of dark green. It must, however, receive a full amount of sunlight for the best results.

A DECORATIVE SPIRÆA, S. ARIÆFOLIA.

Layering Shrubs.

THERE are many plants which are increased most easily by pegging down the ends of long side shoots. Loganberries and blackberries are notorious for the way in which they root themselves if the shoots are allowed to reach the ground instead of being tied to supports. To increase the stock of these and also of many flowering shrubs which have long stems, cover the stem with soil about a foot from the tip. A slit should first be made lengthwise, so as partly to sever the stem. The free end of the shoot can be staked obliquely to keep it in position. Roots will quickly form, and the new plant can be then severed from the parent and transplanted. The two essential things about layering shrubs are a constant state of moisture and the fixity of the part to be layered.

Woolly Aphis on Fruit Trees.

MANY amateurs are surprised to learn that the small patches of a substance resembling cotton wool which are sometimes found on fruit trees at this season are actually a kind of aphis. At times this pest is found in large quantities, and it is then necessary to spray the trees with a good nicotine wash, using a strong spray. If, however, there are only a few patches to deal with, they may be painted with methylated spirit, which will destroy the insect.

This pest attacks the roots in just the same way that it attacks the tops of the trees, and is, of course, much more difficult to eradicate if it has taken possession underground. Carbon bisulphide is used to destroy it in this case, but the treatment must be delayed until autumn or winter.

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WORK IN THE FLOWER GARDEN

Foam Flowers for Border or Rockery.

THE tiarellas, or foam-flowers, belong to that useful class of plant which might be termed general purpose subjects, for they are adaptable for the rock garden, the border edging, woodland and wall gardening. They are indestructibly hardy, easy to grow in sun or shade, and they—more especially T. cordifolia—are attractive from early spring to late autumn. All the foam-flowers are of North American origin, and the species named is the best-known and most useful for the rock garden. It is a low-growing plant with pale green, five-lobed leaves which assume vivid autumn tints. Spreading by means of runners like a strawberry, it loves to thread its way between the rocks whose chinks it will quickly embroider with its pretty foliage and fluffy spikes of white flowers in May or June, these standing at about 6ins. There is nothing more simple to grow under such conditions, and to increase the plant one has only to detach the rooted runners. This can be done at any season, but preferably in late summer.

T. unifoliata is a more uncommon species, but there is no reason whatsoever why it should not be more generally grown. It differs from the foregoing in not making any runners, confining itself to a self-contained, compact clump. Also, it is much larger in all its parts, its handsome vine-like leaves are a deeper green with a touch of bronze, and the bold, erect flower spikes, which rise to 18–24ins., terminate in inflorescences which are creamy white with a rosy flush. This is a plant for the border rather than the rock chink or wall, since it enjoys a good fat loam and generous cultivation. As it makes no runners, T. unifoliata is not so readily propagated as the common foam-flower, but I find that if offsets are detached in summer or autumn, they will take root if potted up in leaf-mould, sand and loam, and placed in a closed frame.—A. T. J.

Sowing Violas and Pansies for Spring Flowering.

These Can be Sown Now in an Open Border.

WHEN distinct named varieties are grown the stock must be raised by inserting cuttings. Plants resulting from seed bear flowers of various colours, and many of the individual blooms are very large and extremely beautiful. If the seeds are of some choice strain it would be a wise plan to sow them in a cold frame or in boxes which can be covered with glass. But there must not be any undue coddling, as the plants have to withstand the winter prior to their flowering stage, as the few flowers often borne on strong seedlings during the autumn are not to be regarded as constituting the flowering period and all flower buds forming then must be pinched off. For general use the seeds may be sown in an open border, preferably in one on the north side of a wall or fence. The ordinary garden soil should be dug and cleaned first; then procure some rich loam, 2 parts, leaf-soil 1 part, and well rotted old manure—spent mushroom-bed manure for preference—1 part. Mix these ingredients well, but do not add any sand. This compost should form the seed bed and be about 4ins. deep. Sow the seeds very thinly, as the seedlings possess large spreading leaves, each seedling up to the stage of transplanting requiring nearly a square inch in which to grow. Much is gained by sowing the seeds thinly. Cover the seeds about ½in. deep with soil similar to that of the compost, except the manure—it should not contain any manure. Earthworms sometimes cause damage by heaving up small hillocks of soil and loosening the seedlings as well. An effective preventive is the watering of the original border soil with strong, clear lime-water about ten days prior to the date of sowing. The worms will come to the surface and should be picked up. The nursery bed should be treated in a similar way with the lime-water, as it is advisable to transplant the seedlings once in such beds before finally planting them in their flowering quarters.—GEO. GARNER.

Growing Bulbs in Fibre.

EVEN if memory has failed to remind us that bulb planting time is already here, the attractive displays of fancy "bulb bowls" in every china shop recalls the artistic effect possible within the living rooms, of certain bulbs grown in fibre. In the choice of bowls we would not dare to advise our readers (is not this essentially a ladies' department of gardening?), but we name a few of the easiest bulbs to grow: Roman and miniature hyacinths, the ordinary and "many-spiked" hyacinths, the early Dutch tulips, daffodils of all kinds, crocuses, grape hyacinths, some of the fritillarias and the dog's-tooth violets. Avoid irises, anemones and freesias, as these are not always satisfactory. The bowls and the bulbs having been obtained—and we strongly urge early purchase and immediate planting, the sooner the better—get sufficient prepared fibre from the seedsman and then pot the bulbs firmly in the fibre, previously placed in the bowl to within an inch of the top. Thereafter fill the bowl to the brim with water, allow to soak for an hour and then tilt, to drain away all superfluous water. Now place the bowl in a frame or in a box, cover finely sifted ashes to a depth of 6ins. and stand them fully exposed in the open for four or five weeks. Cover only from excessive rain or snow and throw a mat or old bag on top during frost. After this grow the bulbs on inside in a cool, non-forcing temperature. Town dwellers who cannot bury the bowls in ashes in the open, may put them in a dark cupboard, cool, for the same length of time, taking care to see that the fibre never dries up. Early planting, five weeks darkness and non-forcing give the finest results.

THE FEATHERY FOAM FLOWER (TIARELLA) LOOKS WELL PLANTED IN CLUMPS IN THE BORDER OR AS AN EDGING TO GARDEN STEPS AS IN THIS ILLUSTRATION.

The Present Treatment of Cyclamen.

SEEDLINGS which have been kept growing in cool quarters all summer are now ready to be potted up in their flowering pots, generally 5in. and 6in. sizes. The best compost is a coarse loam, containing a fifth of year-old manure or, when this is not obtainable, a sprinkling of hop manure or an ounce of bone meal per plant. Pot fairly firmly and keep the corm well above the compost. After repotting, water carefully, avoiding excess and yet taking care not to let the soil become too dry. Spray very lightly overhead in warm weather, using rain-water which has been standing in the sun. At this time old corms which have been resting may be shaken out of the old pots, repotted and treated in much the same way. Give plenty of light and air at all times, but shield from strong sunshine; damp down the ash bottom on which the pots stand in the frame, so as to keep the atmosphere round the plants moist. Towards the end of September, always erring on the side of earliness, take the plants inside; a check due to exposure to cold is a potent cause of flowers going blind; place them on the stage on an ash or gravel bed and begin to feed with weak liquid manure. See that all leaves and buds which damp off are at once removed.—LANARKSHIRE.

Transplanting Biennials.

OFTEN, failures with biennials may be traced to their not being transplanted at the proper time, and once again the quality of the seed is questioned when plants do not turn out right. At the present time, such plants as wallflowers, Canterbury bells, honesty, sweet williams are in seed-beds in many gardens. If they are left, it follows that they will have a struggle for existence, and in such circumstances the fittest does not always survive.

There is no skipping the duty of transplanting and planting out direct into their final quarters next October or November, thinking they will be just as good. If the best plants are wanted to stand the winter, there must, of necessity, be a shift from the seed to a nursery bed, and this should no longer be deferred, giving each plant 5ins. or 6ins. of space for growth, and so, when the time comes for getting them into their flowerming quarters, they will be sturdy specimens. One has only to mention Canterbury bells, which should be given all the room possible in their first shift, to demonstrate how futile it is to expect strong, healthy plants from an overcrowded bed. Transplanting time with biennials is important, and, if possible, the position for them should be an open one, away from trees.—W. L. L.

The Importance of Mulching.

IF flowers are being grown for exhibition, watering and mulching must be attended to if the weather becomes hot and dry. Roses never do so well as when mulched with littery manure. Copious doses of liquid manure are also beneficial, if given not too

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strong, especially if the soil is at all dry. Where dahlias, gladioli, asters, carnations, etc., are meant to grace the show benches, mulching, watering and feeding with dilute liquid manure will help to swell the blooms and deepen their colour. Mulching is of especial benefit on light and sandy soils. When manure from cowhouse or stable cannot be got, cut grass, half-rotted leaves and similar material make a good substitute. Mulchings of peat moss litter, saturated with water and weak liquid manure, are beneficial among the flowers.

Cut straw, mixed with green herbage and thrown into a heap over which a few buckets of liquid manure are poured, will rapidly ferment and rot, and so produce a quantity of splendid mulching material. Poultry manure soaked in a tub of water, makes a good liquid to pour over the heap of straw. Urine and manure drainage of any sort are also of the greatest service in the production of mulching litter. Fibrous turves, when well decayed and saturated with liquid manure, after being chopped and torn to pieces, may also be used for mulching. Vegetable waste, including weedings, should be rotted and turned to similar use.—J. W.

Foxgloves and Ferns.

THESE combine to make a beautiful picture which at the present time is one of the chief attractions of the countryside. A pleasing feature may be introduced into the garden by growing ferns and foxgloves together, copying nature as nearly as possible in the matter of arrangement. A very suitable place is a semi-shady corner with a hedge or shrubs for a background, as, with such surroundings, the plants under notice harmonise perfectly and create a most impressive sight. Seeds of the foxglove should be sown at once. There are several beautiful strains in pleasing shades of colour, but a fair number of white and spotted kinds are very effective and, for the purpose indicated, are generally appreciated. If seed is sown in a partially shaded border, and the seedlings are thinned out to allow room for the proper development of those that remain, there should be good plants for removal to flowering quarters in autumn. Ferns are best planted in spring when they are about to make fresh growth. In the meantime, prepare the site by breaking up the ground well, taking care to remove every bit of root of any perennial weeds during the process of digging. Leaf-mould worked into the soil will add materially to the vigour of both foxgloves and ferns.—J. C.

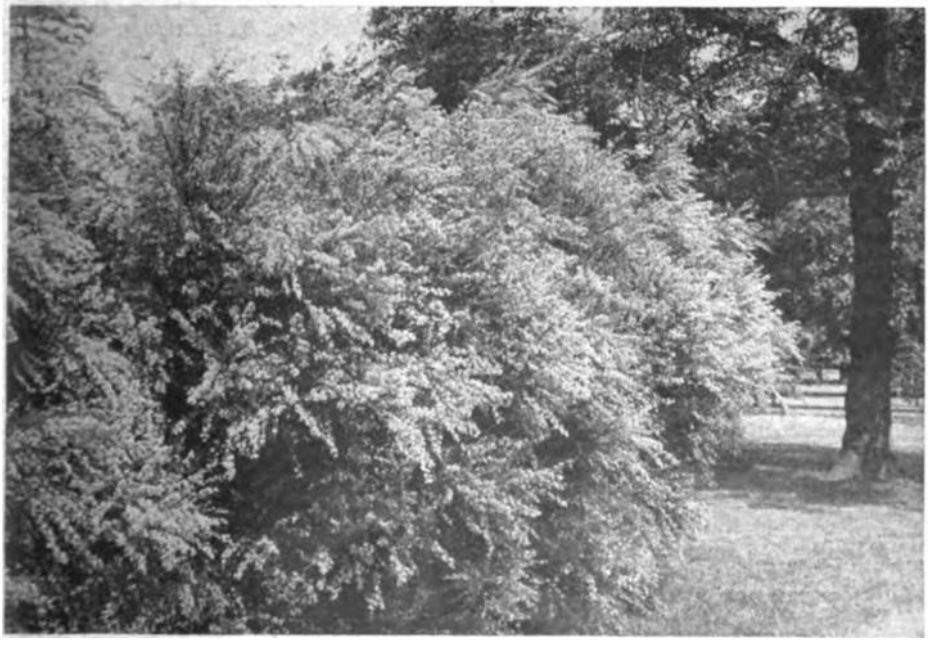
AN ATTRACTIVE EDGING OF LARGE-LEAVED MEGASEA SAXIFRAGES.

The Broad-Leaved Saxifrages.

THE race of saxifrages, or megaseas, with the large, elephant-ear leaves and white or pink flowers in spring, is so distinct that its members have been grouped in a genus of their own under the name of Bergenia. There are several species and varieties of these saxifrages—to use the more familiar term—and an exceedingly useful lot they are, for not only are the branching flower-heads large and attractive, but the foliage is very ornamental at all seasons. Moreover, they will prosper in almost any kind of soil or situation, they are practically pest-proof and seem to enjoy the longevity of an oak. Drip they do not mind; they thrive in the atmosphere of towns and are as easy to propagate by division as a clump of rhubarb. All are natives of high mountain ranges of Central Asia and Siberia.

S. crassifolia is a well known species with large trusses of rosy flowers standing well above the leaves in April or May. This is a first-rate kind for growing where a foliage effect is desired, for the leafage, handsome at all seasons, colours well in autumn. S. cordifolia is considered a form of the above, and it has even larger leaves. Of S. crassifolia there are many varieties offered in the lists, and some of these are singularly striking foliage plants, the leaves being richly tinted on their under sides with crimson or purple. From crossing S. cordifolia with the somewhat difficult S. purpurascens several excellent hybrids of proved garden value have also been raised.

An early bloomer and one not so reliably evergreen is the Himalayan S. ligulata. This is an excellent cool house plant, but it may often be seen doing well in the open when afforded a little overhead shelter—enough to secure its flowers from spring frosts. These blooms are very large, the trusses broad and generous, and varying in colour from white to a fresh rose pink. S. Stracheyi is a rather smaller plant than the foregoing, but when in bloom it is no less imposing, the white or creamy white, rose-tinted blossoms being yielded in bold clusters. These do not usually appear until April or even later, and they stand rough weather well. S. Stracheyi is undoubtedly one of the best flowering species of this section for outdoor culture, but I am told that S. Milesii—probably a form of S. Stracheyi—is even better and later.—A. T. J.



THE LATE FLOWERING GENISTA CINEREA, A HARDY AND DECORATIVE BROOM.

A Fine Late Flowering Broom.

DURING late May and June Genista cinerea forms one of the most arresting features among our hardy flowering shrubs. At this season it is particularly welcome, for the great majority of shrubs have by this time passed their best. It is of graceful appearance, growing up to 10ft. in height, with the branches disposed in a most pleasing and informal manner, and each branch absolutely wreathed with deep golden yellow pea-shaped flowers. The delightful fragrance, which is most noticeable during the morning and evening, forms an added attraction. Those who do not possess this desirable shrub should certainly make a note of it, and procure it for planting when the season arrives.—T. H. EVERETT.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

FOLLOWING on the unseasonable weather experienced this summer, there is general complaint regarding the backward condition of sweet peas. In some gardens the plants are only about 18ins. high, with thin wiry stems and shrivelled foliage. In other cases the plants have attained a height of 3ft. to 4ft. and, to all appearance, are strong and healthy and capable of throwing long stems and good blooms, yet up to the end of July have seldom produced blooms worth cutting. The buds which have appeared are mostly puny, discoloured specimens that stick up perpendicularly from the end of the stems, and in a few days drop to the ground at the slightest touch. It is only those buds that are to be found hanging in a cluster from the end of a graceful curve that will develop properly; consequently, these are the only buds which should be allowed to remain on the plants. It is a simple matter to differentiate between the two types, for if the stem does not assume a curved formation by the time it is 3ins. long it may be snipped off, so that the strength of the plant may be concentrated in supporting the good buds.

The cause of bud-dropping is a controversial subject. Among the various explanations which have been advanced are: faulty soil conditions, excessive moisture at the roots, over-strong and too early supplies of liquid or artificial manures, and a sudden drop in the temperature. In a season like the present when growth is slow, there is an undoubted tendency on the part of amateur growers to apply stimulants too early and too often. This is borne out by a letter received from the owner of a housing-scheme garden who has fed his plants several times with liquid manure and sulphate of ammonia and wonders why the flower buds are dropping. Sweet peas that are growing in well prepared soil that was trenched in winter should not require any stimulant except soot water until the plants begin to show signs of exhaustion. In Scottish gardens this stage is usually reached about the second or third week of August, when there is a preponderance of three blooms on shortening stems. In that event it is advisable to cut off the stems and commence feeding the plants once a week with a weak solution of liquid manure.

Some doubt seems to exist among a certain class of sweet pea growers as to the number of side shoots that should be allowed to remain on plants that are intended for ordinary garden purposes. As a general rule, a healthy plant can support two or three side shoots and be capable of producing flowers suitable for decoration. It should be understood, however, that any side shoot which is left on a main stem will in turn produce side shoots of its own, and this "second generation" of growths must, of course, be pinched out. In his Annual Supplement, Mr. Unwin shows the number of stems or growths to leave on each plant; but, while the figures are intended as a guide to the vigour of each variety, he suggests that the grower should use his own discretion in the matter.

While on the subject of sweet peas, I may mention that the Scottish National Society have decided to continue the trial of seedlings not in commerce in 1928. Raisers are invited to send twenty-five seeds of each variety to the secretary, Mr. John Smellie, Westwood Cottage, Helensburgh, not later than September 20th, as the last week of that month is the best time to sow in autumn in Scotland. After this year's experience, it is not surprising to find a request to raisers not to send any varieties except those which they consider properly fixed.

Among the yellow roses of the climbing Wichuraiana type, Emily Gray still reigns supreme. Coming into bloom in the early days of July, before the hybrid teas began to show colour, it has continued to flower freely and, at the time of writing, the bushes are conspicuous for the wealth of golden yellow buds, suggestive of a miniature Mme. Ravary. These good qualities, however, do not exhaust the charms of this truly wonderful variety. The profuse and pretty foliage is very glossy, possesses great substance and, besides being mildew-proof, is practically evergreen. It has been likened to Berberis vulgaris, and is almost worth growing for its foliage alone. There is no place in the garden but will be adorned by its presence, and, having proved its merits during the past three or four years, I can confidently recommend it for the clothing of pillar, arch, trellis or wall.

The dwarf hybrid tea roses are now at the height of their bloom, and, while several, favourites, such as Betty Uprichard, Diadem, Covent Garden, General Haig, John Russell, Sensation and Wilhelm Kordes, have, so far, been disappointing, others have been outstanding in respect of the size, form and colour. Those that have distinguished themselves in that respect and have qualified for places in the front rank are Maud Cuming (peach, coral pink and orange); Noblesse (apricot primrose, yellow with outer petals flushed pink), a most refined flower; Mrs. F. W. Vanderbilt (orange, shaded apricot); Mrs. C. E. Pearson (orange flushed red); Etoile de Hollande (the best dark red for the garden); Sunstar (salmon red, shaded yellow); and Shot Silk (cherry cerise overshot salmon orange). The last named pair are distinctive in their beautiful combination of colour, but possessing the defect of all these roses, their transient existence is accurately described in the expression "a bud in the morning and full blown by night." Among other good roses which have made a creditable display are Angele Pernet, June Boyd, Padre, Countess Clanwilliam, Mrs. Henry Morse, Courtney Page, Gwynne Carr, Una Wallace, Vesuvius (a grand free-flowering single rose), Asperant, Marcel Rouyer, Mrs. Fred Howard, Ophelia, Betty Hulton and Lady Inchiquin. Fragrance in a superlative degree is present in Angele Pernet, Etoile de Hollande and Shot Silk.

Reports have reached me from different parts of Scotland indicating a heavy mortality among roses. In a South Ayrshire garden the losses represent nearly 30 per cent. of the collection, and the strange thing is that the roses, in almost every case, began to die off in June when the bushes were in bud.

ST. MUNGO.

WHAT OUR READERS SAY

PEACH PEREGRINE.

SIR,—The accompanying illustration will give some idea what this delicious fruit is like; though, unfortunately, it does not show to the best advantage the handsome appearance of the fruit.

Peregrine is very juicy and of excellent flavour. The skin is soft and requires careful handling. As a fruit to be picked and placed on the table immediately it is all that can be desired.

Owing to its delicate skin it is not a first-class market variety. Unless it is carefully marketed the fruits soon bruise and deteriorate. Where peaches can be successfully grown outdoors in this country, I think Peregrine will hold its own. It forces well and is equally adapted to a cool house. It is a good grower and crops regularly and evenly.

A BASKET OF PEACHES, VARIETY PEREGRINE.

It is a good cropper and forces well in a cold house.

The tree from which the fruits in the illustration were picked was planted about six years ago, and this year it has a crop of about 120 peaches, the average weight of each fruit being 7oz.—P. E. CRICK.

SOLANUM CRISPUM.

SIR,—Your correspondent, "T. W.," in his interesting note on that attractive shrub, Solanum crispum, omits reference to the varietal form grown at Glasnevin. The

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florescence of this latter appears to the writer to be far more abundant and lasting than the common garden form. Further, the blooms are a rather darker shade of purple.—C. J.

FISH IN A SMALL POOL.

SIR,—With reference to a letter signed "Rosyth," in your issue of THE GARDEN for July 9th, I should like to mention what we think happened to a small carp in a small pond in our garden. This carp had been living in our pond for quite a long time, when one summer morning we noticed a long and beautiful grass snake gliding about in the water and disappearing under some large stones, and, close by, the gruesome remains of a large half-devoured frog. Next morning the carp was discovered dead, a foot or two away on the grass, with a deep gash in the side of its neck. We inferred that the snake had pulled it out of the water, but found it impossible to eat it, or else had been disturbed and fled.—L. GREGORY, *Peaslake*.

GROWING PLANTS IN BARRELS.

SIR,—I was interested in "G. S. T.'s" article on the growing of plants in a barrel, as I have seen this principle used with great success.

In particular is it most useful in the growing of strawberries, which otherwise, through lack of space could not be grown at all.

A 54-gallon cask will take over a hundred strawberry plants, and this amount would fill a fair sized plot. As it is difficult to get water to reach the roots of the plants which are low down in the barrel, the following device is necessary.

Before filling up the barrel with earth, place upright in the centre a stove pipe or other metal tube of about 3ins. diameter and having holes of an inch size punched in it at intervals up its length. The pipe must be long enough to project a few inches above the earth when the barrel is full. Water poured in from above to fill the pipe will percolate through the soil to reach the roots of all the plants.

I wonder that this excellent system is not adopted by those having very small garden space.—GUY WUY, *Yoxford, Suffolk*.

LONG LIFE FOR CUT FLOWERS.

SIR,—In the article in THE GARDEN of July 23rd, "Long Life for Cut Flowers," by "B. D. S." it is said that "border lupins" seem to drop after two or three days in water. I suppose that perennial lupins are the ones meant. I grow these in large quantities and find that they last well for at least a week if put straight into warm water in which a crushed tablet of aspirin has been dissolved. I find that they do best in a large flat bowl which holds about 2½ gallons of water; in this I put two five-grain tablets of Howard's aspirin. The bowl holds about nine to ten heads standing upright in glass flower supports. They never seem to do as well in deep glasses. —K. HELY-HUTCHINSON, *Amersham*.

ALPINES IN SMALL GARDENS.

SIR,—Mr. Harris' photograph in the July 23rd issue shows what can be done by an enthusiast who goes to work on the right lines, but I have one criticism to make, and it is this: Why go to so much trouble to grow alyssum, arabis and aubrietia? His garden is at once too good and too small for such common rampant plants.

No doubt it is unfair to expect the more difficult alpines to flourish in London smoke, but many very beautiful things are quite easy to grow, and I do not think he need have any fear with the dianthi, Gentiana sino-ornata, Primula Juliæ and some of the violas, such as bosniaca and gracilis.

I would not have troubled you with another letter had I not so often noticed the mistake of growing plebeian plants when the fairy princesses of the rock garden are begging to be admitted.—G. FIELD-MARSHAM.

RECLAIMING AN OLD ORCHARD.

SIR,—Now that daffodil-planting time is coming round again, the following interesting experiment which I carried out may be of interest to your readers. This is part of a plot reclaimed from an old orchard three years ago, and planted with daffodils last autumn. The old turf was left for paths. Previously there was a hedge right next to the tennis court, but on digging the plot I found that part of it had been made up with clay dumped there from the tennis court foundation. I took up the hedge and used it to burn the clay. The site of the hedge has been planted with rambler roses and flowering shrubs. This photograph was taken in spring last year.—D. R. ACHESON, *Berkeley, Glos*.

DAFFODILS NATURALISED IN DRIFTS IN AN OLD ORCHARD

WINTER SALADS

Sowings of various crops can be made now to ensure a supply of these desirable saladings.

IN Paris, Brussels and all the large cities of Europe the salad plays an important part in the daily menu. Throughout the winter one is served with just as excellent a salad as in the summer, only of a different plant. These winter salads generally consist of blanched crisp golden yellow endive, both the curled or broad leaved, often called *scarole*; then there is the deep green salad known as corn salad or lamb's lettuce, again the chicory (Barbe de Capucin) and the blanched dandelion.

Now, all these salads are perfectly easy to grow in England. All gardeners should be able to keep up a supply of lettuce out of doors in the shape of Sutton's Winter White Cos, until the end of November, simply by sowing seed now in lines and then thinning out. (By sowing in late August and September in the same manner, and pricking out in January and February, if mild weather, these lettuces are ready for eating early in May.) The Sutton's winter lettuce-leaved Batavian endive and curled endive should be sown now in lines, and again at the end of August, thinned out after three or four weeks to 18ins. apart, as they grow into enormous plants by the third week in September. You can on a dry day start to tie up the top of some of these plants to blanch, leaving plenty of room for the centre to swell. Every week continue to tie up more, so that there is a continuous supply. Another good way is to transplant young plants into a broad trench 1ft. deep and 18ins. to 2ft. wide; in this way they get some shelter and in very frosty weather old pea sticks can be placed over the trench, and mats thrown over them.

Corn salad or lamb's lettuce is comparatively unknown in this country. It is of very quick growth and as easy to grow as a weed, and not at all particular as to soil; but it does best of all if sown in an open, dry situation. You can either sow broadcast or in drills 6ins. apart, and thin out to 4ins. between each plant. If a succession is required through the winter, sow the first lot in the middle of August and then fortnightly until the end of September. The plants, which form bright green little rosettes of leaves, can be cut when they have formed half a dozen leaves, or allowed to grow larger; the simplest way is to pull the whole plant up and cut off its roots. American or land cress, which has the same flavour as watercress, can be grown in the same manner, only in shady spots such as under currant bushes, etc., and only the tops of the leaves used.

Chicory should be sown in rich deep soil (not lately manured) in May and June, in rows 1ft. apart, and the plants later thinned out to 8ins. or 9ins. In autumn the roots must be carefully lifted, the tops cut off just above the crown, and then the former packed into deep boxes or pots, with moist light soil or leaf-mould between them. They then should be placed in a cellar or shed where the temperature is well above freezing point, in complete darkness. It is possible to start cutting in three weeks or a month from the time of planting, and a good supply should be kept up from November to May.

For dandelion salads the seeds should be sown in May or June on dry ground, the plants thinned out to a foot apart each way, and any time in the autumn or winter the roots should be lifted and treated in the same way as chicory, or in the spring the plants can be blanched out in the garden by placing boxes over them.

If the above salads are grown, with a good collection of cos and cabbage lettuce during the summer months, there should not be a day in the year when the household has to go without a green salad. Additions to salads can be made with the following: celeriac, celery, chervil, chives, hearts of spring cabbage, nasturtium leaves, radish, sorrel, tomato and watercress. Mustard and cress is beloved by some but is really a very weedy, stringy plant. EVELYN VENNING.

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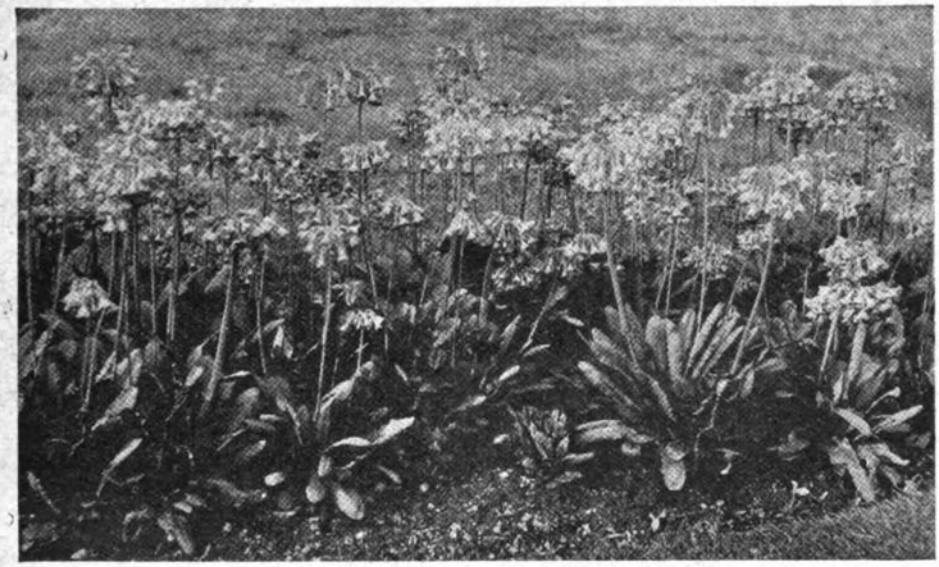
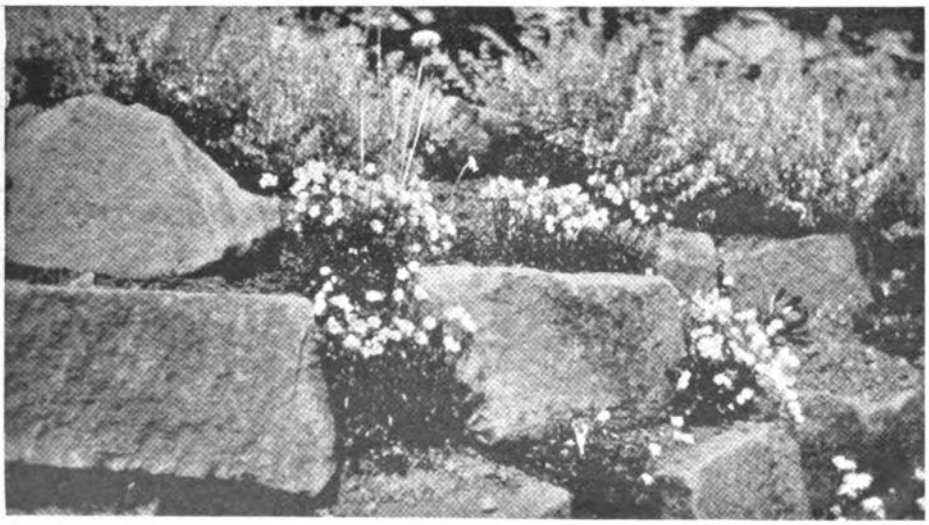
OUR PHOTOGRAPHIC COMPETITION

A pergola can be made one of the most attractive features in a garden if it is suitably placed and clothed with appropriate plants. In this illustration an oak seat backed with split oak fencing is placed at the end of the pergola, which is itself made of split oak tree trunks and covered with Wistaria multijuga, honeysuckle, clematis, Rose Evangeline, François Juranville, Emily Gray and others. On each side of the 4ft. path are Madonna lilies, polyantha roses and violas, edged with pinks and Munstead lavender. When building a pergola it is important to erect it according to the correct proportions. This one is 7ft. 6ins. high and 8ft. wide; a space of 12ft. is left between the pillars to allow sunshine and light to reach the lilies and roses.

The guinea photograph, sent in by MRS. CRESSWELL, *Copse Hill, Ewhurst, Surrey.*



This photograph shows part of a large bed of Primula sikkimensis in a low, rather wet piece of ground at the end of my garden. The seed was sown in the autumn of 1924 and the seedlings pricked out in boxes the following spring. In the autumn of 1925 the young plants were moved into their permanent positions and this summer have been a wonderful sight. Many of the stems are 2½ft. to 3ft. high and are crowned with large heads of beautiful pale yellow sweet-scented flowers. This species is a splendid plant for a damp situation and well repays any trouble in cultivation. It is, moreover, a very hardy and good tempered garden plant. MISS AMY CAMERON, *Trinity, Duns, Berwickshire.* Award of 5s.



This illustration shows how crazy pavement can be made to look natural and beautiful in the same year as it is laid down. It is planted with such plants as alyssum, Tom Thumb antirrhinums, calendulas, and in alternate cracks with plants like cerastium, Arenaria balearica, Alyssum saxatile and armeria. J. HOPTON, *Ullerthorne Road, Streatham Park, S.W.16.* Award of 5s.

This illustration is of a portion of our rock garden about nine months after planting. The bank in particular faces east. The plants growing here are Campanula Bellardii, Primula capitata Mooreana in the centre beds, and Nepeta Mussini in the background. MR. R. BEVAN, *Crowsley Grange, Henley-on-Thames.* Award of 5s.

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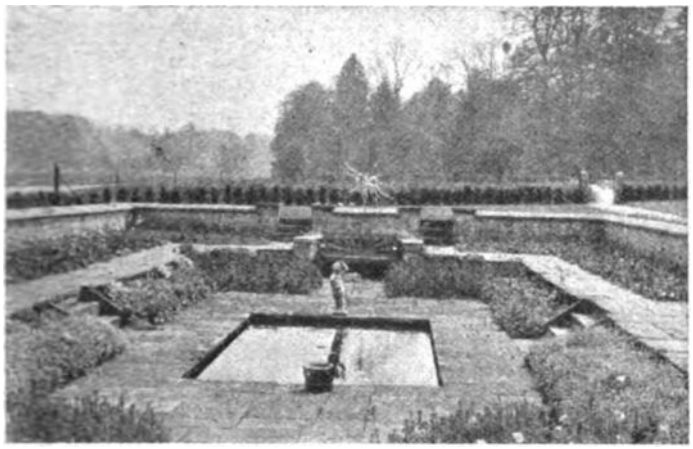
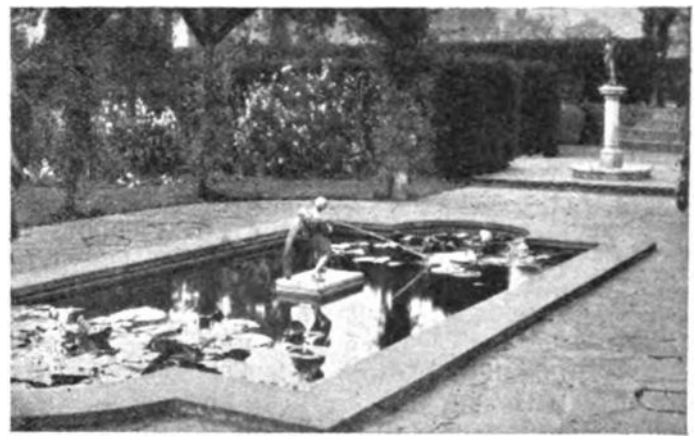


In view of the recent article in THE GARDEN *on the subject, this illustration of my sunk garden may be of interest. It is now five years old and was made and designed at home. The stone is grey limestone. Plants which are grown in the garden are as follows: Roses with an edging of Violas Maggie Mott and Imperial Blue on the top terrace, with forget-me-nots, polyanthus and other spring-flowering subjects followed on by antirrhinums, larkspur and Salvia patens and Blue Beard.*
LADY BROOKE, *Brookeborough, Ulster.* Award of 5s.



This illustration shows how attractive a formal pool can be made if laid out according to a simple design. It is placed in the centre of the garden with a pavement surround and an enclosing pergola, upon which rambler roses are trained. The small figure in the centre of the pool and the water lilies greatly enhance its beauty, while the figure on the pedestal on the pavement gives a finish to this formal arrangement. It is a simple design which greatly adds to the charm of the garden.
MR. H. R. BEETON, *Checkendon, Berks.* Award of 5s.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Training Loganberries.

Readers who grow loganberries in large quantities may be interested to know how market gardeners treat this fruit. Each plant is set between *two* posts: one post takes the fruiting canes, while the young new season's canes are tied to the other post as growth advances. When the fruit is gathered, the old wood is cut out in the usual way, leaving one post bare, the other being occupied by the new season's growths, which are thus already in position for next year's fruiting. The advantages of this system are manifold, three of the most important things being tidiness, free access for the sun's rays to ripen the new wood, and avoidance of that tangle which results when new and fruiting canes are allowed to grow up together. It is a plan which should also answer with rambler roses grown on posts, for these, of course, flower on the year-old wood, the flowering canes being removed as soon as the blossoms have faded.—B. D. S.

How to Succeed with Dianthus neglectus.

Of all the rock pinks Dianthus neglectus, with its warm pink front and buff back, is one of the most beautiful. One of the most satisfactory also, for it is free from the habit of dying! Its even more beautiful relation, Dianthus alpinus, makes a practice of withering away for no apparent cause when it seems to be thoroughly established. Ten years ago I planted Dianthus neglectus in moraine mixture. The plant remained much the same size and produced each year about seven blossoms. Last September I transplanted it into a mixture of ordinary garden soil, leaf-mould from an old shrubbery, and a little sand, to which I added a dessertspoonful of burnt rubbish. The plant is now fully double the size it was in September and has produced eighty-one perfect flowers! They all opened at practically the same time, so that the foliage was completely hidden by a solid pink covering. I have had nothing more beautiful in my rock garden, and intend this autumn to try the same treatment for Dianthus alpinus.—G. H.

Charlock on Lawns.

During the latter half of April and early May I sowed down two new lawns. The ground was, a year ago, part of a cultivated field. The weather has been ideal for the young grass; however, a common field weed, charlock, made its appearance, so as to form practically a mat over the whole surface. Hand-weeding appeared a hopeless task; but the following has proved an efficient remedy in destroying the charlock without undue harm to the young grass: Dissolve 6 oz. of copper sulphate in a gallon of water, using hot water at first to assist in dissolving the green crystals. Avoid metal pails, using only wooden or earthenware vessels. Spray the solution when cold over the affected area, using a fine misty spray, and during a dry and sunny period for preference. In the course of a day or two the charlock begins to shrivel and die. If possible, spray the charlock when young, using approximately 1 gallon of spray to 50 sq. yds. of lawn.—J. W. H.

The Watering of Plants.

Where there is a large number of plants in 60's, and there is no need to use a watering rose, it will be found that one is apt to overwater, because of the difficulty in regulating the stream of water from the spout. A length of unjointed bamboo should be cut, and fitted into the spout of the can, and it will be found to minimise the danger of over-watering, and to allow for easier reach to the back of the staging.—J. R.

A Remedy for Woolly Aphis.

The following simple way of dealing with woolly aphis on an apple tree has proved to be very effective. In the lid of a canister punch a number of holes and then pour a small amount of paraffin into the tin. The canister is then suspended from the main stem of the tree affected so that, as the fumes arise, they are carried through the branches. The odour of paraffin seems to be extraordinarily distasteful to woolly aphis, and the insects soon disappear completely. This plan has often cleared a tree of the pest when applications of insecticides have been only partly successful. Now and again the paraffin in the canister should be replenished, although not a large amount will be required.—S. L. B.

How to Make an Indoor Rock Garden

I have a small unheated greenhouse, about 8ft. square, which I have made look very attractive all the year round. Instead of rows of pot plants, I have arranged the shelf where they used to stand as a rock garden, similar to those exhibited at flower shows. In the centre I have placed a shallow tin painted green and filled with water, and a little figure reclining on a piece of stone. Between the soil and the glass I have one row of plants; the soil of the rock garden reaches the top of the plant pots, in which grow ferns and graceful flowers, some of which droop and some which climb, such as ivy-leaved geraniums, etc., all making a pretty background, and the front has trailing plants like sedums, mosses, etc.—W. W. J.

Increasing Cordylines (Dracænas).

These popular and beautiful foliage plants may be easily increased by means of root-cuttings. Turn the old plant out of its pot remove several pieces of the thick tap-root (or underground stem) about an inch or two long. Insert these in a pan of sandy soil. Place in a propagating case. In a short time they will grow and develop into fine little plants. If the pieces are removed carefully, no harm will result to the old plant.—J. E.

A Second Crop of Tomatoes.

Where early tomatoes are grown, a second crop may be secured by the following method. When four or five trusses of fruit are set and swelling, the plants are stopped and some of the foliage removed. A fresh shoot is selected from the base of the plant and trained up beside the parent stem. When the fruit of the first crop has been gathered, the old stem can be cut out, and if feeding is continued a second crop almost as good as the first will be available before the end of the season.—F. W.

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THE FRUIT AND KITCHEN GARDEN

The Present Treatment of Cucumbers in Frames.

VERY fine crops of cucumbers are grown in frames placed on hot-beds and on ordinary good loam without the hot-bed. Of course, the moderate heat from a firm, well made hot-bed does stimulate both root-action and top growth, and that early in the season, so that the cultivator gets the benefit of the first fine summer weather. Plants that were planted out in May are now filling up the frame with healthy haulm and leaves, and it is just at this stage that inexperienced cultivators go wrong in their treatment. Overcrowding means the weakening of the plants and fewer cucumbers, often the loss of a plant through damping off at the collar—the soil level. The main stems should be loosely pegged down to the soil, then the leaves and ends will be kept from touching the glass, where they are liable to burning by day and to be chilled at night. Just before the ends of these main stems reach the sides of the frames the points should be pinched off, with the result that many side shoots will grow, and at every joint young cucumbers will form. But just beyond the show of fruit at the first joint, stop the shoot. Another shoot will grow and also bear fruit, and this also must be stopped. Every side shoot should be similarly treated, then the whole frame will be gradually filled with fruit-bearing shoots and the cucumbers will be in all stages of growth. Gather the fruits while they are young, as their timely removal lessens the strain on the plant and thus enables it to go on producing more. Always pinch off the shoots—do not cut them—then there will be less risk of losing any through damping. If any damping is found, or any canker of the main stems near the soil level, rub in some dust-dry lime. Maintain a moist atmosphere and keep all water intended for use in a vessel in the frame itself. On cold nights place bags or mats on the glass to help in conserving the heat. —GEO. GARNER.

The New Strawberry Bed.

EVERY lover of the strawberry who wishes to make a new bed this year should form it as soon as possible now. Freshly layered young plants require as long a time as possible to grow in and make plump crowns before the end of November. Such plants will bear remunerative crops of berries next year and be extra strong then for a second year's fruiting, too. The soil of the border must be very carefully prepared. A shallow rooting medium will not yield the best results. Trench the ground now if the soil has not already been so treated. Trench two spits deep and simply loosen the subsoil, leaving it all below. Keep the top soil on the surface; some of it is sure to get mixed with the lower soil and thus improve it. All manure applied should be kept near the surface, as the plants are mainly surface-rooting. Some well rotted manure may be used, also basic slag on the surface, after the planting, at the rate of 4 oz. per square yard. This should be lightly forked in, not buried deeply. Early-rooted layers in small pots should be planted out before they become pot-bound, then there will not be any check to growth and the crowns will become quite plump and mature before the end of November—a very important matter. Taking the variety Royal Sovereign as an example, nearly all the new sorts possess large leaves, and ample room must be allowed for each plant to develop in fully. The approximate distance apart for the rows should be 24ins., and from plant to plant in the rows 18ins. Do not bury the crowns when planting, but make the soil very firm around the roots. Top-dress at once with half-rotted littery manure, and water through a rosed watering-can. The plants, so treated, should be quite snug throughout the winter.—G. G.

Raspberries and Loganberries.

THESE are a wonderfully good crop, in general, this year. The branches were laden with flower trusses, and the fruits set and have matured splendidly. Too often, while fruits are ripening, the cultivator takes a keen interest in them, but neglects the bushes soon after, leaving it to chance as to when and how he will deal with them further. Now, in this country our summers are short enough for the well being of fruit trees, and so we must do our best to help them, to get the wood matured and also strengthened for future crops. In most plantations there are very strong, sappy shoots and very thin, weakly ones. Both kinds should be entirely cut out directly the fruits are gathered, if there is a good supply of medium-strength young canes. Of course, the old fruit-bearing canes must be cut out first of all, as they are, as a rule, branching near the top and exclude light and sunshine. When the old and surplus young wood has been cut out, clear away all foreign matter and burn it. The retained canes should be allowed to sway about in the wind; they will ripen better so. Having cleaned the ground, apply a thin surface mulch of littery manure, if such be available; or one of leaf-soil and loam, mixed—leaf-soil one-third, loam two-thirds. Furthermore, apply water freely in dry weather.—HANTS.

Tomato Diseases.

INTENSIVE cultivation of the tomato has led to increased incidence of diseases of various kinds, but the man who grows his plants in what we might call the rational manner has least trouble. Coddling and forcing are prime causes in the introduction of disease. They do not actually cause the disease, however, but, provided that the germs of the disease are present (and they nearly always are), they rapidly lead such parasites to assume virulent proportions. Do not keep too moist an atmosphere; allow a free play of air round plants and not merely above them in the height of summer and, when feeding, apply a "balanced" manure in preference to one designed for one purpose alone. Potash, let it be noted, seems to be a potent factor in keeping plants healthy. When leaf disease, like rust, spot and mosaic, appears, keep plants decidedly drier, pick off the infested leaves largely and spray with a fungicide. Should it be wilt, sleepy disease or a disease causing collapse, nothing can be done, but the infested plant should be removed and the spot heavily limed; also spray. Fruit diseases like black spot may disappear if the diseased fruits are removed at once. In bad cases remove and burn the plant also. In all cases of disease water the plants with sulphate of potash, 1 oz. per gallon. Remember, always, that the tomato is a hardy plant, and do not coddle.—H. H. A.

Lifting Potatoes.

EARLY varieties, in many parts of the country, have yielded light crops of, mainly, small tubers. But they were sound and clean, so that there is not any waste. Late varieties look remarkably well at the present time, with the exception of a few, in various parts, which are diseased. Judicious spraying, even now, would be beneficial in numerous instances. But all mid-season sorts should be lifted, very carefully examined for any diseased tubers, and stored in good condition, rather than leave the tubers in the soil after their growth has ceased. If possible, avoid lifting tubers in rainy weather, as exposure to rain would hasten decay. Exposure to air, in a cool, dry shed, for several days, would be beneficial. I strongly advise this course prior to storing, as a second examination of the tubers can be made comfortably, and odd, diseased ones, if there are any, picked out. I have found this plan, on a large scale, result in very satisfactory storing during the winter months. Potato rust is present, in some batches, again this year. It is sometimes mistaken for the potato disease. When the leaves are rusted the haulm practically stops growing; the tubers do, certainly. Liming has a very beneficial effect. For several years I closely watched a potato plot—cropped with potatoes year after year; the haulm was badly rusted every year. Then a new tenant had the plot under cultivation; he applied a good dressing of lime, and even on the portion occupied by late broccoli the potatoes have not shown a single rusted leaf. The lime should be applied in the autumn at the rate of, approximately, 1 bushel per square rod. Spread the lime evenly on the surface, leave it so until some few weeks after Christmas; then, when the soil is found to be dry enough, lightly fork it into the surface only. Later it will be mixed with the soil to a greater depth.—CHRISTCHURCH.

How to Keep Down Celery Fly.

ALL growers of celery should keep a sharp look-out for signs of that very troublesome pest the celery fly. In some seasons the grubs of this insect will attack the plants over three or four months, and it is essential to take energetic measures without delay. It is the habit of the grubs to mine beneath the surface of the celery leaves and cause the well known blistered appearance by eating away the green colouring tissue of the leaf. If the attack is very severe, practically the whole of the foliage in the case of young plants may turn brown and, finally, the specimens may die altogether. One of the best ways of dealing with the pest is to examine the plants at frequent intervals and crush the blistered parts between the thumb and finger; very badly attacked leaves may be removed altogether, and these should be burned. If this method is followed from the first signs of the pest and at the same time the plants are kept growing vigorously by the application of plenty of water, it is almost impossible for the celery fly to make much headway. Syringing or spraying with tobacco water or any of the advertised insecticides is also to be recommended. A preventive measure which checks the egg-laying activities of the perfect insect is to dust the foliage of the plants with a mixture of soot and lime on dewy mornings.—L. B.

When Lettuces Bolt.

A LETTUCE which "bolts" or runs up to the flowering head before it has formed a good centre is of no service at all. The causes of bolting in lettuces are several, and in order to prevent the trouble the grower should never neglect certain points. For one thing, it is most important that the seed should be good; if you save seed yourself, never select it from plants that have started to run up to flower very early in their growth. Generally speaking, it is very much better to buy lettuce seed from a reliable dealer whose business it is to offer non-bolting varieties. Soil poverty is a common cause of bolting in lettuces. You cannot grow good lettuces on poor soil. If the young lettuces are not making the growth that they should and do not show

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signs of early hearting, you may be sure that the plants are suffering from lack of food. Up to the time the lettuces are half grown you may much improve matters by applying guano or dried poultry manure and watering it in. Allow 1 oz. of guano to every square yard, or double the quantity of the poultry manure. When the lettuces are more than half grown they will not respond so well to the feeding. During the summer, cabbage lettuces frequently bolt as a protest against hot, dry conditions. You can get over this difficulty by planting on a north border under the partial shade of trees or in any semi-shaded position. Yet another cause of bolting is the presence of insect pests like aphides on the roots. These will often appear when the lettuces are quite small. If the young plants are badly attacked, it is a good plan to put in fresh specimens and destroy tthe others. Should you have no spare plants, lift the affected ones and then wash their roots in water. After this the specimens will often grow with renewed vigour, and it is curious that they are rarely attacked by aphides again.—L. B.

The Cabbage Gall Weevil.

ONE of the most destructive of cabbage pests is the gall weevil. The perfect insect is about in the summer, and it is a pretty little beetle of a coppery colour. The gall weevil lays its eggs at the base of the stem of the cabbage plant just at, or a little below, the ground level. When the eggs hatch the grubs bore their way through the skin of the stem and commence feeding on the soft interior. The irritation set up by the grubs causes the formation of gall-like structures, which often make the amateur think that his crop is afflicted with club-root. When cabbages are badly attacked by the gall weevil there is practically nothing to be done, as no insecticide or wash will reach the grubs in the stems. One of the best ways of keeping this pest under is frequent hoeing among the young plants. The soil knocking against the stems brushes away the eggs, and if these hatch on the ground the grubs die. Where there seems any chance of an attack by the gall weevil it is well to scatter sand which has been soaked in paraffin on the seed bed. After cabbages which have shown signs of gall weevil have been removed, dress the ground in the autumn with gas lime at the rate of 1 peck to the square rod (30¼ square yards) or quicklime at the rate of 1 bushel to the rod. Allow either to remain on the surface a few weeks before digging in. Avoid planting a similar crop on the same ground the following season, and in this connection it should be noted that the gall weevil will attack turnips and, indeed, almost any member of the brassica tribe.—S.

THE AMATEUR'S GREENHOUSE

August in the Greenhouse.

IF the greenhouse is overrun with climbers, there is sometimes a risk of the interior being too much shaded. Growth makes vigorous strides in July, if the weather is warm, a thinning out of the shoots may be necessary. Ferns, fuchsias, palms, begonias, etc., may do well with a certain amount of shade, but even these lovers of subdued light may suffer if the roof of the greenhouse is covered with a mass of climbers.

The cultural work among the greenhouse plants will include sowing, propagating and potting. Mignonette may now be sown in pots for winter flowering. Four-inch pots, containing about a half inch of drainage material, with a little dry, rotted manure and fine sand, will do nicely. The best way to obtain good plants is not to give them too many shifts from the seedling to the flowering stage. Seedlings often do very well when transplanted at once into their flowering pots.

Celosia plants raised from seed may now be potted. They bloom late in the season. Repot late sown cinerarias to replace the earlier batch. Transfer the primulas to 6in. pots in which they will flower.

Pelargoniums of the exhibition type that have done flowering may now be turned out of doors, allowing them a full exposure to sun and air. Give them no more water than will keep the foliage from falling off too quickly. After ripening for a few weeks these pelargoniums will be in fine condition to cut down.

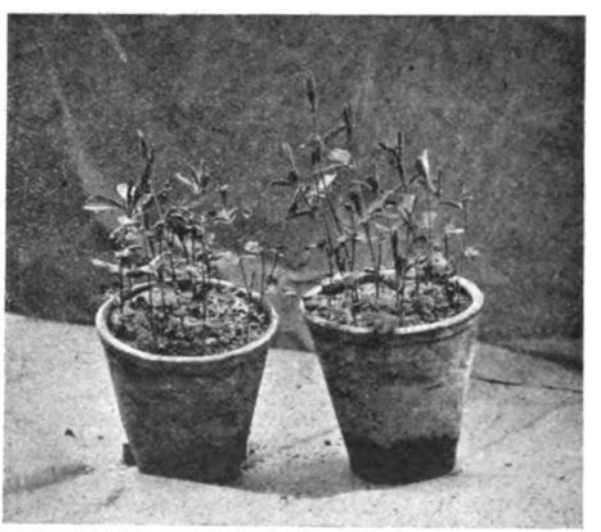
Cyclamen also require some extra attention at this season. Shift young stock into their flowering pots. A nice size of pot is the 6in. one. These subjects do best with a little shading from the strong sun and in a moderately moist atmosphere.

In August some fuchsia cuttings should be inserted in suitable pots for growing on through the winter. A light, sandy soil is preferable for propagating purposes; but ordinary garden soil, or loam, with a good admixture of a sharp sand will do very well. A sharp sand helps materially to make the cuttings take root. The practice of removing a few of the leaves when inserting cuttings is a doubtful one. The idea may be to reduce the facilities for evaporation, as the larger the amount of foliage, the greater the amount of moisture passed into the atmosphere. But plants receive part of their nourishment from the air, which in a sense they breathe, while the action of the sunlight on the green colouring matter of the foliage is highly beneficial. Therefore, it seems a mistake to remove some of the leaves from the cuttings.

The atmosphere of the greenhouse should be kept slightly moist by means of damping the house at least once a day during warm weather. Admit plenty of air, too.—J. W.

Painting the Greenhouse.

THERE is no better time than the present for painting and overhauling many greenhouses, particularly those which house pot plants, easily moved as required. These may quite well be placed in the open for a day or two in a good number of instances; at least, they may stand on the paths outside during the day and in the frame at night, if necessary. To do the work thoroughly entails a few day's initial preparation; first of all clean away all rubbish and wash down any dirty woodwork or glass with hot soapy water. At this stage, too, renew any glass or woodwork calling for attention, giving new wood a good coat of lead paint when in position. Broken and loose putty may be removed and new putty placed there, the paint brush being first drawn down the woodwork. Scrape off blisters, and coat exposed or bare wood with paint. If possible, limewash any wall and rub splashes of lime from the woodwork. After all these preparations, paint inside and outside carefully, remembering that best quality paint and slow, thorough work are amply repaid. On no account use creosote or wood preservative, and let the paint dry completely before it is wetted in any way.—LANARKSHIRE.



SWEET PEA CUTTINGS IN POTS IN A GREENHOUSE.
These can be taken now or from seedlings in the spring.

Sweet Peas from Cuttings.

IT is interesting to raise a few sweet peas from cuttings to provide flowers in the autumn. The plan is a very simple one to carry out, and the plants produced will continue in bloom until the coming of sharp frosts. The cuttings should consist of the top of plants and each should carry two or three well developed leaves, in addition, of course, to the growing tip. Each cutting should be 4ins. or 5ins. long and, after the removal of the lowest leaf, a cut is made squarely across the stem just below the joint. The removal of these shoots will not harmfully affect the parent plants, but will rather stimulate them to send out more shoots. Insert the cuttings in a fairly deep, well drained pot or box of very sandy soil, over the surface of which a good layer of sand is spread. Water well and then keep the box in a close frame, and in about a fortnight rooting will have taken place. Sweet pea cuttings will also root in the open border if the position is well drained and somewhat shaded. Of course, protection with bell glasses or hand-lights is essential if rooting is to take place. As soon as the little plants have rooted they may be removed to their permanent quarters. Watering, if the weather is dry, and applications of liquid fertilisers, will help the plants to grow quickly, and soon they will be in flower.

How to Raise Sturdy Schizanthus.

THE schizanthus is a very useful and accommodating plant, moreover, it is a beautiful one when well grown. At one time the old Schizanthus pinnatus was badly grown and the plants with their flowers almost resembled discarded weeds. To-day we have very fine strains and the knowledge and the will to grow first-rate specimens. When the seeds are sown in August the the resultant plants, if properly treated, have a chance to get well hardened and to grow sturdily before the winter season. To grow fine schizanthus plants we require two-

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separate lots of composts; the first for the benefit of the seedlings, the second for the plants during their flowering period. The first, or seed compost, should consist of sweet loam, two thirds; sweet leaf-soil, one third. Use very small pots with a single crock in each one, place them close together on the stage or in a shallow box, fill them nearly to the brim with the compost level and water the soil. One hour later sow several seeds in each pot and cover with fine soil. In due course thin out the resultant seedlings to one in each pot. This course is better than that of sowing in pans or boxes and transplanting, as the young plants are never checked and can be re-potted without any serious check. From the first re-potting the soil should be well firmed in the pots. Grow the young plants as hardily as possible throughout the autumn and early winter, and, when frosts come, do not maintain a higher temperature than will just keep out frost. Before the winter get the plants well rooted, then they will grow rapidly in spring after the final potting. The compost for this potting should be richer than that for the young plants; some well-rotted manure, also bonemeal, will be beneficial. Sunny, dry shelves and ample ventilation on suitable days throughout the winter are essentials to success, coupled with great care in the matter of watering.—G. G.

SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Diseased Gooseberry Bushes.

Could you inform me what the disease is on these gooseberry bushes, and what remedies I can use to cure them?—W. V., Loughton.

The gooseberries sent for our examination are attacked by two distinct diseases. The greyish white, felt-like coating on the berries and the mealy powder on the leaves are caused by the American gooseberry mildew, the most serious trouble to which gooseberries are liable. The coral-coloured eruptions on the berries are caused by the cluster cup disease, and this is not nearly so deadly or disastrous in effect. The remedy for the latter trouble is to pick off and burn all berries or leaves on which the coral coloured clusters are noticed. This disease passes a part of its life cycle on sedges in the neighbourhood, and so long as sedges remain near there is always the likelihood of a similar attack in future years. It is seldom, however, that serious harm is done by it. With the gooseberry mildew, however, it is a much more serious matter. Probably the disease is deep-seated, and affected wood must be pruned out, in due season, if the bushes are to be freed. Spray all the bushes with the "A.P.S." wash (a preparation sold by Messrs. Murphy and Son, Limited, The Cedars Laboratory, Mortlake, S.W.14) as soon as possible. Diseased berries, unfit for use, should be gathered and burned, and on no account left to fall on the ground. In late August the bushes should be "tipped," meaning that the top 2ins. or 3ins. is cut off each shoot on every bush, the "tippings" being burned immediately and not allowed to fall to the ground. Prune the bushes hard at the winter pruning time, and in late February give the ground about and beneath the bushes a good dressing of quicklime. You should have at hand a supply of lime sulphur with which to spray the bushes just before they come into flower next spring, and it would be well also to spray a few weeks after flowering next season with the "A.P.S." wash. This treatment should rid the bushes of the disease; but if they have been so weakened and spoiled in growth by this present epidemic, perhaps the cheapest and best thing to do would be to uproot and burn them, for the disease is very contagious, and on old bushes persistent.

The Use of Nitrate of Ammonia.

I took over an allotment on March 25th this year which had been under wheat and sown with clover last year. I have, so far, dug and planted a certain proportion of it, and need a little advice as to the use of ammonium nitrates of which I have had 28lb. given me, but do not know how to use same on plants. If you could give me some hints as to what plants it can safely be given, and quantity, I should be greatly obliged.—A. H. M., Manchester.

At the earthing-up stage of the potatoes you may use 2 oz. per yard run of row, applying the manure before drawing up the soil. To the peas and beans a similar quantity may be used while the plants are growing freely. During July scatter 1 oz. per yard run of row between the rows of onions and lettuce, but none must be given to the radishes. Treat the sweet peas in a similar way. For the chrysanthemums, raspberries and roses, use 2 oz. per square yard and water it in if the weather is dry at the time.

Propagating Laburnum.

Please tell me, will laburnum strike from a cutting, and what month?—R. F., Carmarthen.

It is possible to root cuttings of laburnum in July, but as they do not make such strong, healthy trees as those readily raised from seeds, this method of propagation is seldom practised. One or two hybrid laburnums which do not come true from seeds are grafted on seedling plants in early spring.

Manures for Various Subjects.

I have just made a garden at a new house, and wish to know what manures or treatment to give the soil, which will contain the following, in beds or borders. Rhododendrons and azaleas; chrysanthemums, stocks, asters, antirrhinums, gladioli), sweet peas, violas and calceolarias; roses. The soil is fairly light and was composed of turf, which has been well dug up about two months ago. Please state what should be done to a lawn which was laid with turf three weeks ago, and has been kept well watered and appears to be doing fairly well.—C. S., Bradford.

The best kind of manure to use for rhododendrons and azaleas is well rotted cow manure and an annual top-dressing of Thompson's Plant Manure. For chrysanthemums, powdery fowl manure, old lime rubble and bonemeal with potting soil, with Clay's manure added when the plants are growing freely in the summer. Rotted manure mixed with soil 1ft. below the surface is best for gladioli, manure water being applied when the flower spikes can be felt. For sweet peas, rotted manure, and a little dry fowl manure should be put in the trenches in autumn. Three ounces of superphosphate per yard run of row should be applied during the summer (about three times). For roses, good rotted manure in the soil, with applications of liquid manure in May and June. For the other plants, old lime rubble should be applied in the autumn and bonemeal and rotted manure in the spring. Regarding your lawn, the best treatment to give it now is to brush in sifted soil between the turves, roll and mow in due course. We trust that this information will be of service to you in preparing the soil for the shrubs and plants you mention.

THE BLACKPOOL FLOWER SHOW

BLACKPOOL'S first flower show, which was opened by Sir Walter de Frece, M.P., on July 20th, was, from a floral standpoint, a huge success, both in quality and quantity. The exhibitors gave of their best, with the result that nothing but praise was heard from everybody. The Corporation of Blackpool are to be congratulated on providing such a wonderful display on this their first attempt at a flower show on a really large scale. The arrangements were admirable in every way, and the success this year augurs well for future occasions. There is little doubt that the first show was an unparalleled success, to judge from the fact that more than 2,000 entries were received. Every class of flower was well represented, particularly roses and sweet peas and carnations. Messrs. Dobbies obtained a gold medal for the most distinctive rose in the show, with their Duchess of Atholl. This rose, a coppery orange, is a first-class variety for decorative and garden purposes, of grand upright habit and very hardy. It is also mildew proof. The Edinburgh firm also had a fine collection of sweet peas and dahlias. Their sweet peas Hero and Gleneagles looked very well. Among their dahlias two new varieties, Pitlochry and Dunrobin, both collarette varieties, were very choice. Messrs. McGredy were showing, among a large representative group of roses, Cherry and Patience, the former a new rose not yet in commerce. Messrs. Carters achieved distinction with their excellent exhibits of flowers and vegetables. In their admirable floral display, in the centre of which four fountains were playing, gloxinias, godetias, hydrangeas and sweet peas were present in profusion. The varieties were too numerous to mention, but we particularly noticed Godetia Pink Pearl and Gladioli Vesuvius and Alice Tiplady. For this display they received a special 100-guinea gold cup; while they were also awarded a large gold medal for their collection of vegetables, in which could be seen a choice of their well known varieties. They received another gold medal for their garden. Messrs. Bees staged a very large range of flowers, including roses, delphiniums, herbaceous and other hardy plants. The display was particularly fine indeed, particularly their herbaceous plants, which were all well grown and uncommonly good. Mr. Bolton exhibited his high-class sweet peas, and, considering the recent bad weather we have had, it was surprising how well they looked. Outstanding was his Sweet Pea Mrs. A. Searles, an excellent new variety. The carnations were at their best. Messrs. Allwood's Sussex Rosalind, and Edward Allwood were very pleasing, as was Messrs. Crowhurst's new Amy Weston. Messrs. Engelmann, whose carnations are too well known to need much writing about, had their usual excellent display. We think White Pearl and Janet were the pick of their group. Messrs. Woolman's Cockatoo was well worth seeing, as also was their Shirley Surprise. The lupins and delphiniums of Messrs. W. H. Simpson were particularly good, among them Lupin Rosalind and Delphinium looked well. We liked Messrs. Lomas' Iris Anglica Queen Mary, a new seedling.

The rock gardens were a delight to the eye, and the judges must have found considerable difficulty in awarding the prizes. Mr. Gavin Jones took the £50 trophy with a simple but impressive rock garden in red sandstone. He had used much larger rocks than are generally seen in a rock garden, which gave it an appearance of strength and, although not too well clothed, there was just enough to give it an air of simplicity.

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HINTS FOR DAFFODIL GROWERS (see page 528).

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THE

GARDEN

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THE GARDEN

VOL. XCI.—No. 2906. AUGUST 13, 1927. PRICE TWOPENCE.

CITIES OF GARDENS

QUITE a number of our larger cities have held Garden Competitions this summer. In Glasgow, Manchester, Birmingham and Sheffield various organisations have held, or are holding, popular garden contests, with a view to encourage the town dweller to take a greater interest in the art of gardening. In London the biggest single contest ever organised has just concluded.

All these competitions are good, in that they give publicity to the æsthetic and recreational value of gardening. An attempt is now being made by the Gardens Guild to link up these various efforts into a National Association, and truly, many of our big towns have need for such a movement. The Marquess of Northampton broadcasted from 2 L. O. his impressions of some of the London Gardens, recently, and he appealed for the support of all those who wish to encourage this work of the Gardens Guild.

In the new Association, which is to be called the National Town Gardens Guild, Mrs. Marion Cran is Honorary Treasurer, and Mr. R. Sudell the Honorary Secretary. The Association already has the support of many notable people. It is a movement that deserves the attention and whole hearted support of all organisations as well as individual amateurs who take an interest in gardening.

This Week's Work

For Gardens in the South and Midlands.

Take cuttings of summer bedding plants.

Cut out old fruiting canes of raspberries and tie in young canes.

Sow onions and spring cabbage.

Earth up celery and lift mid-season potatoes.

Finish summer pruning fruit trees.

Pot up Roman hyacinths, freesias and nerines.

Sow cyclamen seed in pans and germinate in a warm greenhouse.

Sow winter-flowering stocks in boxes placed in a cold frame.

Forthcoming Primula Conference.

THE Royal Horticultural Society is making plans for the resumption of the conferences upon important garden matters which, before the war, did so much to bring together those who had special knowledge and to spread it over a wide field. The first conference of this new series will be held at Chelsea in May next, and the subject will be "Primulas." Arrangements are being made to set aside a special tent at the Chelsea Show for the exhibition of a representative series of both species and varieties of this great genus which has, of late years, received so many valuable additions as the result of explorations in China, Tibet and Upper Burma, and to hold a conference between those interested in another tent in the Chelsea Hospital grounds on the second and third days of the Show. This early announcement is made in order that growers of primulas of all kinds may prepare for their exhibition at that time and to invite the offer of papers upon the cultivation, characteristics, variations, native habitats, etc., of primulas. The Director of the Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey, will be glad to hear from intending exhibitors and to receive offers of papers to be read at the conference.

The Amateur Fruit Show.

THE Royal Horticultural Society's Fruit Show, open to all amateurs and market growers, whether Fellows of the Society or not, is to be held in the Society's Hall, Vincent Square, London, S.W.1, on Tuesday, October 11th. There are 115 classes, divided into six divisions, of which Divisions I, III, IV and V are open to amateurs only, Division II to market growers and Division VI to societies affiliated to the R.H.S. It will be noticed in the schedule that in consequence of the fact that finer varieties of grapes are now grown, Class 4 only asks for two varieties. In the single dish classes for grapes, Lady Downe's has been substituted for Black Hamburgh, and Appley Towers takes the place of Prince of Wales. In place of the class for a collection of eighteen dishes of hardy fruits, a class for twelve dishes has been introduced. Peaches and figs are included. The section for market growers has been extended with a view to encouraging exhibits of choice fruit in non-returnable boxes. In the single dish classes for apples, a new class has been made for Duke of Devonshire. Altogether the schedule is much more attractive this year, and the Show merits the attention of all keen amateur fruit growers. Entries for the Show close on October 4th. Copies of the Schedule may be obtained on application to the Secretary, R.H.S., Vincent Square, London, S.W.1.

Daffodils at Wisley.

IN pursuance of their policy of giving awards to plants intended for garden decoration only after trial in their gardens, the Council of the Royal Horticultural Society is this year planting a standard collection of daffodils at Wisley representative of all the recognised sections and of known value in the garden. Growers of seedlings are invited to send six (or three) bulbs of their varieties for trial against this standard collection. These bulbs should reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, as soon as possible and not later than September 15th, 1927.

We are indebted to Messrs. Carters of Raynes Park, for the use of the illustration which appears on the cover of this issue. The wallflowers shown are a few varieties of this firm's fine strain of these attractive spring flowering plants.

This Week's Work

For Gardens in Scotland and the North.

Remove old large leaves from strawberry beds.

Plant Iris tingitana for Christmas bloom.

Bend over stems of onions to assist ripening.

Make a small sowing of parsley for winter use.

Thin out weak growths of dahlias.

Insert cuttings of geraniums, pansies and violas.

Plant Crocus speciosus for autumn display.

Begin autumn sowing of onions.

Pot up early batch of Roman hyacinths.

Complete the lifting of early potato crops.

Clear away all vegetable refuse and fork the soil.

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CROCUSES FOR THE ROCKERY

NOW that the season of crocus species must be prepared for, it may not be out of place to sing the praises of some of these little gems for the rock garden. When I say for the rock garden, I mean that that is the most suitable place for outdoor culture. But, unfortunately, at the time of year when they flower, the chance of these delicate flowers doing themselves justice in the face of the elements and the depredations of slugs, is small, and I think that the shelter of a sunny, cold house undoubtedly allows them to give of their best. But how rarely does one meet these flowers, even in the collections of keen enthusiasts. When one mentions autumn crocuses, one is usually shown colchicums and great is the surprise evinced when the real flowers of crocuses are shown. Most of these species are easily obtained from reliable bulb dealers, although some of the daintiest are rather expensive. It is nearly possible to have continuation of bloom of a different species from the middle of September to the end of March. To begin with, Crocus speciosus bursts into bloom in the middle of September, with its lovely large blue-violet feathered petals. This is quite cheap, and, blooming early stands a good chance when grown out of doors. This is followed by C. pulchellus, a dainty lavender blue crown with white anthers. At the same time comes C. cancellatus, rather similar, but of a pale lilac colour, with bluish stripes. Before these last two have finished flowering comes C. corsicus, again very similar but of a more globular shape. Then the succession is kept up by C. speciosus albus, quite the gem of all, rising 4ins. to 5ins. high and opening out flat in the sunshine. C. nudiflorus is also in bloom at the same time, of a beautiful uniform deep lilac, with orange stamens. Then comes C. zonatus, of pale lavender with deep orange ring at the base of the petals. This is a very good doer, multiplying rapidly and throwing as many as eight blooms to a bulb. Also, we now have that very quaint bloom of C. iridiflorus, which really reminds one of an iris when the sun is out, as three petals lie out flat disclosing three short petals standing up straight in tubular form with a veritable tassel of orange stamens. I find that this crocus grows larger and flowers better when planted in a well drained bed of moist peat, such as a tourbière. Two other species which also enjoy this treatment are C. Salzmannii, of a shaded lilac colour, and C. Clusii, rather similar, but later flowering; both of these have long pointed petals. The species enumerated have taken us into early November, and now comes C. ochroleucus, small and white with an orange base; this is also a good doer.

CROCUS TOMASINIANUS, ONE OF THE CHOICEST OF THE MANY SPECIES.

After these I prefer to grow the following in 6in. pots in a sunny, cold greenhouse, where the wind, rain and slugs are more easily kept at bay. Towards the end of November comes C. Korolkowi, a dainty bloom only a few inches high and of a beautiful purple colour with the usual orange stamens. In the cold house these flowers will take one well into December, when about Christmas time the little orange blooms, with an expanded base, of C. vitellinus, will take their place. These are followed, soon after Christmas, both in the cold house and in the rock garden by C. Imperati. This species has only to be seen for its beauty to be realised; and when once seen I cannot imagine any flower-lover not growing it. It is cheap and multiplies very rapidly, and a large colony of its expanded blooms on a sunny day in January or February gladdens the heart and breathes

THE BEAUTIFUL CROCUS SPECIOSUS ALBUS, AN EARLY FLOWERING VARIETY.

CROCUS IMPERATI, A SPECIES FOR EVERY GARDEN. IT GROWS RAPIDLY AND IS INEXPENSIVE.

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of the approach of spring. The unopened flower is of a brownish buff, with deep purple featherings, and when it opens in the sun the interior is lilac with orange stamens. The succession of blooms often lasts six weeks, until the middle or end of February, when its place is taken by the spring-blooming species. The first of these is C. ærius major, a lovely blue-violet and its variety, C. ærius major Celeste, of a paler shade. C. etruscus with deep lilac inner petals and paler outer ones is also very pretty. Next comes C. Sieberi, one of the bluest of all, with quaint globular shaped cups with yellow bases; this is also a good doer. Then there are two dwarfs, quite the smallest of all, one C. Aucheri, is deep orange and scarcely grows an inch high, while throwing many blooms to each bulb, and C. Olivieri, very little larger and of a pale lilac with purple featherings, very similar to the Scottish crocus, C. versicolor, which is, however, one of the last to bloom, often being at its best about Eastertime. Very similar to C. Olivieri and flowering at the same time, but slightly larger is C. lævigatus. Also, at this time, is C. Fleischeri, rather small for its height, but of a pure white with very deep orange stamens. Next comes the pure butter yellow C. aureus and its paler lemon yellow variety, C. aureus concolor; the first of these is very like a neat dwarf form of the common yellow crocus of gardens, which is also now in bloom. Following these in early March comes the last of the species to bloom. This is C. Tomasinianus, one of the very best, as it is as cheap as many of the ordinary crocuses grown so widely, and it is also an excellent grower and flowerer, with pointed petals of delicate lilac, a group of which will produce flowers of many shades. This species seeds itself freely and comes up in quite unexpected places, a good colony soon being formed.

These short notes are by no means complete, but if they should encourage keen gardeners to try some of the species described they will have served their purpose, and one will not so often be shown colchicums, usually faded and slug-eaten, and be told that those are the only autumn crocuses known. H. STEWART WACHER.

CYCLAMEN FOR GREENHOUSE DECORATION

CYCLAMENS in many beautiful varieties are more or less indispensable, not only for furnishing the stages in the greenhouse and conservatory, but also for house and table decoration. The cut flowers last for a long time in a fresh condition. Cyclamens belong to the Natural Order Primulaceæ; there seems to be some doubt as to the actual date of their introduction and cultivation. The many varieties cultivated at the present day have been obtained by seed selection.

Cyclamens are easily raised from seed, but it is very important that the latter be fresh. Old seed is often slow and uncertain in germination. It is the general practice to sow seed during August, the resulting plants flowering about fifteen months later. On the other hand, it is possible, with good cultivation, to flower the plants in twelve months from seed sowing. From seed sown at the end of December or the beginning of January I have frequently produced good flowering plants within twelve months. However, it should be remembered that such results are only possible out in the country where there is plenty of light during the winter. In the immediate neighbourhood of London and other large towns I would advise sowing about the middle of July. However, for general purposes it is best to sow seed about the middle of August. The compost for sowing should be light and open, consisting of a good medium loam, with the addition of some leaf-soil and enough silver sand or old mortar rubble to keep the whole open and porous. I advise the use of old mortar rubble in preference to sand at all stages of the plant's cultivation, as I consider that lime in some form is essential.

The compost in the seed-pans or boxes should be made fairly firm and the seeds sown singly about 1in. apart and ½in. deep. As germination is usually irregular, this method allows of the more forward plants being taken out without unduly disturbing the others. The seed-pans should be well watered, covered with pieces of glass and kept shaded until germination takes place. The seeds may be germinated in an ordinary greenhouse, but it is an advantage if they can be placed in slight bottom heat, or at least in a warm moist house where a temperature of about 60° Fahr. can be maintained. After the seeds have germinated, the seed-pans should be placed on a shelf well up to the roof glass.

About the beginning of November the bulk of the young seedlings should be ready for pricking off into pots, pans or boxes, according to the quantities required. At this stage some cultivators place the seedlings directly into thumb pots, but on the whole they are best pricked off into pans or boxes until January, when they may be potted off singly into pots. During the winter months they are best grown in a warm moist house where a temperature of 55° to 60° Fahr. can be kept up. As they increase in size and the season advances, they should be accustomed to cooler conditions, and during the summer months they are best grown in low pits or cold frames, where they can be kept well up to the roof glass. It is also an advantage if the frame lights can be pulled off, as towards the end of summer the plants benefit greatly by dews at night.

FOR PURITY OF COLOUR AND GRACE OF OUTLINE FEW GREENHOUSE PLANTS CAN EQUAL THE CYCLAMEN.
Their flowers always last a long time in bloom.

Towards the end of April or beginning of May the young plants should be ready for a shift into 3in. pots. For this and subsequent pottings a larger proportion of loam should be used, with the addition of a 6in. potful of bone-meal to every bushel of soil, or, where it can be obtained, some dried cow or sheep manure—rubbed through a fine sieve—may be used with advantage. The pots should always be clean and well drained. Pot the plants fairly firm, keeping the young corms just on the surface of the soil. From the end of June to the middle of July the most forward plants should be ready for placing in their flowering pots (48's).

Careful watering and the maintenance of cool, moist atmospheric conditions are the essentials of success with cyclamens. Admit plenty of air on all favourable occasions; draughts, of course, should be guarded against. The bed on which the plants stand should be kept moist and the plants sprayed over during the morning. They should also be sprayed again during the afternoon, when the frames should be closed for an hour or so, afterwards giving a little air during the night, or the lights may be removed altogether so that the plants get the benefit of the dew. The plants should, of course, be kept shaded during bright sunshine. When grown in frames it is an advantage if cyclamens are stood on inverted pots, thus allowing the air to circulate freely among them.

Towards the end of September plants in cold frames should be removed to span-roofed pits or a cool, airy greenhouse, keeping them well up to the glass. When they have well filled their flowering pots with roots, they may be fed with diluted liquid cow manure and soot water. Sheep manure is also excellent for the same purpose.

If desired, some plants for early flowering may be brought on in a slightly warmer temperature, remembering, however, that the best results are obtained by cool treatment. Cyclamens can be grown on for several

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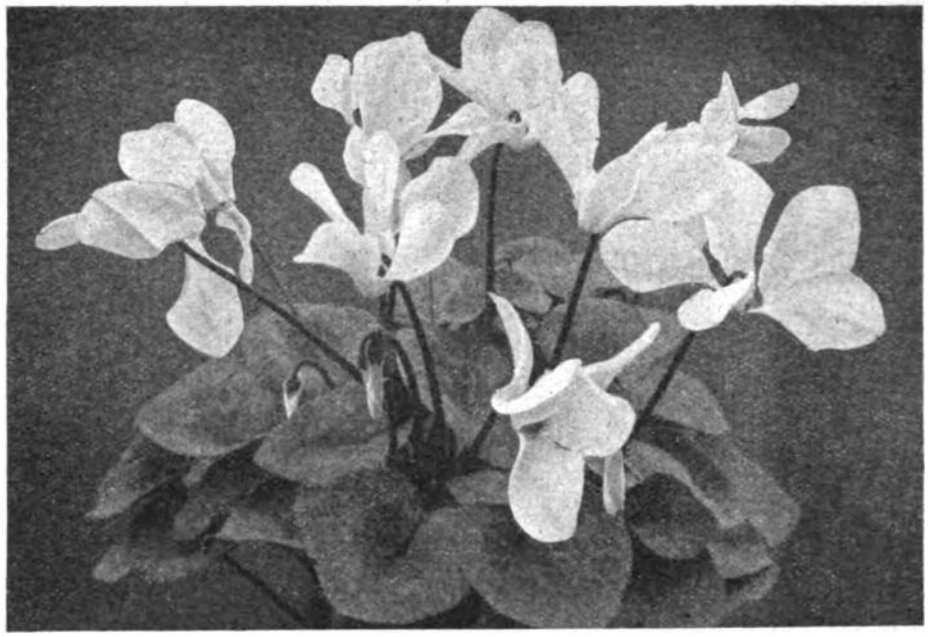
years, but at the present day it is usual to raise them from seed each year. If it is decided to grow some of the plants on, they should, after flowering, be stood in cold frames, watering them in the usual way. As the old foliage gradually dies off, the plants should be kept on the dry side for several weeks, and when they show signs of starting into fresh growth they should be turned out of their pots and all the soil shaken off the roots. Afterwards place them in as small pots as possible. After potting, stand the plants in a cold frame and water very carefully until some new roots are formed. When they have well filled their pots with roots they will require a shift into larger sized pots, the cultural detail being the same as that advised for the young plants.



GIANT WHITE, ONE OF THE FINEST OF MODERN CYCLAMEN VARIETIES.

Instead of potting on the old corms, some growers plant them out in a bed of rich soil in cold frames, or even outdoors, lifting them and placing them in pots during September.

With their beautiful marbled foliage and elegantly poised flowers, cyclamens are ideal for decorative work, plants in cool rooms keeping in good condition for many weeks. Cut flowers are also excellent for decorating dinner-tables and for filling small vases. The flowers should be pulled out, not cut, as the decaying end is apt to affect the young buds, which are thickly clustered on the top of the corm. The hard end of the flower stem should be cut off and the cut flowers placed at once in water, for if allowed to flag it is difficult to get them up again, especially so with the giant varieties. If flowers are sent for any distance, they should always be placed in water for several hours before packing. If some moist material is wrapped round the ends of the stems and the flowers packed tightly in tissue paper, I have always found them travel well. When unpacked the stems should be slit upwards for several inches and the flowers placed in water as soon as possible. The smaller-flowered varieties, I may say, generally carry best.

If cyclamens are kept too warm and in a dry atmosphere, aphis and thrips may prove troublesome. Fumigation will, however, prevent and hold them in check; but if correct cultural methods are followed, these pests should not cause any trouble. Begonia mite, or so-called rust, is, however, much more serious, and, although it may not appear during the summer when the plants are in cold frames, it often proves troublesome during the autumn and winter, when the plants are growing in a warmer and drier atmosphere. This pest damages both the foliage and flower-buds, causing the latter to become deformed and marked with brown streaks. The best preventive and cure for this pest is the occasional use of Campbell's Sulphur Vaporiser. Where houses are infested with vine weevils their larvæ often prove very destructive, harbouring right under the cyclamen corms and feeding on the roots. All plants which suddenly flag without any apparent reason should be examined, and if larvæ are found, they should, of course, be destroyed. Again, every opportunity should be taken to destroy as many weevils as possible. At night, plants should be shaken over a white sheet or tarred trays; houses should also be kept clear of all rubbish, and broken walls repaired.

There are now many beautiful varieties of cyclamen which come true from seed.

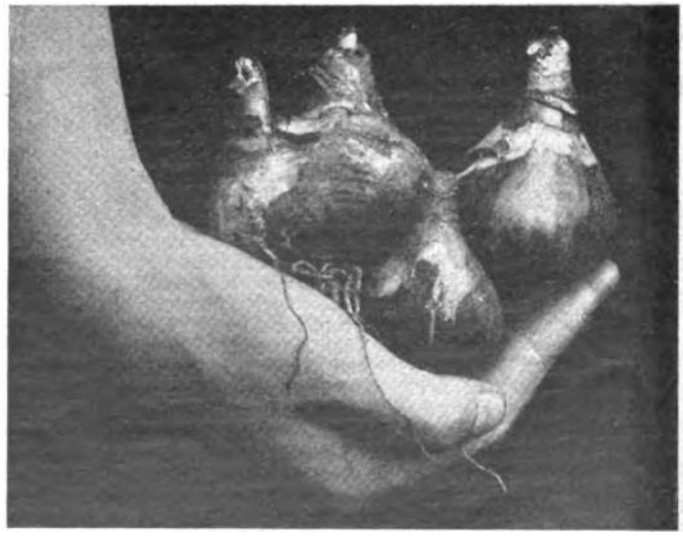
The colours range from pure white, as seen in Giant White and White Butterfly, through varying shades of pink to cherry red and crimson, also rose and salmon. Among named varieties Firefly, Vulcan, Pink Pearl and fringed Pink Pearl may be mentioned, also the crested variety Eileen Low. There are now varieties with salmon and salmon-scarlet flowers, like Bath Beauty and Salmon King; while the silver-leaved salmon is worth growing for its foliage alone. In this respect a large batch of cyclamen provides a wide range of beautiful leaf markings, which adds considerably to their decorative value. In addition to the crested varieties, which have a raised crest on the centre of each petal, there are now a great variety with frilled or fringed petals. These are generally known as Papilio varieties. Although they find many admirers, they lack the form and charm of the smooth-petalled varieties. They are all, of course, extremely interesting as showing the wide range of colour and form that has been evolved.

J. C.

HINTS FOR DAFFODIL GROWERS

FOR some of us springtime is daffodil-time; to others daffodil-time no more than the herald of springtime; but whether we aim at a succession of blossoms from January until April, or whether our object is no more than a few pleasing garden groups here and there in their natural season, no time should now be lost in making up our minds upon the matter and getting the work attended to. September or October will be quite soon enough for planting daffodils out of doors, but August is quite late enough for the "Poets" and Barri groups. A safe rule is to plant the "red-cups" as soon as possible; as a matter of fact, they never stop growing in their natural state, and the longer they are out of the ground the less satisfactory will be the results next year.

When purchasing narcissi or daffodils it is not safe to be guided by price alone. The small sizes are known as "rounds" or single-nose bulbs, and it will be seen from the illustration that in any given variety there will be several sizes of these, all perfectly healthy and capable of producing one single flower, larger or smaller according to the size of the bulb. Older bulbs are known as double or triple-nose, and will, of course, produce flowers from each "nose." When purchasing varieties of flowers and vegetables which are raised from seed it is possible to buy at greatly varying values. With bulbs this is not always the case. A small size single-nose bulb has a market value of about half that of a large one, and a double-nose bulb is worth half as much again as a "single-nose." Thus it will be seen that "double-nose" bulbs costing 2s. a dozen and producing *two flowers* are better value than "single-nose" bulbs at any price over 1s., while puny bulbs of the same variety will be dear at half this price. If,



BULBS OF DIFFERENT VALUES.
Small and large, single-nose and double-nose bulbs of the same variety.

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therefore, you pay top price, specify your requirements on your order as "double-nosed or over," but do not expect to receive such bulbs when you search a score of catalogues in order to choose the lowest price. One often hears the expostulation that "so and so" supplies at "half the price"; quite so, and so would his competitor if you specified "seconds" or "thirds" or "same size as supplied by so and so." Another point to bear in mind before leaving this subject is that "top size" is a much-abused term. *Verb. sap.*

Select Healthy Bulbs.

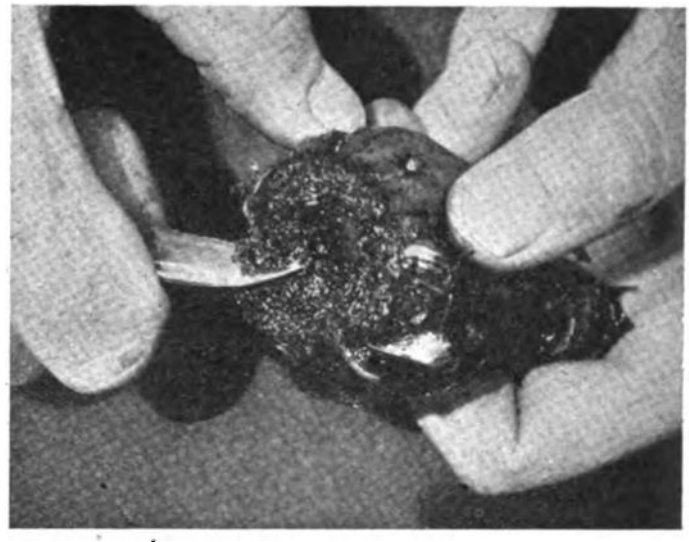
Now in choosing your narcissus bulb, first judge if it appears to be sound, hard, heavy and well ripened. Then press your thumb firmly in at the neck. If it is noticeably "hollow" to the touch, carefully scrape the base in search of a tiny brown-edged aperture. This is the sign of the merodon or narcissus fly, the larva or maggot of which is placidly browsing within the bulb. The next thing to look for is eelworm. This devastating pest can usually be detected by *carefully* slicing off the *extreme* tip of the bulb (see illustration). If this operation is conducted before September, not the slightest harm will result, as new growth has not yet advanced to this point. If the bulb is healthy, its flesh will be clean and white. If it has been attacked by eelworm, there will be brown concentric marks, which are in fact the tips of tainted bulb scales. Exploration at the *base* of the bulb will reveal further evidence of trouble in the form of rotting scales if eelworm is present.

A HEALTHY NARCISSUS BULB ATTACKED BY THE MERODON FLY. *Note the small hole in the base.*

A third and final scrutiny should be given to the base. If it is firm, hard and clear, it passes inspection. If corky, explore with a curious fingernail or the point of a knife. This "corkiness" is the sign of *basal rot*, and should it be more than skin deep, again reject. The variety Horsfieldii is exceptionally liable to this disease, while Victoria—a flower of similar colour, proportions and price—is seldom attacked. Under no circumstances should such tainted bulbs be planted, for they will permanently infect the ground. Unhappily, millions of infected narcissi and daffodil bulbs are sold annually to "bargain hunters."

The Depth to Plant.

Narcissus and daffodil bulbs appreciate deep planting. For permanent positions from 8ins. to 10ins. below the surface is not too much, and deeply planted bulbs are much less liable to attack by merodon. Within my experience bulbs planted at this depth are seldom, if ever, attacked, and there is the further advantage that the ground above them may be dug and used for planting annuals. The soil should be worked for a foot below the bulbs, and if not naturally of good quality should be enriched with *well decayed* manure, leaf-mould or peat moss, which latter substance is excellent for supplying humus to sandy or barren soils or lightening heavy ones. A sprinkle of steamed bone flour and sulphate of potash will supply all necessary stimulant if very old manure (such as an exhausted hot-bed) is not available. It is not generally known that if the same variety is planted in a bright and sunny position and in deep shade, both plantings will do equally well, and the flowering period will be extended for from two to three weeks.



AN UNHEALTHY BULB INFECTED WITH BASAL ROT.

Varieties worth Growing.

Now as to varieties. For indoor work for bowls, Grand Monarque, Grand Primo or (yellow) Soliel d'Or. Peat moss, light soil (to which a little charcoal has been added) or even pure sand will do equally as well as "prepared fibre." *These varieties do not do well out of doors.* There is no need for if early planting is up your bulbs, cover the "dark cellar" practised. Just plant them with the potting material and keep them in the open in a moist, shady place. For early flowers choose Golden Spur (bright yellow). Plant them 1in. apart in deep boxes or pots in *August*, and keep them in the open and just moist. Bring them indoors in early December and you will have flowers at the end of January. The same variety planted outside will flower in early March. King Alfred forces well, but it is rather expensive. Princeps is a bicolor trumpet which flowers with N. ornatus Golden Spur, or ornatus maximus—not recurvus—must be chosen if early "poets" are required. By the time two batches of early flowers have been brought through, the first outdoor blooms will be showing. Selection is only limited to one's ability to finance our hobby. Among the best varieties *at moderate prices* I should make the following selection:

Golden Yellow Trumpet Daffodils.—King Alfred (where it will flourish), Tresserve, Olympia, Golden Spur and Obvallaris.

Bicolor.—Emperor, Empress, Sir Watkin, Victoria, Horsfieldii and Princeps.

White or Whitish Trumpet Flowers.—Mme. de Graaff, Southern Gem and Mrs. W. O. Wolseley.

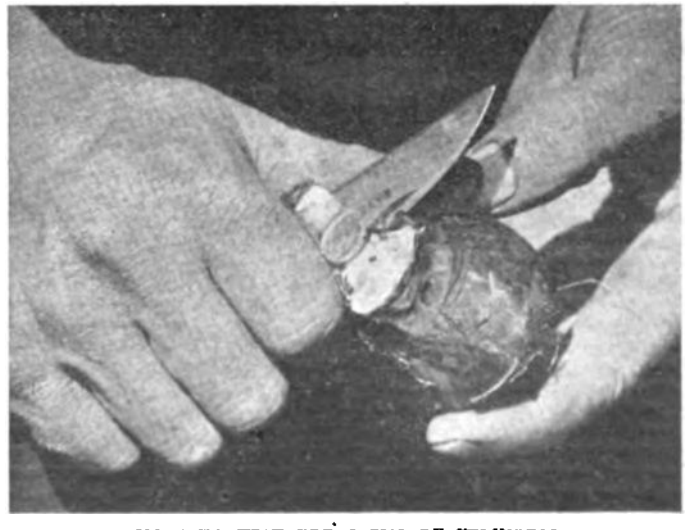
Narcissi with Small Cream or Yellowish Centres.—White Lady, Silver Penny, Leonie and Homespun.

Narcissi with Red or Orange Centres.—Marshlight (about 6d. each), Lucifer, Sunrise, Will Scarlet, Bedouin, Red Beacon, and Barrii Conspicuus.

Narcissi with Red-rimmed Centres.—Lady Moor, Horace, Poeticus ornatus and recurvus. This last mentioned is the late flowering but better variety. If you wish to grow the double sweet-scented poeticus variety, you *must* plant it deeply in moist soil or you will get nothing but leaves.

The selection of new kinds to be found in seedsmen's catalogues is endless, but it is the safest plan to choose all new and unknown varieties *when they are in flower*.

H. L.



HOW TO TEST FOR SIGNS OF EELWORM. *Clean white flesh shows a healthy bulb.*

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THE BUSY MAN'S PAGE

Violas from Cuttings.

AT the beginning of August it is a good plan to cut back one or two plants of the various sorts of violas, in order to encourage the production of young shoots. These shoots will form excellent cuttings and, in all ways, are better than those taken from the flowering stems. The cutting may involve the sacrifice of a few blooms in the case of a few plants, but it will be found to be well worth while. If the season is dry, water the treated plants to stimulate a vigorous growth. As a rule, the cuttings will be ready for taking about September, and this is a very good time to carry out the business of propagation. Let the shoots be from 2ins. to 3ins. long and insert them in sandy soil in a cold frame. The frame should be kept close until the cuttings show signs of having taken root; then as much air as possible should be admitted, and, even in wintry weather, unless the conditions are very severe, ventilate the violas, which should never be coddled. In this way good sturdy plants will be ready for putting out at the end of March.

Thinning Seedling Wallflowers.

THE importance of sowing wallflower seeds thinly cannot be over-emphasised. It it in the seedling stage that the plants run the greatest risk of overcrowding, and drawn plants are always unsightly, especially when planted, as is often the case, in beds where they are most often seen. True it is that many think any kind of soil will do for wallflowers, and that fact, perhaps, in no small measure accounts for the leggy and for the stunted plants which are often seen at planting time. Certainly a rich soil is not required, but a seed-bed into which leaf-soil has been worked, and of which the soil has been finely broken up, will well repay the little extra trouble involved. The leaf-soil will serve to retain moisture in the seed bed, and when transplanting time arrives it will be seen that the young roots are most abundant where they came in contact with the leaf-soil. If, after sowing, seedlings come up thicker than was anticipated, thin them out early, for if only two or three hundred plants are required there is no point in allowing them to become weakened by the unwanted surplus. As the seedlings are coming along, attend to the preparation of the plot on which they are to be pricked off. Here, again, leaf-soil may be generously applied and the ground should be nice and moist at the time it is used.

In many gardens it is the practice to prick off wallflowers in the evening, and such a practice has much to commend it, for then, if well watered, the young plants are transferred to their new quarters without that flagging of the leaves which is so noticeable in those plants which are shifted during the heat of the day. In pricking off allow plenty of space between the plants, for it must be remembered that the hoe must have room to work if the best results are to be obtained.

ROW OF SEEDLING WALLFLOWERS READY FOR TRANSPLANTING.

METHOD OF TRANSPLANTING, EACH PLANT HAS SUFFICIENT ROOM TO GROW AND DEVELOP.

How to Pot Some of the Early-Flowering Bulbs.

A FEW bulbs may be potted in July, but the second week in August is quite soon enough to begin this work in earnest. A few years ago the well known Freesia refracta alba, deliciously scented, was grown mostly, the coloured sorts not being as good as the strains of them are to-day. Directly the cultivator receives the bulbs he should pot them without undue delay, as their strength is conserved in the soil better than in any other way. The conditions, at first, must be as cool as possible. The compost most suitable is one of loam 2 parts, leaf-soil 1 part, and well rotted cow manure 1 part. Five, six and seven inch pots may be used, the middle size being the best in every way. Both pots and crocks should be very clean and dry when used, and the compost medium. As a guide to the potting, a space of 1in. between the bulbs will do, and the latter should be planted in 1in. deep; then, in cool conditions, the first new growth will be quite sturdy. Empty pots or boxes should be placed inverted over these and all other kinds of potted bulbs, to keep off the covering sand, ashes or soil. Early Roman hyacinths may be potted now and in a similar kind of compost. Five small or four large bulbs will be sufficient for a 5in. pot, and seven small or six large for a 6in. one.

Soil Mulching.

AS a rule, during the early part of the season, there will be no great need for mulching. It is in the later summer and autumn that the soil in many gardens becomes so dry, as seriously to hamper the growth of plants. Of course, the dryness may be combated by watering, but this may well involve more labour than the gardener is able to expend. It is just here that mulching proves of valuable assistance, for, if the layer is properly arranged, plants may be well supported even over a long dry spell. Mulching, of course, consists of covering the surface soil with some loose material, such as lawn clippings, straw, leaves and, where it is wished to feed as well, a layer of manure. This loose material draws up the moisture from the subsoil to the surface and so keeps it in a damp state; the roots of the plants are then under almost ideal conditions, and their well being is reflected in the vigorous growth of the plant. With light soils, mulching with manure is of great value in the case of sweet peas, roses, etc., for it will keep them in bloom for a much longer period than would otherwise be the case. Then, nearly all fruit bushes and trees are benefited by summer mulchings. Size and quality of fruit depends to a large extent on the amount of moisture which the plants secure during the summer. When the weather finally breaks up in the late fall, the mulch, which will by this time be largely decayed, can be dug into the soil and so add to the store of humus content.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Madonna Lilies.

THE habit of the Madonna lily is to develop leaves in the autumn, and its rest period is between the flowering time, July, and the commencement of new growth in late August. It is, therefore, at this season that this popular lily can be most safely moved. If a clump of lilies is already flowering well, and is not too crowded, the bulbs should not be disturbed, as they resent disturbance, and the flowers during the first season following removal of the bulbs are usually inferior. But, of course, the time does come when clumps must be lifted and divided.

Never plant the Madonna lily in low-lying, badly drained soil. It does not mind the soil being rather poor, provided it is well drained, and contains a fair amount of lime.

Great care must be exercised when lifting the bulbs. The best tool is a wide-pronged potato fork. Separate the bulbs from each other, and carefully prepare the site before replanting. Add flaky leaf-soil and sprinkle a layer of sand before setting the bulbs in position. They should be about a foot apart in groups of six or seven, and 4ins. deep.

AUGUST IN THE TOWN GARDEN.

WHAT TO DO THIS MONTH.

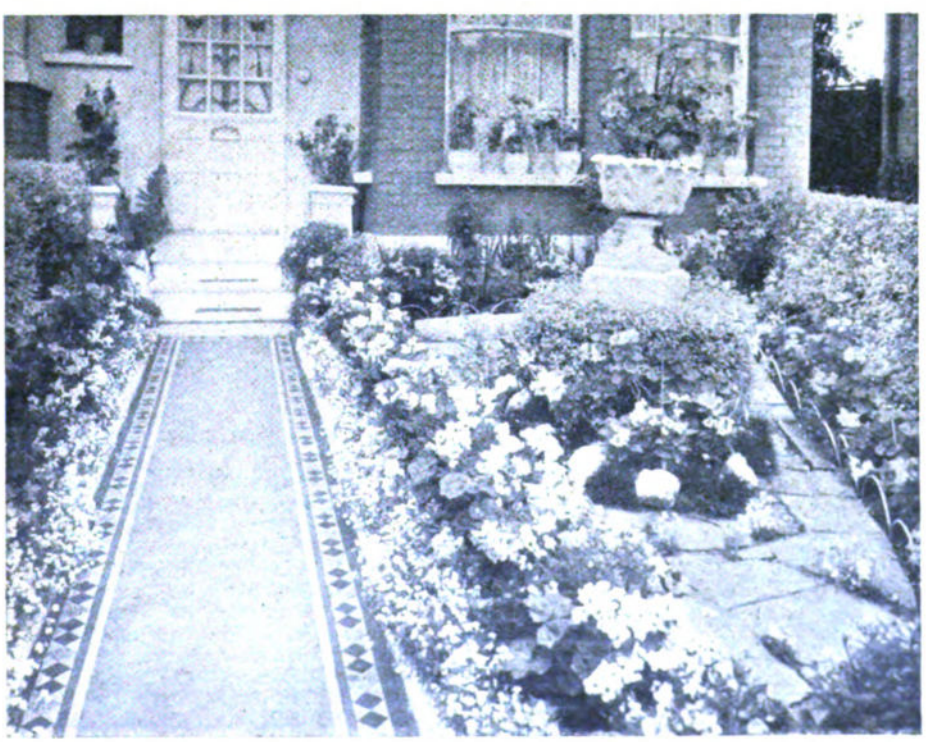
1. *Sow seeds of hardy annuals and biennials, such as Orange King Calendula and Canterbury bells.*
2. *Take cuttings of bedding plants like geraniums and pentstemons.*
3. *Thin out weak growths of dahlias and tie main shoots.*
4. *Where necessary, transplant Madonna lilies.*
5. *Feed roses of the hybrid tea type to secure an autumn crop.*
6. *Cut out old flowering wood of Wichuraiana roses, and tie in new growths.*
7. *Bush fruits will require thinning. Cut out old canes of raspberries, and thin the suckers.*
8. *If weeds are thoroughly removed from the garden this month, there will be little further trouble until autumn digging is done.*
9. *Sow salads for late autumn and winter use. Hardy Hammersmith is the best lettuce for winter crops.*
10. *Sow onions for next season. Thinnings can be used for salads.*
11. *Earth up celery as required.*
12. *Sow seeds of spring cabbage. Harbinger and Ellam's Early are good varieties.*
13. *Lift early potatoes. Remove diseased specimens and dry before storing.*
14. *Keep side shoots pinched out from tomatoes.*

Taking Cuttings.

A NUMBER of our most valuable summer flowers are easily propagated by means of cuttings. Golden and brown calceolarias, pansies and violas, pentstemons, and Salvia splendens are a few of the most popular garden flowers increased in this way. After the recent rain, there is an abundance of side shoots suitable for making into cuttings. Select those of sturdiest appearance, with four or five pairs of leaves. Remove the two bottom pairs of leaves and cut the stem just below a joint. If a cold frame is available, this can be prepared to receive the cuttings. A mixture of equal parts of loam, leaf-soil and sand, with a sprinkling of lime, is the most suitable; but ordinary rich garden soil will do if a liberal sprinkling of sand is scattered over the surface after it has been finally stirred and levelled.

Where boxes are employed, these should be 4ins. deep, and with ample provision for drainage. A layer of fibre, sifted from turf, or of half-decayed leaves, is placed in the bottom of the box before the soil is filled in. Never fill the box full of soil, but leave an inch space for watering.

Cuttings are most easily inserted with the aid of a pointed stick. They should be well watered and protected from drying winds immediately. In a frame or under a hand-light or cloche, this is most easily effected. Shade the cuttings from bright sunshine for a couple of weeks, and as soon as the first sign of growth is observed, give all the ventilation possible. Cuttings of the plants mentioned above may be as close together as 3ins. apart; but geraniums would require 4ins.



CALCEOLARIAS MAKE AN EFFECTIVE DISPLAY IN A SMALL FRONT GARDEN IF ASSOCIATED WITH OTHER SUMMER BEDDING PLANTS.

Reflections on Autumn Fruit Planting.

HOW often does one hear the lament of amateur fruit growers, "Oh, I have some fruit trees, but we never get any fruit." Nor is this lament confined to amateurs. I know a Kent cherry grower whose earliest trees seldom bear good crops. *Elton Heart* is the variety, and its flowers are over before the *Napoleons* and *Amber Bigarreaus* are in flower. No matter how carefully the ground is prepared, nor how clean and healthy the trees are kept, the whole business of fruit culture fails if only sterile trees are planted. A little example of the importance of cross-pollination was on view at the Chelsea Show this year. The experiment was a plum tree, one branch of which had its flowers cross-pollinated with those of another variety, and another branch was entirely self-pollinated. The increased number of fruits on the cross-pollinated branch was remarkable.

When selecting fruit trees for planting, varieties should be chosen that will flower at the same time, or cross-pollination cannot take place; or if only one tree can be planted, a self-fertile variety should be chosen. A few such among apples are *Irish Peach*, the juiciest and earliest dessert apple; *Stirling Castle* and *Lord Derby* (cooking). A selection of four apples which would pollinate each other, two dessert and two cooking, would be *James Grieve*, *Cox's Orange*, *Early Victoria* and *Bramley's Seedling*.

The law of self-sterility not only applies to apples and cherries, but to all fruits. If a fruit tree flowers well each year, and yet bears no fruit, I should advise planting also a different variety which flowers at the same time. A list has been prepared by the Librarian of Wye Agricultural College, giving the flowering dates of different varieties of fruits. A few given as flowering at the same time are: Pears—*Louise Bonne of Jersey* and *Fertility*; plums—*Monarch* (self-fertile) and *Coe's Golden Drop* (sterile); cherries—*Napoleon* and *Frogmore*.

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NOTES ON THE FLOWER GARDEN

An Iris for Pot Culture.

(Iris tingitana.)

THIS is a handsome bulbous iris from Tangiers, which is admirably suited for the border and pot culture. For the latter purpose I can strongly recommend it, and, moreover, it may be had in bloom from Christmas onwards, in fact, by introducing batches to the greenhouse at fortnightly intervals, the supply of flowers can be kept up for several weeks. This desirable iris somewhat resembles a large-flowered Spanish variety, the frilled standards range from dark to light blue, and the falls are lilac shaded white, with a yellow blotch. It attains a height of 18ins. to 2ft., and last January, I had blooms quite 6ins. across. Only 2 per cent. of the bulbs failed to produce a spike, so either as a pot plant or for cutting purposes, it has much to recommend it. September is a good month to pot up a few and five roots will be ample for a pot 6ins. in diameter. Provide ample drainage and the rooting medium consists of a mixture of loam, leaf-mould and sand. When the bulbs are potted, stand the pots in a cold frame and afford water in moderation till root action is evident, and a fair amount of top growth is visible. Towards the end of November they should be removed to the greenhouse, where the temperature is between 50 degrees and 60 degrees, then the spikes will soon appear. A cooler house will do equally as well, but, of course, the flowers will be later. Where a quantity is needed for cut bloom, fairly deep boxes can be employed instead of pots. I. tingitana will also succeed outside, especially at the base of a warm south wall, but the soil should be of a gritty nature, and when planting let each root rest on a little sharp sand.

This iris should be grown largely where flowers are desired in the early part of the year.—CHEPSTOW.

IRIS TINGITANA, A BEAUTIFUL IRIS FOR GROWING IN POTS.

Plants For Dry, Hot Situations.

IN most gardens there is generally one spot at least which may be described as hot, fiery and easily dried up. Such a place is not always satisfactorily filled with flowering plants, and I put forward here a special claim for the sun roses and the rock roses. The former, helianthemums, are undoubtedly plants of the sun, and they revel in a site which receives its full rays, flowering with continuous and astounding profusion in the height of summer. The shrubs—they are really dwarf shrubs—have a trailing habit, and they soon cover the ground with compact tufts. Among the choicest of a fairly extensive list of varieties I place The Bride, Double Carminatum, Attraction, Warrior, Fireball, mutabile, multiplex, croceum, Double Orange and Jubilee. For the driest place I would reserve the old yellow vulgare, or Tuberaria, or the double venustum. The rock roses are dwarf shrubs also, equally floriferous and in every way as satisfactory as the above in hot and trying situations. Most of those I grow are fairly tall, the height varying considerably but always being about half normal in porous hot places. This list may not be up to date, but I like florentinus, cymosus, crispus, ladaniferus, lusitanicus, creticus, algarvensis, incanus and corbariensis. A good catalogue will reveal colours; the helianthemums are much more brilliant than the cistus or rock roses.—H. H. A.

A Blue Pimpernel for the Rock Garden.

(Anagallis Monellii.)

THOSE readers on the look-out for a fine blue flowering plant cannot pass by the above pimpernel. It is a native of southern Europe, and has proved perennial here at Castleford, while so far it has not set any seeds. For some reason it does not figure in many catalogues, and I first saw the plant at the Chelsea Show in 1923, when examples were eventually obtained the following year from Messrs. Whitelegg of Chislehurst. On the rock garden it is only a few inches high, with a tendency to trail over a rock, and throughout the summer it is a mass of brilliant blue flowers about ½in. in diameter, with the merest suspicion of a yellow "eye." Plants in 6in. pots have been used for furnishing the front of a staging in a cool greenhouse. Here the trailing growths have been over a foot in length, and a mass of bloom for several months. It is, however, a plant for the sunny rock garden, and for the last three years it has not been afforded any protection during the winter months. A. Monellii is readily increased from cuttings, and they will soon form roots in a cold frame or hand-light. A batch inserted last August are now making a brilliant display on the rock garden.—T. W. B.

Planting St. Brigid Anemones.

YIELDING a profusion of blossom at a comparatively barren period of the year, the St. Brigid anemones are undoubtedly popular and among the most useful of our garden plants. The colours show a very high range of variety and practically every one is of a bright, striking tint; attractive in the border they are equally fine when cut, not merely on account of their attractive colours but because they last so long. The culture of these windflowers is of the simplest: corms or bulbs are procured at this time or as soon afterwards as possible and are planted 2ins. deep and 3ins. to 6ins. apart. Before planting, it is advisable to turn the soil over to a good depth, for the plants give of their best in a well drained site; it may be necessary, also, to add some decayed manure to it and a fair sprinkling of old mortar rubbish or weathered lime. As they are best suited by a medium to light loam, growers who have a heavy soil can take steps to ameliorate it when they know that fact. In the growing season it may be necessary to apply water, for dryness at the root is inimical to complete success. In most districts the first planting may be made in late August and further lots put in during September and October; other plantings may be made after the New Year, and so, by a little preliminary manipulation, it is possible to have flowers from January until midsummer; late February until May is the main flowering season, however. I advocate a good mixed selection which, with its rich reds and its black centres, singles and doubles, gives a truly Oriental touch to the garden.—CLYDESDALE.

The Blue African Lily.

(Agapanthus umbellatus.)

ONE cannot help having a kindly feeling for the agapanthus, a plant which remains healthy and flowers exceedingly well with maximum inattention and lack of care. It grows on and continues to flourish for years without repotting, indeed, it may grow until it cracks the pot and absolutely demands attention. Generally speaking, however, it should be repotted and, if required for increase of stock, divided every three years. The compost found best is a turfy loam, enriched by one-quarter of its bulk of well broken up old manure, with, perhaps, a little sand to aid porosity. Always repot in a pot which allows 1in. of soil between the roots and the sides, all round, and pot firmly; before doing this, wash the old roots free from soil. Large plants may be put in tubs. Feed plants the second and third summer with liquid manure; water as required, but dry off the plants in winter, never allowing the soil to get dust dry, nevertheless. In mild districts the African lily can be planted outside, where it will do well in a kindly border; roots must be thoroughly protected in winter. The usual home for the plant, however, is a cool conservatory, where it grows splendidly and merely needs protection from frost. The heavy heads of blue flowers are a delight in summer, and its tough green leaves make it attractive and ornamental at all times.—LANARKSHIRE.

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Topical Notes on Herbaceous Flowering Plants.

Getting the Best from Them.

IT is not claimed for the hardy herbaceous border that it is the only one in the garden that gives pleasure; but it is submitted that, if planned and planted with a view to continuity and to the value of its blossoms for cutting, it will, if given attention at the right periods, furnish flowers that will remain attractive over the longest time.

We have now reached the half-way stage of garden beauty, when a deal may be done in giving a freshness to the borders during the next few weeks. In some of them it is not unusual to introduce a few things like antirrhinums, which bring rich colourings in early autumn days. If we are satisfied with leaving them in the state they were planted, and letting them take their chance, we shall have few flowering spikes, because of our neglect to remove seed pods; and the same obtains in a degree with certain herbaceous plants that, once relieved of the dead and dying spikes, will take on a new lease and yield further flowers—perhaps not so fine as the first, but welcome in the garden, nevertheless, when autumn flowers proper take their place.

Mention is made of such plants as Veronica spicata, Spiræa Filipendula, the creamy flowers of which rise from out a cushion of fern-like foliage; some of the achilleas, like Ptarmica the Pearl, or the single form of mongolica; the orange-flowered biennial, Cheiranthus Allionii (Siberian wallflower); and certain of the erigerons—all of these, though accredited with blooming well on into autumn, sometimes fail to do so with anything like freedom unless they are persistently relieved of the flowering stems as they die away. One thinks, too, of the bellflowers, such as Campanula persicifolia, that soon exhaust themselves unless steps are taken to cut away the flowers that have gone past their best. Pyrethrums are good second flowerers, especially the singles, when given a chance to show their capabilities. These are a few of the plants in the hardy flower border that, if treated as suggested, will renew themselves in the autumn, and give bloom, adding variety among other flowers in the days when Michaelmas daisies, kniphofias, helianthuses and anemones appear, with their train of colour beauty. Even these should not be permitted to go to seed, as to do so prevents the development of buds that will yield the latest flowers in the garden.

Current work consists in giving a stimulus to the plants. It will mean, first of all, eliminating all spent flowers, the forking of the border and freeing it from weeds, the staking of anything that needs support, and generally in imparting a tidy appearance all round. It is the extra that we do, over and beyond what actual duty demands, that tells in the late days of autumn.—W.

Delphiniums for the Summer Border.

A BORDER of delphiniums shows them to their very best advantage. The accompanying illustration was taken eighteen months after the plants were sent from the nurseryman. The border, which forms part of a new garden made in an old paddock in Essex was thoroughly trenched and some good manure added as the work proceeded, a good dressing of lime was forked into the surface after the trenching was completed. The planting was done in September. Many of the spikes were over 2ft. long, and no doubt the thorough working of the ground accounted for the very fine spikes of bloom in this border.—E. J. S.

Autumn Among the Phloxes.

WE are apt to say to ourselves, when we see certain flowers opening in the garden, that autumn is not a long way off. Phloxes are among the number, and, though some of the early summer blooming sorts are very charming, it is to the later section (decussata) that we must look to keep up a supply of flowers from early August until the time when frosts appear and rob them of their beauty. In a mild season, one may have the trusses quite late, especially if the garden be a sheltered one. For many years phloxes have been looked upon as indispensable in the herbaceous border, sharing honours with other back-row plants. They vary from 3ft. to 4ft. in height, are easy to cultivate, and are good subjects for a town or suburban garden. Best served when they can be given a moist soil, rich in humus, and a sunny position, in a period of drought, they are often punished, unless steps are taken to mulch the roots with something that will help to conserve moisture, such as leaf-soil, old manure, glass clippings and the like. They enjoy copious supplies of water, and when they are approaching their blooming stage benefit considerably by applications of liquid manure, which must be given in a weak form only.

Division of Roots.

The finest trusses are produced from clumps which are not allowed to become too large, as, if left to themselves beyond a couple of years without being taken up and divided, the flowers from the centre of the plants are small and puny from inability to derive enough nourishment. This, obviously, means that if the grower of phloxes is wishful to have spikes of the finest quality, he must arrange to take the clumps up periodically, reduce the size and, if possible, plant them in fresh quarters. Though division of roots is one and, perhaps, the most practised way of increasing the stock of plants, it ought not to be overlooked that one may also propagate them from cuttings. These should be taken in spring, when the shoots are about 3ins. or 4ins. long, and inserted in pots of sandy loam and leaf-mould and placed in a cold frame. Division ought also to be made in spring, as the new growth begins to show, and in doing this preference should be given to the shoots on the outside of the clumps, which are always strongest, the centre shoots being left out of account. A phlox with about a dozen stems is more likely to give the better flowering spikes than a clump with twice the number of shoots. Staking plants is not always looked upon as necessary, but it is helpful in rough weather. It need not involve treating every shoot in this manner, but three or four canes to a clump around which twine can be tied will often prevent breaking of promising shoots.

A DELPHINIUM BORDER EIGHTEEN MONTHS AFTER PLANTING.

Varieties.

It is not the intention to burden the reader with a long list of the very many good varieties of autumn phloxes now in commerce, but to select a few, having regard to their diversity of colour. Here, then, is a short selection:

Admiral Jaures, lilac mauve.
William Ramsey, violet blue.
Border Queen, flesh, with red eye.
Thor, salmon red.
Milly Van Hoboken, soft pink.
Flambeau, orange scarlet.
William Veitch, white with crimson centre.
Mrs. Jenkins, pure white.
Grossclande, dark purplish scarlet.
Simplon, salmon carmine with purple centre.
Leonardo da Vinci, pure white, maroon centre.
Elizabeth Campbell, pale salmon, fading to pink.
Baron von Heeckeren, rosy salmon, large truss.

In getting the clumps in fresh quarters in spring, the ground should be previously prepared by deep digging, incorporating with it rotted dung and road scrapings. Especially is this needful on shallow, sandy soils.—W. L. L.

CLUMPS OF HERBACEOUS PHLOXES IN ALL COLOURS MAKE A DECORATIVE DISPLAY AT THE HOUSE ENTRANCE.

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PRIMULAS FOR A WINTER DISPLAY IN THE GREENHOUSE

What the Plants Require at the Present Time.

PRIMULAS, when well grown, are a great asset to an amateur with a small greenhouse, as, with comparatively little outlay and very trifling heat in winter, he may have a gay display for months. At the present time, plants for winter and spring blooming should be in their final pots; although, as a matter of fact, late sown seedlings can still be given their last shift, and these will, of course, provide the latest flowers. Five or six inch pots will be found large enough for the purpose, and the essentials for the work are: clean pots and crocks, old loam two parts, leaf mould one part, with a little rotted dung and coarse silver sand added, the whole being passed through a sieve, the roughest portions being placed at the bottom of the pots. The pots ought not to be filled to the brim, but an inch or so of space left, which will enable further food to be added as required.

P. OBCONICA, A MOST USEFUL AND DECORATIVE PLANT FOR THE COOL GREENHOUSE.

Summer Situation.—There is nothing better than a cold frame in a north aspect for primulas during summer and early autumn, but it should be away from overhanging trees, which are liable to make the plants become weak and drawn, besides exposing them to "drips." The base of the frame can be covered with fine ashes on which the pots can stand, and this will obviate the need for a too frequent watering, as the ashes will help to conserve moisture. Though frames are needful to bring on these plants, it does not mean that one must keep the lights on; as there will be many a day when they can be moved altogether, so that air may do its part in the building up of healthy, robust specimens. The beginner with primulas should guard against overcrowding his plants in the frames. They ought always to stand clear of each other. If cramped, the leaves being so brittle and tender, are liable to get bruised or broken, and the beauty of the plant is marred. In potting, the compost should be in a nice workable state, not too wet or too dry, and it should be pressed rather firmly about the roots, afterwards giving a soaking of water.

Shading.—In very bright weather it is advisable to shade the plants from bright sun. Buds will now begin to show and these must be picked off, the main idea being to promote growth and build up the plants for future beauty.

Stimulants.—Not until primulas have become established in the final pots and the roots are getting round the sides, will it be necessary to afford stimulants of any kind, and even then they should be given sparingly and in a weak condition. A good help to them is to place sheep or cow manure in a coarse bag in a water tub and dilute this, applying it after the plants have had their ordinary watering. Once a week will be quite enough for a stimulant. Occasionally one may give them soot water, made from old soot, from which the "fire" has gone. This will be found very beneficial in promoting growth, and in imparting to the leaves a deep green colour. The amateur should leave out of account freshly gathered soot, which is likely to do more harm than good, or in attempting to give any sort of stimulant to plants when they are dry. Only when the usual watering has been done ought "pick-me-ups" to be used, and they are best administered an hour or two after the plants have had clear water. These are details, the observance of which tend towards the building up of vigorous plants, and when brought into the greenhouse towards the middle or end of September, as weather dictates, will soon begin to throw up good trusses.

Winter Quarters.—A shelf in a greenhouse, not too far removed from the glass is the best for primulas, and it will be enough for them if a temperate atmosphere is maintained throughout, as heat is not essential to their success. When they are housed, and on many a day in the late autumn one may admit air freely, as they are plants much hardier than some amateur growers imagine them to be, and to ensure a good and continued display, one has but to work at the present time on the lines suggested.

There are a number of primulas which are suitable for growing in the greenhouse. These include Primula sinensis and its many varieties, PP. stellata, obconica, kewensis and the free-flowering easily grown P. malacoides.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

HERE are a few hints obtained at the official potato trials organised by the Board of Agriculture Trials at Corstorphine, which I pass on to those readers who may be encouraged by Mr. McKelvie's success to take a hand in the work of raising new varieties. The best localities for the raising of seed crops are late, high-lying or exposed districts, where the potato patches are widely separated from each other and where, consequently, it is easy to isolate a healthy stock from diseased plants. That it is not necessary to go to the north of Scotland for such conditions is shown by the fact that excellent lots of stock seed have been grown on the west coast of Arran. Never keep new varieties in a garden where they are likely to get infection from bad plants, but grow them in a turnip field, where there is less danger of infection. Cutting of the seed tubers to every eye is not injurious to the health or vigour of the plants and this rapid multiplication is preferable to the growing of stocks in sheltered positions. The ground occupied by the Trials is prepared in winter, when 15 tons of farmyard manure per acre are applied and at planting time the supply is supplemented by 8 cwt. per acre of artificial potato manure which is deposited in the drills.

Proceeding from Corstorphine in the west to Joppa at the eastern outskirts of Edinburgh, I spent a profitable hour in the afternoon inspecting Messrs. Dobbie and Co.'s potato trials. The contrast in the condition of the plants was remarkable. The foliage was vigorous and healthy and the cover was such that the 3ft. space between the drills was inadequate for quite a number of varieties, of which there were fifty under observation. The haulm of the early sorts had begun to show signs of dying down and plants of Di Vernon and Witchhill Early which were dug had eighteen and sixteen well developed, clean and shapely tubers at the respective roots. A show of Epicure did not produce so high a yield, but here again one could not keep from admiring the clean skinned, shapely tubers that were fit for the exhibition table. Neither the second early nor the main crop varieties could be tested so early in the season for weight of crop and while all were characterised by an excellent cover, the following sorts were outstanding in that respect, *viz.*, Majestic, Great Scot, King Edward and Rhoderick Dhu. Messrs. Dobbie's stock of Arran Chief, which came from Banff, has probably no equal in the country, but Incomer is regarded as the best potato in the trials. It is a distinct white flesh, oval shaped potato of an obviously strong constitution and besides being a good cropper it is credited with excellent cooking qualities, which, after all, is one of the strongest points in favour of a potato. Individually and collectively I have never seen a better collection of potatoes or one which testified to the advantages of good culture.

The soil and situation must also be favourable, for I learn that Messrs. Sutton and Sons, Reading, have secured a piece of land in the immediate vicinity of Messrs. Dobbie's trial grounds.

With the advent of August, garden work generally becomes less strenuous. At the

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same time it must not be neglected and amateurs who take a short holiday at this time should endeavour to arrange for necessary operations, such as syringing, grass cutting, staking, tying, etc., being attended to during their temporary absence. Unless these routine duties are observed, the owner may return to find his garden a wilderness and many flowering subjects damaged beyond recovery, for August has a reputation for sudden summer storms towards its close. Where there is a greenhouse the problem is more difficult to solve as the existence of the plants depends on moisture and the regulation of ventilation, which implies regular supervision daily. If a reliable jobbing gardener is not available, the best alternative is to enlist the services of a friendly neighbour who is acquainted with garden management.

The maintenance of a winter supply of parsley frequently tests the resources of the amateur gardener, as plants raised from spring sown seed and from which pickings have been made throughout the summer months seldom crop satisfactorily in winter. If they escape the common disease known as rust, which causes havoc in summer, especially when parsley is grown too thickly in rows, as is frequently the case in small gardens, the foliage is liable to damp off or be destroyed by frosts in winter. The question comes to be, how are these difficulties to be overcome. One method of prolonging the summer supply into autumn or early winter is to cut down the plants to 3ins. or 4ins. from the ground at the beginning of September, when the foliage shows signs of coarseness and thus induce a fresh crop of young leaves. This method being dependent on the weather, is attended by varying success and by far the safest plan is to transfer a few plants to a cold frame in late autumn, where they will only need the protection of lights in bad weather. When consumption justifies the practice, seed may ue sown in August in a position that is fairly well exposed as a safeguard against damp. Apply a light dressing of lime when forking over the soil and sow the seed thinly in a shallow drill when the soil is in a fairly moist condition. In the event of a spell of dry, warm weather, it is beneficial to germination to cover the drill with matting as a means of preventing the surface from drying too rapidly. Seed may also be sown in pots or boxes, which can stand outside until the approach of winter.

Visitors to Scottish seaside resorts in August are familiar with Escallonia macrantha, one of the most attractive of hardy flowering shrubs which is now at the height of its bloom. To realise its possibilities one must see it growing as hedges in Arran and other popular places on the Clyde, where it seems to revel in the sea breezes. In no other environment does it succeed so well. The glossy green foliage provides a fine setting to the drooping clusters of crimson blossoms, borne on the ends of the branches. E. langleyensis, of which E. macrantha is one of the parents, is the more graceful of the two, and seems better adapted for inland situations, for it flowers luxuriantly in Pollock gardens in the suburbs of Glasgow. This shrub grows to high dimensions and the distinctive bright rose carmine flowers carried on the upper side of long arching growths are most useful for house decoration. All the escallonias are easily propagated by cuttings of half-ripened wood taken, preferably, in September.

Since my first inspection of the sweet pea trials a number of varieties have greatly improved in size and colour, so that there may be a few surprises in store as the result of the final inspection at the show on Wednesday. Mrs. A. Searles which threw a rogue in the English trials, is quite fixed at Helensburgh and is in the running for the gold medal.

ST. MUNGO.

WHAT OUR READERS SAY

VERONICA TRAVERSII.

SIR,—What is apparently the hardiest of the New Zealand veronicas of a tall-growing habit and at the same time one which will flower in a small stage, as well in proportion as when large, is Veronica Traversii. It has been known to me for very many years, and I have seen it in numberless gardens, and in every instance it has proved quite hardy. In only one winter, and that the most severe for a very long period, did I come across plants which had suffered and these were cut to near the ground, but came away again in due time. These were very large plants about 6ft. high and as much through, and they were injured as much by the snow and by the strong sun on the frosted leaves. It says a good deal for V. Traversii also that it is used as a hedge in some gardens, and a very pretty one it forms, too. It is hardly suitable for a fence to turn cattle, but as a division in a garden it is excellent. It has pretty, glossy, evergreen leaves and spikes of white flowers in great numbers. V. Traversii is also remarkably easy to propagate from cuttings, which root very readily in sandy soil. As has been said above, V. Traversii flowers in a small stage and continues to increase in size and beauty for many years. As a hedge it will require clipping, but when grown as a bush it is best left to grow naturally, when it generally forms a shapely bush. It will grow in any ordinary soil and seems to thrive in shade or sun.—S. ARNOTT, *Dumfries*.

ROCK ROSES FOR DECORATION IN THE GARDEN.

SIR,—Many of your readers may be interested to see the accompanying illustration, which is of two plants of rock roses growing on either side of the garden steps. These are old plants and were moved with great care to their present position in March of this year to furnish the sides of the newly made steps which lead down a sunny dry bank to a semi-wild garden. The effect produced is very charming and shows the value of the rock rose in such a position.—H. R. THOMSON.

ROCK ROSES FLOURISHING ON A SUNNY BANK.

FREESIA CULTURE.

SIR,—With reference to "Claremont's" note on freesias, on page 498 of THE GARDEN, I would certainly pot freesias in July, if they could be obtained thoroughly ripened by then, but my experience of English grown freesias is that mid-August is as early as one can expect them, if properly ripened, in a sunless July such as we have had.

While I advocate August planting, I do not agree that later planting gives "weak, puny growth," and that "they are never satisfactory."

The greater part of my stock never gets planted until late September and early October when sales have finished. I do not think the plants and cut blooms I exhibit at Vincent Square each spring can be described as weak and puny. Certainly August is the best month. Seed, if sown in August, will flower in eight months, but I always grow the seedlings a second year before judging them finally.—G. H. DALRYMPLE.

AN AMERICAN LABOUR-SAVING DEVICE.

SIR,—On the best private estate in the United States of America one would, more or less naturally, expect to find sundry labour-saving devices in use, so that when I first became acquainted with Mr. Samuel Untermyer's fine estate at Yonkers, New York, I was not surprised to find that the tedious work of clipping and keeping in repair grass verges to paths, etc., had been superseded by a more efficient labour-saving device.

All the grass verges are supported by strips of iron fixed along their face. These strips are 10ft. to 15ft. in length, 6ins. in depth and ¼in. in thickness. They are partially embedded in the ground so that their upper edge is exactly on a level with the surface of the lawn. On the inside they are strengthened and supported by pegs of wood driven in at intervals, while the solid path affords sufficient support on the outer side. Where necessary the strips are curved to coincide with the winding of the verge. In appearance these strips are very neat and the verge itself is never broken down, as so frequently happens when nothing of this kind is in use. When the grass commences

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to grow and hangs over the top of the iron strip, it may be cut off perfectly straight by the simple plan of running a wheelbarrow all round the verges in such a way that the wheel is always in contact with the iron strip and at a slight angle inwards, so that the scissor-like action of the iron tyred wheelbarrow on the top of the iron strip quickly shears off any overhanging grass in a most efficient manner.

Although some little expense may be incurred as an initial cost, the time and labour saved by the use of these iron strips is very great and the appearance of grass edges treated thus is much neater than under the old plan. —GREYSTONE.

PROPAGATION OF ANCHUSA.

SIR,—In your valuable paper, dated July 30th, page 506, propagation by division is given as the best method of increasing anchusa, but the last few years I have given up this method of increasing my stock in favour of root cuttings, treating my plants as biennials. I take root cuttings as for sea kale, in March, putting them in a shallow trench on a west border. They are put in quite thickly and covered with some coarse sand until they begin to break through, when I plant them in a nursery bed 15ins. apart each way. The following March I transplant to the borders, using the old ones I dig out for cuttings. Before adopting this method I had great trouble in keeping my stock, owing to so many of the old plants dying off, now the young fleshy roots found at the bottom of these are used for propagating. I find the plants obtained in this manner are much stronger and better shape than any method I have yet tried.—W. J. S.

OUR PHOTOGRAPHIC COMPETITION

Readers who are interested in our competition, which we think has been a useful feature during the last three months, are requested to send in photographs before the competition closes next month. There is still time for many excellent garden photographs to be taken.

This charming summer house forms a most pleasant feature in my town garden. It was so placed to act as a point of interest in the garden and is situated half way down the length of the lawn, which is bordered with flowers on either side. Among the flowers in the border are sweet williams, tobacco plants, Campanula pyramidalis, erigerons, spiræas, hollyhocks, pink and white Japanese single roses, dahlias, antirrhinums and so on, providing a very effective blaze of colour during the summer. The roof of the house is made attractive by growing houseleeks in the tiles. This has been done by fitting a narrow board with wire through the tiles to prevent the soil washing away.

The guinea photograph, sent in by MRS. BERGNE, 13, *Pembroke Road, W.8. This was a prize-winning garden in the recent* Daily Telegraph *Garden Championships held this year. It gained the second award in it particular class.*

Below the house windows this pretty border of lupins, delphiniums and stocks in various shades has been made. It looks particularly well in this picture and provides a succession of colour and bloom during three or four months. The stocks are eminently suited for a position below a window. The garden is only fifteen months old. MR. L. H. SAUNDERS, *Church Lane, Kingsbury, N.W.9.* Award of 5s.

This photograph illustrates the charm of well planned and constructed rose arches. A walk such as this forms a restful feature in any garden. On the right-hand side, the walk is flanked by a border of mauve catmint. MR. G. E. WESTWOOD, *Hemel Hempstead, Herts.* Award of 5s.

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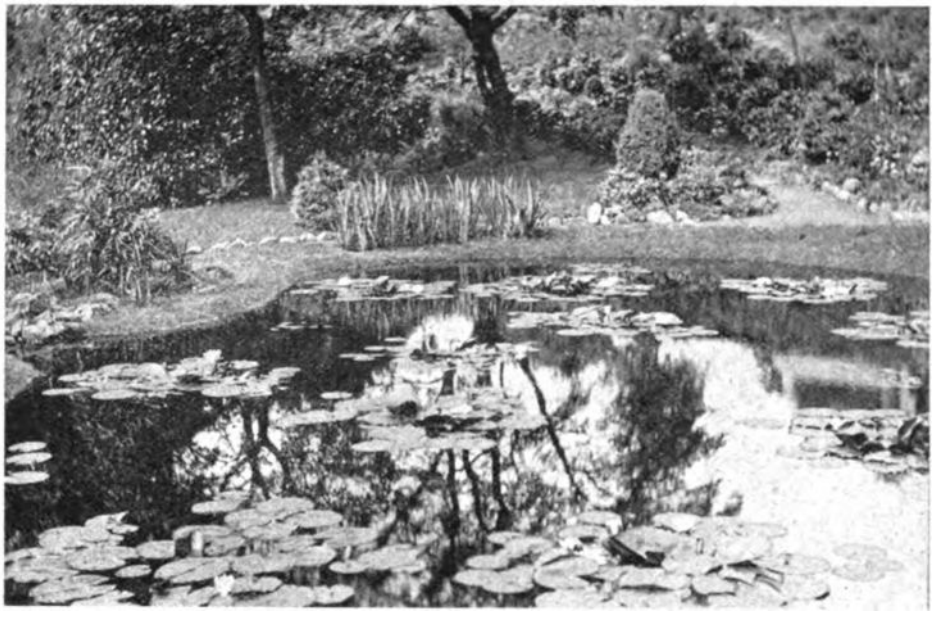
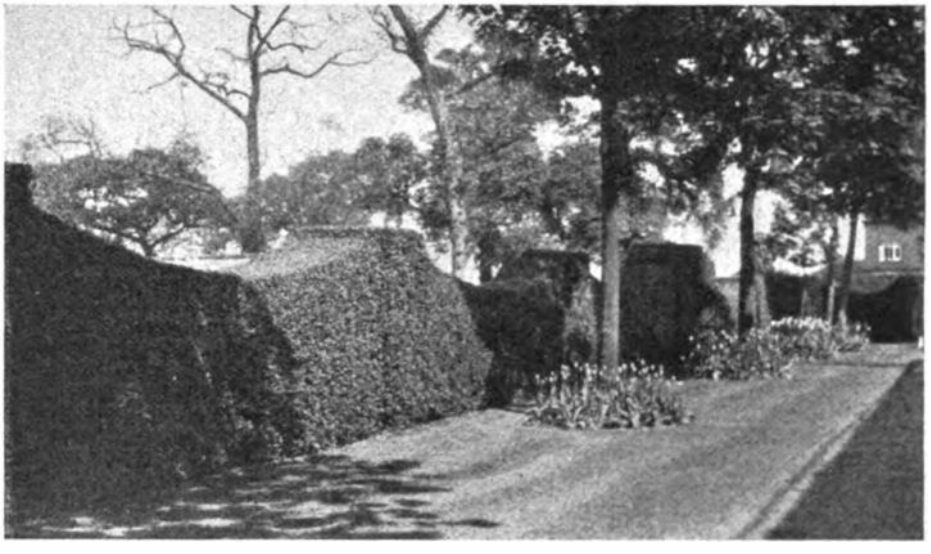


The accompanying illustration shows the lily pond in the grounds of Littedal Hall, Caton, near Lancaster. It indicates what may be done within the limits of a comparatively small garden. The grass margins have been planted with a number of moisture-loving plants, while a quantity of aquatics have been planted in addition to the water lilies, which have provided a most brilliant display this summer. MR. H. DEWHURST, *Bradford, Yorks.* Award of 5s.

A SMALL WATER LILY POOL.



This picture illustrates an effective method of growing tulips, and now that planting time is approaching it may not be without interest. The bulbs have been planted round the base of sycamore trees with a privet hedge cutting off the kitchen garden. The tulips add a touch of colour to the wide stretch of green lawn and they are shown to advantage against the background of the hedge. MISS M. HUGHES, *Lea Hall, near Chester.* Award of 5s.

MAY-FLOWERING TULIPS IN A PLEASANT SETTING.

The pink and white lavatera shown in this illustration is a charming subject for a border. It provides a most effective colour display, which is greatly enhanced by the lavender bushes in the foreground. On the left is a clump of Cineraria maritima with pink sweet williams behind. MRS. R. HAYNE, *Weymouth.* Award of 5s.

A DECORATIVE BORDER OF PINK AND WHITE LAVATERA.

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THE FRUIT AND KITCHEN GARDEN

Wasteful Crops.

EVERY year, and in almost every garden, there are crops, useless and indeed, harmful. Much nourishment is taken away from ordinary crops by common weeds, and we have to fight against them without any rest from the task. But there is no excuse for allowing useless crops to remain in the garden, impoverishing the soil, and there are many such at this season. The peas are gathered from certain rows, but the old plants are left in the ground; a good rain comes and they begin to grow again from the base. The haulm should be pulled up directly the pods are gathered, the soil loosened with the Dutch hoe, all weeds cleared off and a good dusting of soot applied. Level any ridges and sow turnip seeds. There are some good yellow-fleshed varieties as well as white, which quickly come to maturity at this season. The potatoes should be lifted directly they are matured enough, and the ground planted forthwith with winter greens. Old lettuces that are running to seed rob the soil of much goodness. Do not cut, but pull up these, and sow radishes in the plot. Old stumps of cabbages and cauliflowers are, perhaps, the greatest robbers of the soil. When these are pulled and burned, fork in some well-rotted manure and sow turnip seeds, as the resultant plants will get the benefit of such surface-manuring. The same remarks apply to all other kinds of plants that are now useless. Their place should be taken by winter greens or quick-maturing autumn crops, however simple the latter may be. One of the most useful for late planting is Earliest Of All Savoy. The plants will do well at 18ins. apart each way. Many vacant plots may be occupied by lettuce and endive. Plant at 9ins. and 12ins. apart respectively.—HANTS.

Feeding and Finishing Late Grapes.

PERHAPS the amateur cultivator has a better opportunity to finish late grapes than early varieties, if he can command a fair amount of fire heat and some good liquid manure. There is a long season of growth for late grapes and the ideal early autumn weather is a splendid ripening agent. Every main leaf and every bunch should receive full benefit from both sun and stimulant. To this end all sub-lateral shoots must be removed while they are very small. At this season they grow rapidly on healthy vines and soon cause an over-crowded state of foliage if they are not regularly removed. Both white and black grapes, such, for instance, as Black Alicante and Muscat of Alexandria, are greatly benefited if four good waterings are given, in one month, of diluted liquid manure. The black grapes require the natural covering afforded by their main leaves, the white grapes require practically full exposure to the sun: the exposure being gradual by the placing aside of the main leaves. Alternate waterings with concentrated artificial manures, according to the instructions given with them, will be beneficial; but such manures should not be applied at the same time as the liquid manure. As the berries approach full maturity the borders should be covered with a thin layer of dry litter to keep down excessive moisture. On bright days when the air feels warm more front ventilation should be given to cause a nice current of air to pass through the house. One inch of ventilation at the front will be enough throughout the night and 2ins. at the top and, if the pipes are kept just warm to the feel of the hand the conditions for a perfect finish will be attained.—GEORGE GARNER.

Late Sown Peas.

THE produce from late sown peas is usually so excellent that it is worth giving the crop a little extra attention. The two chief difficulties with which these peas have to contend are drought and mildew. To an extent watering will combat dryness, but a far better plan is to resort to mulching. A good layer of any material like straw manure or lawn clippings, should be placed along each side of the rows and this should be about 15ins. wide. Before placing the mulch fork the ground lightly and unless there has been rain recently, give the soil a good soaking. After the placing of the mulch the moisture will be sufficiently conserved in the soil to enable the plants to develop and mature the crop. Mildew should be treated at the first sign of its appearance as the trouble will spread rapidly with disastrous effects. One way of dealing with the attack is to dust the plants well with flowers of sulphur just before sundown or in the morning, before the dew has dried from the foliage. A more certain way is to spray the pea plants with a solution formed by adding one ounce of sulphide of potassium to three gallons of water.—S. LEONARD BASTIN.

Lifting Early Potatoes.

THERE is nothing to be gained by leaving early potatoes in the ground after they have finished growing and the skin has become firm enough to resist pressure when rubbed with the fingers. On the contrary, there is risk of serious loss through disease and secondary growth. Vacant ground is generally needed for successional cropping and the opportunity that enables the grower to get the most from the soil must be given due weight. The best plan when lifting the tubers is to sort them into three sizes, the largest for eating, medium sized for seed, and the smallest for animal food. Those for planting next year should be selected from the most prolific roots and they will be all the better for not being over-ripe. Leave them on the ground for a day or two and then store in single layers in shallow boxes in an outhouse or spare room, which need not be dark. The eating tubers may be stored in a heap in a cool place, or, if the quantity is small, in bags or boxes, but with these darkness is essential to prevent the skins from becoming green and the tubers useless.—J. C.

Blanching Celery and Leeks.

DURING the past few weeks these plants have grown very freely because the soil was warm and recent rains saturated it and thus favoured the free growth. Very early celery will be blanched already, but the main-crop plants and the leeks will be free from soil or other blanching material. Inexperienced cultivators hasten to heap up soil to the rows of plants thinking, by doing so, that they are encouraging the growth. Often this placing of soil to the plants retards growth as the roots are robbed of much-needed moisture. The best policy is to keep the plants growing as freely as possible and as late as possible in the year without any earthing-up. The outer, worthless stalks should be removed and all weeds. Clear water and liquid manure should be given regularly in dry weather and about eight weeks prior to the date when the celery is needed for use, place brown paper bands or soil round the plants to blanch them. With one hand grip the plant and hold it tightly while any soil is being placed to it, then none of the soil will fall into the centre and, being enclosed there, cause decay. Do not tie up the sticks, but press the soil very firmly against them. If brown paper be used do not tie it on too tightly, but leave ample room for the due swelling of the sticks. A mixture of fine ashes and sand placed close up to the stalks will prevent the latter being eaten by slugs. All plants, previous to the earthing up, should be soaked with liquid manure. Leeks should be treated similarly and only seared leaves removed.

Winter Parsley.

BY sowing seed in August in a spare frame, plenty of fresh green leaves may be had during the winter. Break up the existing bed of soil and add a layer 2ins. thick of good rich compost over the surface. Potting soil is excellent. Sow thinly in shallow drills 9ins. apart. Hard, firm growth should be the aim, and the lights should be left off till the weather makes protection necessary, and even then—except during hard frosts—they should be propped open a few inches day and night. Remove yellow leaves and take the whole of the stems when gathering for use.—J. C. C.

The Perpetual Fruiting Raspberry.

THIS is a very useful plant in every fruit quarter. When well managed, the canes bear abundance of fruit. Last year, towards the end of the summer, the young canes were fastened to their supports and will now have finished bearing fruit for the present year. If left uncut they will prevent light and air reaching the young wood, which is now bearing young fruits, some even not out of flower. Cut out all the wood of last year's growth and simply retain the young. Tie the latter to strong supports, fastening them so that the canes will be evenly disposed, then light, air and sunshine will penetrate and there will be more likelihood of the crop maturing. This year, especially, sunshine is badly needed for all fruits, even those growing under glass. The extreme tips of all fruit-bearing canes may be cut off now so that the whole of the strength of the plant will be concentrated in the development of the berries. It will be beneficial to the latter if a surface mulch of half-rotted manure be applied at once, as when rains come the manurial properties will be washed down to the roots and the latter will be kept in a regular condition of moisture.—G.

Harvesting Shallots.

THESE are grown in many gardens more extensively than in past years, and remarkably fine bulbs are cultivated. If the latter are carefully harvested they will keep sound longer than summer-grown onions. The bulbs should be lifted and laid out on their sides with roots towards the south. If left exposed so for four days the ripening will be complete and they will be ready for storing. But the weather may not be bright and settled. The bulbs must not be left in the ground any longer even if the weather is adverse. Lift them and spread them out thinly in a cool, dry shed, on the dry ground for preference. Failing a shed, make use of a spare frame light, elevating the latter on empty inverted flower-pots or bricks and spread out the shallots thinly underneath. An ordinary frame will answer well if it can be spared. Left for one week under glass lights where air can reach them freely the bulbs harden well and quickly, and are ready to be graded and separated. The central ones and those that are single, even and very firm at the crown should be stored separately for future stock for planting.—CHRISTCHURCH.

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THE AMATEUR'S GREENHOUSE

Stocks for Flowering in Winter and Spring.

Sow Seeds During This Month.

IN these days there are many annuals grown in pots for the decoration of the dwelling-house and cool greenhouse, and among them the stock is particularly noteworthy. A good reliable strain will produce a large percentage with double flowers, but even the singles are very useful for house decoration when other blooms are scarce. Stocks are easily grown and satisfactory in every way, and owners of cool greenhouses would be well advised to try a batch of these fragrant flowers. The section known as Beauty of Nice is admirably suited for the purpose, and this stock may be obtained in a variety of colours, which can be depended upon to come true from seed. I have grown most of them, but Old Rose has proved very popular, it is a very attractive shade of rose which would suit most people. All the Year Round is a pure white variety with wall-flower leaved foliage and is quite distinct. Perhaps the East Lothian stocks are not so well known as pot plants, but it is an easy matter to produce fine specimens some 18ins. across in pots 6ins. and 7ins. in diameter. There are several varieties of East Lothians, such as scarlet, pink, white, mauve and mixed.

When and How to Sow the Seeds.

These should be sown in boxes of light soil during August, and allowed to germinate in a cold frame, admitting plenty of air directly the seedlings are visible. When they have made three or four rough leaves, transfer them to 3in. pots, using a mixture of loam, leaf-mould and sand. It is said that the strongest seedlings are more likely to produce single flowers than the dwarfer and more compact, so the beginner should bear this in mind and see that a good proportion of the smaller plants are potted off, otherwise he may have a larger percentage of singles than is usual. The earlier the seedlings have a separate existence the better, and care must be taken to prevent them becoming starved in the 3in. pots. Directly they have made a reasonable quantity of roots, they must be transferred to their flowering receptacles, *viz.*, 5in., 6in. or 7in. pots, according to the strength of the plant. Good drainage is essential and the rooting medium consists of fibrous loam three parts and one part leaf-mould, to which is added a 6in. potful of old mortar rubble to every bushel of the mixture. If the loam is rather poor quality, a half teaspoonful of bone meal may be sprinkled over the rough material in each pot, at the final potting. This will prove beneficial just when the plants are pushing up their flower spikes. Cool treatment throughout is the keynote of success, and the plants can be kept in an airy frame until there is any likelihood of of frosts getting in. Then a light shelf in the greenhouse should be chosen, till they approach the flowering stage. When the flower spikes are visible and the pots are filled with roots, they may be fed once each week with weak liquid manure, or some approved fertiliser, but be careful to carry out the directions of the makers.—T. W.

Pot Your Nerine Bulbs Now.

THESE beautiful bulbous plants are specially suitable for the amateur's greenhouse, for they require no special treatment and can be grown in any ordinary greenhouse where a temperature of 50° is maintained, and this heat is only necessary for a short time.

Nerine is a showy plant having immense trusses of brilliant scarlet flowers on stems of about 18ins. to 20ins. high. Readers who contemplate growing a few bulbs should lose no time in potting them up as soon as they can be secured. As they require but little pot space, several bulbs should be placed close together in a good size pot—pots 6in. or 7ins. will grow three or four bulbs quite well. The compost used should be made up of light sandy soil two parts, leaf-mould one part and a good sprinkling of sharp sand. Pot moderately firm, but before potting a good supply of cinders and crocks should be put into the pots for drainage; also in potting allow ample space at the top of the pots for watering. After potting place the plants on a shelf in a cool greenhouse. Here they should stay until the plants are well established and begin to show active growth, when temperature and ventilation must be attended to. The temperature at this stage should be between 45° and 50° at night. Until the plants are established the surface of the soil should be kept nicely moist, but as leaves form and the plant makes growth more water must be given until the flower-buds appear and gradually reduced until the flower dies down, when watering must cease. When the flowering period is over remove the plants to a dry, sunny place where they may be given a period of rest before repotting. These plants should not be disturbed very often, but where it becomes necessary it should be done after the resting period. In repotting care should be taken to remove soil and bulbs intact, and for this shift a little charcoal should be added to the compost. Pot firmly, and keep the plants fairly close until established, when the same cool treatment may be given them. Propagation is best done by off-sets.

The Treatment of Pelargoniums.

PELARGONIUMS and some of the finer kinds of geraniums may be propagated in August. If treated early, they may be better established before winter than if taken late in the season.

There is no definite method of inserting the cuttings. They may be simply dibbled into a border, or flower pot, fully exposed to the sun. Before the approach of the autumn frosts, the cuttings may be lifted and potted, or planted in boxes and placed in a cold frame. Of course, the cuttings may be put into pots or boxes at once. The soil should contain a goodly proportion of fine sharp sand. A little well decayed turf, well mixed with the potting soil, helps to enrich it. The soil should be made moderately firm. The cuttings will hardly take root if the soil is too loose or too dry. After the cuttings are inserted, give them a good soaking of water and stand them in a sunny place on a bed of ashes.

When taking cuttings thus early, it is well to take the first batch from those plants that are overgrowing the edges, so as not to disfigure the beds.

Tricolour geraniums and similar varieties may receive attention first, the zonal and other strong-growing ones being left for later treatment.

If there are heavy rains, the cuttings may be placed in a frame; or be covered with a sash or hand-lights; but in fine weather they are better in the open air.

If a goodly number of cuttings is wanted, propagation should be started as soon as possible, as a greater number can thus be secured.—J. W.

A Climber for the Greenhouse.

A WORTHY companion climber to Plumbago capensis for the cool greenhouse is the beautiful Abutilon Milleri. This plant will flourish under exactly the same conditions as the plumbago, but flowers during the early summer and remains in good condition for a long period. If both plants are grown, a continuity of bloom is ensured for the greater part of the year. Abutilon Milleri possesses the additional attraction of having prettily variegated foliage, which remains in good condition throughout the year. It is on the slender shoots of the previous year's growth that the flowers are borne. These shoots should be allowed to hang down from the main stems, and during the flowering season each will be festooned with bloom. The individual flowers are 1½ins. in diameter, bell-shaped and of a rich orange-amber colour with a dark maroon blotch on the inside of each petal at the base. The russet-coloured calyx surrounds the lower portion of the five petals, and the flower depends from the shoot on which it is borne on a slender stalk about 1½ins. in length. Each leaf is not unlike that of a maple, but much longer in proportion to its breadth. Of a deep green hue, the foliage is blotched with pale green and yellow.

Specimens may be successfully cultivated in pots, or they may be planted out in a border, the latter being perhaps the best if they are required to cover a fairly large area of roof space. The pots or border must be well drained, and a porous compost consisting of good fibrous loam, leaf-mould, sand and a little bone meal must be provided. Keep the plant reasonably moist at all times of the year and feed established specimens with dilute soot water and manure water when they are growing freely.

Propagation may be readily effected by means of cuttings of the young growth inserted in pots of sandy soil and placed under a bell-glass in the greenhouse and kept shaded from the rays of the sun until roots are emitted. After flowering thin the shoots out as may be necessary, retaining sufficient to provide a good display of bloom the following year.—T. H.

Ornamental Asparagus.

MOST of the decorative forms of asparagus are of simple culture, providing attention is given to a few points. One important feature is to see that the pots are especially well drained, as anything like a waterlogged soil is certain to bring about a wholesale dropping of the leaves. Plenty of water is required during the growing season, especially if the plants are in a warm house. When the asparagus is treated as a greenhouse subject a good deal less moisture will be needed, and, in all cases, this should be much reduced during the winter, when the evergreen kinds are largely at rest. The best soil for ornamental asparagus is that formed of equal parts of loam and leaf-mould to which a rather liberal amount of sand has been added. Propagation is by seed sown in brisk heat as soon as they are ripe, by layers in the summer, or by root division when the plants are at rest. Some of the decorative asparagi form excellent basket plants, and of these retrofractus and Sprengeri are the best. The popular smilax (Asparagus medeoloides) is largely grown by training its long shoots to strings running from the floor to the roof of the house. The shoots, as desired for use, may be cut close to the ground, and this encourages the tuberous roots to throw up others. Another climbing species is A. plumosus with several important varieties, one of which, nanus, is dwarf in habit. All the ornamental species of asparagus much appreciate regular syringings during the summer. Weak liquid cow manure mixed with soot water encourages a vigorous growth. The chief insect pest is mealy bug, and for this a sharp look-out should be kept. If once the pest secures a hold there is nothing to be done, in most cases, save to cut the plants back, as insecticides will not completely penetrate the dense foliage.—L. B.

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HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

When Lettuces Bolt.

Most gardeners, sooner or later, are faced with the problem of what to do with a batch of lettuces which have prematurely gone to seed. Usually they are either fed to the fowls or relegated to the "Adco" heap. Both admirable ways of getting rid of them, but there is a better—cook them. It is not at all commonly known how good the leaves of lettuce are when cooked like spinach. They should stew very slowly, but personally I boil them in just sufficient water to prevent them catching, strain off in a colander, press all the water out as far as possible and return to the saucepan in which they were boiled, add a nice piece of margarine and a little pepper, and heat for a few moments. Do not forget to add a few crystals of washing soda to retain the bright green colour. Do not take any of the stalks, just strip off the leaves as you would for spinach.—E. C.

Dividing Flag Irises.

It will soon be time to divide or replant flag irises. For those who purchased plants last autumn or early this year and whose garden expenditure is limited and who wish to increase their stock of, say, two dozen varieties, the following method which I have successfully followed is a good one. By this way an iris garden can quickly be filled. Dig up the clumps and cut off all the clean new shoots with an old kitchen knife, taking about 2ins. of rhizome for each new plant. Plant firmly in new positions, clipping off about 4ins. of the "grass" with a pair of sharp scissors. Plant the old clumps in an odd corner. Next year they will send up a large number of fresh shoots. These can be treated in the same way as this year's growth, so that by the third year after purchasing the plants, the iris garden will be well filled, and in May and June it should be a mass of bloom.—M. H.

A Kneeling Pad.

A useful kneeling board which acts as a preventive of rheumatism can be made in the following manner: Take an old box about 14ins. long and 6ins. deep. Remove one of the wider sides. Place 2ins. of thick horse-hair or any other stuffing on the bottom to act as a pad on which to kneel. Cover with a strip of an old mackintosh or other waterproof material the width of the box but a yard or more in length. The piece over is for the legs and feet to rest on when kneeling, so as to keep them off the ground. If a strip is nailed round the outside with a pleat at each corner and left open at the top it makes three useful pockets for seeds, labels, handfork, trowel, etc.—Q.

A Good Way of Propagating Violas.

Those who want to increase from their own plants and do not possess a frame in which to take autumn cuttings, and who dislike the straggly plants that result from dividing up a plant, will find the following a simple and good plan. Take up, now, the plants from which you wish to propagate, plant them in a reserve border, and cut them back hard. Then earth up the soil on each side till they are nearly covered, and as the young shoots grow up through the soil a further earthing can be given. Dig up the plants in September and you will find each consists of a number of strong young rooted plantlets which can be separated and planted out, and which make good, compact-growing plants.—V. W.

Mulching Crops.

The placing of a mulch on the soil near growing crops of beans of all kinds, peas and onions is time well spent. Early mulching is more beneficial than if it be left until the crop appears to be suffering before even a heavy mulch is applied. The best time is to put on the material directly a heavy shower of rain has fallen. It is wonderful how long the soil then retains the moisture. Half-rotted manure forms the best mulch, but lawn grass may be freely used in the case of peas and beans.—J. P.

Damaged Conifers.

It sometimes happens that the top of a conifer gets accidentally broken out, thus spoiling the future shape of the tree. A simple plan to follow, and one which I have tried successfully, is to make a clean cut through the tree below the break. Then cut off the tips of the surrounding branches. The tipping causes an extra flow of sap to the top of the tree, resulting in a strong break which grows straight up. In a short time this lead growing stronger than the branches makes a new top, completely covering the cut portion, and brings back to its shape an otherwise spoilt tree.—J. N.

A Garden Scrap-Book.

Procure an old foolscap exercise book. Number the pages. Divide the book up into alphabetical portions, taking just over half the book for this purpose. Use the other half by dividing it into twelve monthly portions. Both THE GARDEN and *Homes and Gardens* have a number of paragraphs which are of particular interest to an individual, whereas the remainder is of general interest. Personally, when I have thoroughly read both papers, I again go through them and cut out items which particularly interest and concern me in my garden. I then paste them alphabetically into my scrap-book. I also extract the month's work and paste it into the monthly portion. In addition I retain any pictures of garden formations which may come in handy at a later date. This scrap-book forms a real ready reference, as it only includes those items which I personally require, and it has soon become "my own garden manual."—L. G. B.

OUR SERVICE BUREAU

Chrysanthemum Pests.

Could you tell me the cause of the marking on chrysanthemum leaves enclosed. It occurs on plants both in the greenhouse and outside.—E. P., Kingston Hill.

Your chrysanthemum leaves are infested with the leaf-mining maggot. The fly deposits its eggs in the leaves and the resultant grubs eat them as shown. Pick off and burn badly affected leaves. Syringe the foliage weekly with weak doses of clear soot water and scatter dry soot about the pots weekly to keep the fly away from that quarter.

Rose Leaf Trouble.

I enclose some defective leaves from one of my rose trees. I shall be glad of information as to its cause and remedial treatment required. It occurs a good deal in one particular bed of Harry Kirk roses. Also, can you tell me the cause of so many of my cucumbers becoming curled upon themselves in the frame, almost horse-shoe shaped.—H. C., Fleetwood.

The rose leaves are eaten by small caterpillars, a result of a long spell of dry weather. The recent rains will have cleared the trees considerably, but you should syringe with "Abol" directly you find any more leaves eaten. It is the cold—especially at night—that causes your cucumbers to curl instead of growing straight. Heap litter, grass from lawns and similar material round the frame, also cover with mats at night; remove the latter from the glass early the next morning to admit light.

Diseased Azalea Leaves.

Can you advise me on these diseased leaves of Azalea Hexe. The plant is in loam and leaf-mould only and has a mulch of cow manure and up till two days ago was apparently healthy. It is grown in the open in a half-shaded position. I have picked off all diseased leaves.—J. C., Totnes.

The azalea leaves sent for our examination are attacked by the fungus Exobasidium japonicum. Remove the galls before the white bloom (*i.e.*, the spores) is developed. If the removal of all infected leaves is done thoroughly there should be little trouble from this disease in the future. Mulching the attacked plants is helpful, but you should not use a too strong manure, *e.g.*, cow manure.

Keeping Geraniums Through the Winter.

Is it possible to preserve geraniums through the winter in a frame with no heat?—F. P., Harrogate.

During a mild winter geraniums can be kept in fairly good condition in a garden frame. Dry litter, bags or mats for covering will be necessary, also the removal of some of the large leaves at the beginning, the removal of any decaying leaves, fresh air in open weather, and dryness at the roots, with a fairly dry atmosphere.

Preserving Copper Beech Leaves.

How can I preserve copper beech (small branches about 18ins. long) without the leaves being either disfigured or withered, so that I can use them for church decoration at Christmas? Do the branches have to be taken from the tree at a certain period? I have tried one or two ways to preserve them, but have not been successful so far.—J. D., Burley-in-Wharfedale.

The copper beech leaves should be gathered when matured—just as the flowering stage is reached, before nuts form on the leaves. Press them between large sheets of blotting paper for several days to absorb some moisture, then suspend in a cupboard or large box in a shed. Place a vessel containing muriatic acid and sulphur in the box and make the latter airtight. Keep in the box for about twenty-four hours.

Treatment of Cyclamen.

Can you tell me how to treat cyclamen seed? I have several lots of both autumn and spring flowering varieties in my garden, and they all bear lots of seed pods.—A. C., Bishop's Stortford.

Leave the seeds on the cyclamen plants until quite ripe, when the pods come away easily. Gather and dry off in a cardboard box. Sow in sandy soil in pots, or in rows in a cold frame.

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NOVEL WAYS OF GROWING BULBS (see page 543).

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THE GARDEN

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PLANTS FROM ROOT CUTTINGS

MOST gardeners know what it is to lift a plant of a herbaceous perennial, like the Japanese anemone, apparently removing every portion, and yet to find the plant still growing in the old place the following year. Here is very good evidence that plants will shoot up from pieces of root left in the ground, and this points to an interesting method of propagation. Quite a number of perennials can be freely increased by means of cuttings made of the thick fleshy roots on which buds have formed. In some cases this is quite the best way of getting an increase, and the plan is always worth trying when other means of propagation prove somewhat difficult.

Speaking generally, root cuttings are best taken after the plants have flowered in the summer and from then onward until the coming of cold weather, or in the spring. One great advantage of taking the root cuttings in the late summer is that well developed specimens are secured by the following year. In all cases, however, one should wait until the flowering of the plant is over. Now and again sufficient roots for the purpose can be secured by digging round the plant. In others it is better to lift the plant and shake the roots free from soil, cutting all the thicker roots away and only leaving the parent plant with enough growth to start away again when replanted. Three inches is a good average length for a cutting if plenty of roots are to be had; but pieces a good deal shorter than this will often give quite good results. The roots of anchusa, crambe, anemone and others will grow if set about 2ins. down in beds of sandy soil out of doors. It is better, however, to start them into growth in a cold frame or greenhouse if this is possible. Boxes of flowerpots 4ins. to 6ins. deep should be given plenty of drainage and then filled with a compost formed of equal parts of loam, leaf-mould and sand. Long pieces of root may be inserted in the soil by making a vertical hole with a pointed stick rather thicker than the root. The top of the root should be just below the surface of the soil. Small sections of root can be covered with a layer of the compost. The subsequent treatment of the young plants, which come after the development of the buds on the roots, depends on the convenience of the grower. It should be noted that the specimens are brought on to a good size much more rapidly if they can be potted off singly and given two or three months in a cold frame before being placed in the open border.

Plants which give good results if propagated by means of root cuttings are numerous, but special mention may be made of the following: The thick fleshy roots of the Dropmore and other alkanets (anchusa) are excellent subjects for propagation by means of root cuttings. Pieces of root about the size of the little finger are used, and these develop shoots with great vigour. Most hardy perennials belonging to the same family are readily increased by means of root cuttings. Calystegia and convolvulus grow very freely from pieces of root, and even the tiniest fragments will develop into plants.

Mention has already been made of the flowering seakale (crambe), which has large fleshy roots that, if cut up into pieces, will grow almost as freely as the common seakale. Fraxinella (dictamnus) can also be freely propagated from roots; and the same is true of hemerocallis (day lily). If the thick fleshy roots of incarvillea are cut up and placed in sandy soil, they will rapidly develop into plants. The giant bell-flower (Ostrowskia magnifica), with its long root, like a huge carrot, is not an easy subject to transplant, yet, curiously, quite small pieces of root nearly always grow, even though the parent dies. Many gardeners know that peonies may be propagated by means of root cuttings, and the same is true of the Oriental poppies, the white Californian poppy (romneya), Senecio pulcher, and the symphytums. Of course, this does not by any means exhaust the list of subjects which can be propagated in the manner under consideration, and there is room for experimenting in this direction. It is a job that all amateurs should try, as in nine cases out of ten success is almost certain, and it is a method which should be practised in cases where it is desired to increase the stock of any particular plant which responds to this treatment.

Bulb Planting Time.

READERS will note in this issue several pages are devoted to bulbs and their cultivation. It is the beginning of the bulb season, and as early preparation means early planting and in turn early flowering, readers should make a point of making out their bulb order within the next two or three weeks with the arrival of the various bulb catalogues. There are plenty of subjects from which to choose, and the planting of daffodils, snowdrops, crocuses, chionodoxas and scillas can all be carried out next month in the open; while hyacinths, freesias, early-flowering narcissi, etc., may be placed in their pots for an early display in the greenhouse.

This Week's Work

For Gardens in the South and Midlands.

Pot up Roman hyacinths and freesias.

Take cuttings of violas, pentstemons and geraniums.

Take chrysanthemum buds.

Cut back herbaceous plants that have finished flowering. Keep the border hoed regularly.

Stake gladioli and clip evergreen hedges.

Sow schizanthus in pots and place on a shelf in the greenhouse.

Make another sowing of spring cabbage and earth up celery.

Pot on young primulas, cyclamen and zonal pelargoniums.

Plant out winter greens.

This Week's Work

For Gardens in Scotland and the North.

Take cuttings of petunias, salvias and verbenas.

Pot up Paper White narcissi.

Begin planting snowdrops.

Pinch out side growths of late-flowering chrysanthemums.

Top gooseberry shoots for American mildew.

Trap wasps and earwigs.

Sow cyclamen and give shade until germination has taken place.

Discontinue feeding roses.

Lift mid-season potatoes.

Continue to earth up celery.

Cut out old wood of loganberries after fruit is gathered.

Complete summer pruning of apples.

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DAFFODILS TO BE NOTED AND GROWN

THE Editor has asked me to give a list of the best daffodils for general cultivation arranged under their various sections. I fear this will much resemble a catalogue, but do not see how to avoid the same. I do not intend to name the oldest and best known things, such as Emperor, Empress, Horsfieldii, etc., as these are in every trade list. Also the very expensive varieties will be avoided, as seekers after these are very "few and far between."

TRUMPETS.

To take the trumpet varieties first.

Yellows.—King Alfred, a glorious golden yellow flower, perfectly balanced and most satisfying in every way but one, *i.e.*, it will not grow well with everyone, even where other daffodils thrive to perfection. Van Waveren's Giant, a huge fellow with golden yellow trumpet and segments of much lighter yellow. Tresserve, a bright yellow daffodil of largest size but not coarse. Buxted, a finely built flower of the Emperor type, a much improved Lord Roberts. Golden Emperor, an improved King Alfred, and will grow where that variety will not. General Townshend, a very perfect flower on the lines of Lord Roberts. Potentate, a very bright yellow of large size, very robust in growth and very free—eleven blooms have been counted on one bulb—early flowering; a very fine garden plant. Lemon Giant, a large flower with lemon-yellow trumpet and palest yellow segments, very distinct. Dawson City, a fine exhibition variety, but still rather expensive.

Bicolors.—Spring Glory and Glory of Noordwijk, very much alike and both improvements upon the older things, such as Empress and Horsfieldii. Florence Pearson, a pale bicolor of very strong constitution and extra good for pots. Weardale Perfection, a large and late pale bicolor. Phantasy, a very beautiful flower borne on long stalk, comes quite white under glass. Moira O'Neill, a pale bicolor of great value as a show flower, as well as being a good garden plant. Vestan a very fine late flower in the way of Weardale. Lady Mine, a medium-sized flower of perfect shape and extremely free flowering.

White Trumpets.—These are not yet common. The best are White Knight, Mrs. R. Sydenham and Beersheba, the finest of all, but still expensive. Mme. de Graaff used to be classed as a white, but is now under the bicolor section. Cut young and opened indoors it comes quite white.

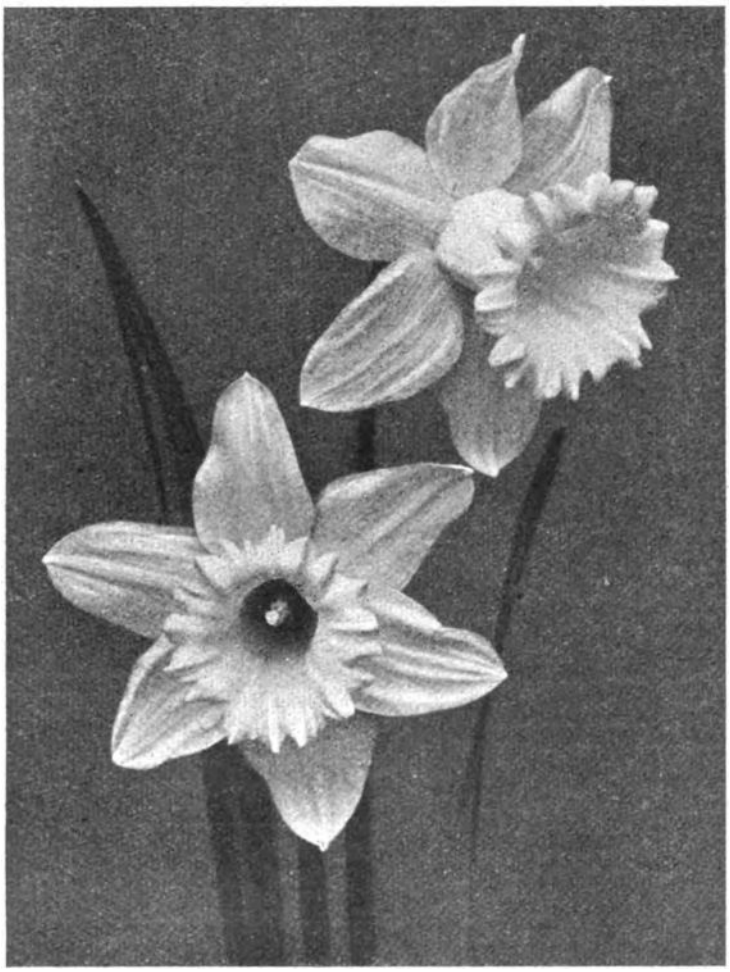
INCOMPARABILIS.

The giants of the Incomparabilis section have long cups nearly as long as trumpets. Lucinius is an all-yellow flower of perfect shape, a fine show variety. Noble has a pale yellow perianth and deeper yellow cup, a good sturdy plant. Great Warley, a very large bicolor. Steadfast, another bicolor, very late flowering, almost coinciding with the Poeticus section. Kwasind, a large all-yellow flower with slightly twisted segments. Golden Pedestal, a very fine golden yellow variety, very vigorous and free, at present high in price.

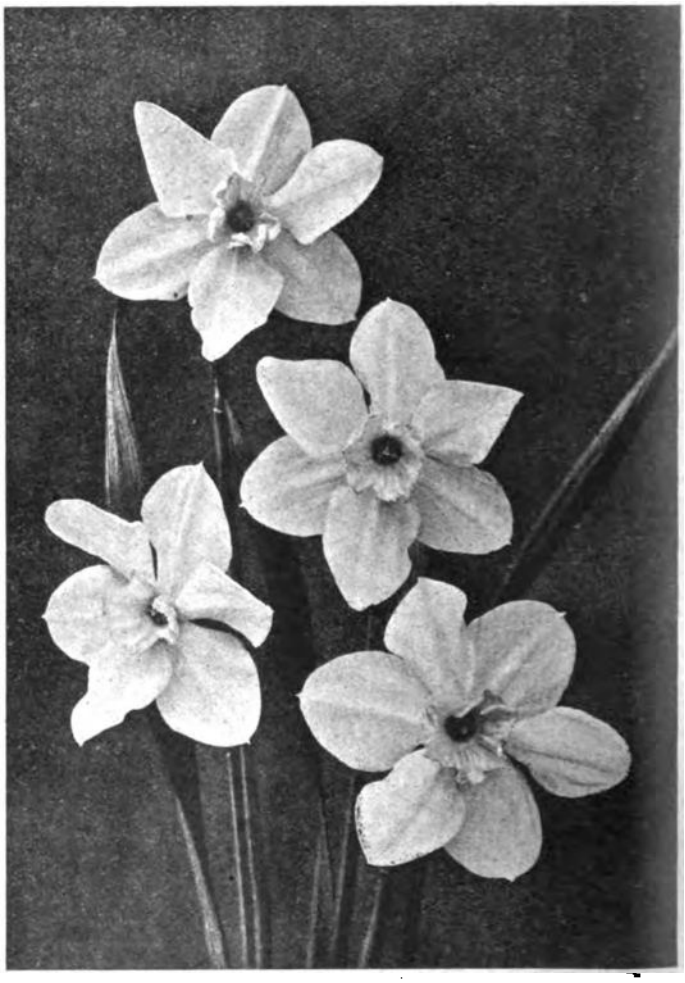
Small Incomparabilis.—Lucifer, segment white and rather narrow cup, bright orange, very good for cutting or for pots or bowls. The Star, an early rather pale yellow flower. Plant very healthy and vigorous. Bernardino, a flower of great refinement and beauty. Segments creamy white, the large cup is tinted with apricot, which colouring varies with soil and seasons. Macebearer, a good round flower with creamy white perianth, cup yellow edged orange; long stalk and ample dark green foliage. Marshlight, a much improved Lucifer, the cup is often almost crimson; rather scarce at the present time.

BARRII.

Daffodils in this section have shorter cups than the Incomparabilis. Firebrand, a small flower with creamy white segments and a cup of fiery red. Conspicuus, an old variety, but still holding its own in public favour. Lady Moore, white well rounded perianth, cup yellow edged orange. Very good in pots. Brilliancy, yellow perianth and cup with bright orange-red edge. Very early and a great one to increase. Firetail, very large flowers of fine form, with deep red eye, very late. Nursemaid, very like Firetail and less expensive.



KING ALFRED, A HANDSOME DAFFODIL, WITH CLEAR LUMINOUS YELLOW TRUMPET BLOOMS.



EVANGELINE, AN EFFECTIVE AND STRONG-GROWING LEEDSII VARIETY.

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LEEDSII.

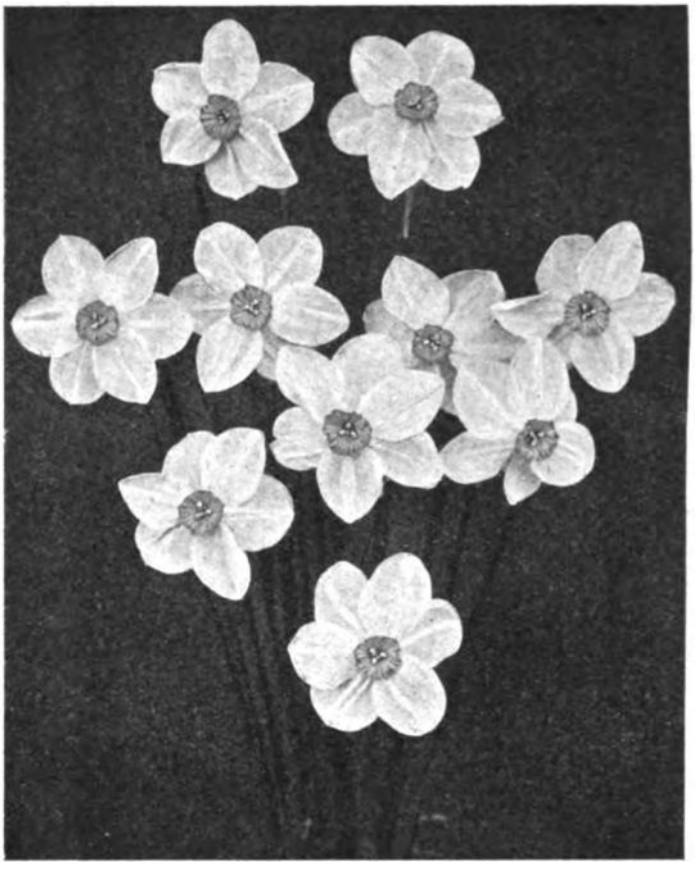
These have the same proportions as the Incomparabilis, but in coloration they are quite distinct. The cups are generally pale yellow, sometimes passing to white, but they may be tinted with apricot, and in very few cases pink! One of these named Mrs. R. O. Backhouse sold a few years ago at £50 per bulb, and is even now £10 to £12.

Giant Leedsii.—Empire, pale yellow cup and white perianth, a large and well formed flower, very free flowering. Hon. Mrs. Frecklin, pale yellow cup, white segments, a perfectly formed flat flower of lasting quality. Sanctity, a drooping flower of almost trumpet proportions, a chastely beautiful variety. Puritan Maiden, a lovely flower of show quality, very nearly a trumpet variety. Mitylene, large white flower with wide cup, pale primrose, passing to white, very distinct. Hymettus, large pure white perianth, cup long and recurved at brim. Tenedos, perhaps the finest of this section. The last four varieties are all rare and expensive.

Small Leedsii.—These are all white with pale yellow cups. Fairy Queen, small, but very dainty. White Lady, a strong grower, flowering late. Evangeline, very free flowering. St. Ilario, very late. Hera, a large flower, nearly large enough to be classed with the giants. An all-white flower of great beauty, late.

HYBRIDS.

Triandrus Hybrids.—These are all the result of crossing the beautiful little Triandrus albus (species) with garden varieties. Many beautiful things come from this cross, but they are nearly all delicate, and nothing but a well chosen spot in a rock garden will satisfy their needs.



FIRETAIL HAS A CUP OF THE DEEPEST FIERY RED.
It is one of the best of the Barrii varieties.

Cyclamineus Hybrids.—Again a cross between a wilding and cultivated varieties. Orange Glory, February Gold and March Sunshine are the best I know. They are well suited for rock gardens.

Jonquils and Jonquil Hybrids.—The jonquils have small all-yellow flowers. Generally there are two flowers on a stalk, sometimes three. Of the hybrids the best I know of is Buttercup, a large deep yellow.

POLYANTHUS AND POETAZ.

These are the bunch-flowered narcissi, some having as many as ten flowers on one stem. The Poetaz section is the result of a cross between the old polyanthus narcissus and the Poeticus. Some of the best of the Poetaz are Alsace, Elvira, Admiration and Laureus Koster.

PORTICUS.

These daffodils are all late flowering. There is now a great number of varieties on the market. It is quite as important that the plant should be a good doer as that it should bear a good flower. The following I have found the most satisfactory all-round varieties: Homer, early and good for pots. Horace, a tall and strong grower. Jean Ingelow and Rupert Brooke, both plants of exceptional vigour.

DOUBLES.

Doubles.—These do not appeal to the writer, but find many admirers among the general public. Argent and The Pearl are good and cheap. Twink, Royal Sovereign and Mary Copeland are fine but dear.

This is only a selection from some 3,000 named daffodils, and many good things are no doubt omitted. On the other hand, nearly every variety mentioned has come under my personal care.—J. DUNCAN PEARSON

NOVEL WAYS OF GROWING BULBS

INDOOR bulb growing is a very fascinating form of room gardening in which everyone can engage. Providing one secures the right kinds and varieties (a point on which any of the well known firms are glad to advise), all the ordinary spring flowering bulbs are extremely easy to grow. Generally speaking, for the room culture of bulbs it is better to use the fibre which is sold specially for the purpose. This is clean to handle and there is no need to bother about the question of drainage as is the case where soil is employed. Anything that will hold the fibre will do well, and it is often possible to find odd vessels, like ginger jars, broken bowls, old baskets, etc., which answer the purpose. A very attractive way of growing the bulbs is to plant them in large shells. At second-hand shops it is usually an easy matter to pick up some of the large tropical shells for quite a small sum. Choose those that have as much room inside as possible. Naturally, with the smaller shells, crocuses, scillas, etc., will be best; but in the case of the big ones some fine effects are secured with hyacinths, narcissi and tulips. Have as deep a layer of fibre as possible on the bottom before setting out the bulbs, and then, after planting, pack in more until the shell is full. Of course, the bulbs must be given a spell in some dark or well shaded place, so as to encourage a good root development before the shoots are encouraged to develop in the light. A pretty effect is secured by covering the fibre with moss or by sowing grass seed on the surface a few weeks before the bulbs are likely to come into flower.

A LARGE POT IN WHICH HOLES HAVE BEEN BORED MAKES A NOVEL BULB GARDEN.

Bulb-growing in a sponge is another interesting way to try. Here one should obtain a sponge of good size that is of a fairly rounded shape. Loop string or, better still, copper wire round the sponge so that it can be suspended. The bulbs are inserted in the holes

AN ATTRACTIVE WAY OF GROWING BULBS IS TO PLANT THEM IN A LARGE SHELL.

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of the sponge, or, if these should not be big enough, they may be somewhat enlarged with a little cutting. It is best to plant the sponge when it is quite dry, as the bulbs are then held more firmly in position. For culture in sponges any of the smaller varieties of hyacinth sold for early flowering are suitable. Crocuses and Paper White narcissi also do well, although in the latter case rather a big sponge will be needed. For some reason tulips are not much of a success in sponges, and it is hardly worth trying these. After the insertion of the bulbs the sponge is soaked in water and is then suspended in some dark place until rooting has taken place. Then a position in a light sunny room is admirable. All along, of course, the sponge must be kept moist and in a warm apartment; it is likely that a daily soaking in water will be required. Bright green moss may finally be tied round the sponge, and if thin twine is used this will not be noticed at all. Another way is to sow grass seed on the sponge. To make the seed adhere let the sponge be in a thoroughly moist condition and then press the seed thickly on to the surface with the fingers, and by the time the bulbs are in flower the sponge is completely hidden by the greenery. The grass seed should be sown just when the flower buds begin to put in an appearance.

A rather novel bulb garden in a pot is shown in the first illustration. Here a large pot was secured, and round this, at intervals, holes were bored. These openings were about 2ins. across and were separated from each other by rather more than this distance. The holes in the pot were easily worked out by means of an augur and an old "bit," the final enlargement being obtained with the help of a cold chisel. Those who do not want to do the job for themselves will find that a stone-mason would bore the holes for a small charge. As the pot is filled with fibre the bulbs are inserted so that the crowns face out of the holes. In the upper part of the pot bulbs may also be planted, and, when flowering time comes, the effect is very striking. Crocuses and scillas grow very well in the pot garden, and on account of their cheapness they may be planted thickly, to give a massed effect. The planted pot must be given a spell in some dark place to encourage rooting. Afterwards, when the pot is brought into a room, it should be turned daily so that all sides receive an equal amount of light.

A pleasing table decoration is secured by arranging some floating bulb gardens. These are formed in the following manner: Secure some pieces of cork—these might be large flat corks of a regular shape, or just odd fragments of virgin cork. Each cork is to form one floating garden of which there might be two or three in a large bowl. In these floating gardens it is best to employ the smaller bulbs, like crocuses or scillas and holes are bored in the corks so that the bulbs may be accommodated. It should be arranged so that the under part of each bulb is just in contact with the water when the corks are floating. Choose a large bowl which will give quite 2ins. or 3ins. of depth when it has water in it. In the water it is a good plan to place one or two lumps of charcoal. If this is not done the water should be changed every ten days. It is a great advantage to use rain-water or at least tap water which has been exposed to the air and sun for a few days. Let the bowl have a spell in a dark or at least a well shaded place until the roots are being sent down freely by the bulbs. Then a position in a sunny window is the best, when the bulbs soon come into flower. The corks may be hidden with fresh moss or grass seed may be sown soon after the bowl is brought into the light. When these floating bulb gardens are in full beauty a very charming effect indeed is secured, and the whole thing makes an interesting centre-piece for a table. L. B.

DWARF TULIPS FOR THE ROCKERY

THE numerous species of tulip display great diversity of size, form and colour, and the "miniatures," of which there are several, are particularly interesting and well adapted for growing on the rock garden, and they are not too obtrusive for even the smallest representation of this popular phase of gardening. They possess, in great part, brilliant colouring, in lively and pleasing contrast to the soft tones usually associated with vernal flowers. With few exceptions they are easily managed in well drained soil in sunny positions on the rock garden or in the border, and the majority of species are sufficiently sturdy to withstand the vagaries of an English spring.

The bulbs should be lifted annually and stored in a dry place until autumn. This is a rather tedious operation and may not, in some instances, be absolutely essential, but I certainly believe that many choice bulbs have been lost through inattention to this detail. Lifting should not be practised until the foliage has "yellowed" or withered.

One of the daintiest little tulips for a sunny border is T. dasystemon, which only rises some 3ins. or 4ins. from the ground. The buds are green with some brownish shading, and the open flower is white with a golden "sunset" base, and three, four or even six flowers are produced from one bulb in April, in some seasons a little earlier.

T. linifolia from Persia forms an almost prostrate rosette of small leaves, and the flower is of the most brilliant sealing-wax red with a glistening black base. Very near to linifolia is T. Maximowiczii, with flowers of the same brilliant hue, but the plant is of rather earlier growth and possesses stem leaves as opposed to T. linifolia. A colony of half a dozen bulbs or so will be noteworthy in late March and April.

T. Batalini is a plant of dwarf stature with soft yellow flowers, one of the prettiest and one of the very best, as it is one of the most easily amenable of rock garden bulbs. T. Clusiana, the well known "lady tulip," is of slender growth and of graceful port, the small, somewhat pointed flowers white flushed with red on the outside and with a purplish black base being singularly attractive. Usually in flower during April, this dainty species has for long been known in British gardens, for it was introduced from Southern Europe so long ago as 1636. T. persica (syn. Breyniana) is a pretty little plant, one of the smallest of tulips, with bronzy yellow flowers. It grows and increases freely, and is ideal for the rock garden or bulb border. It may, if so desired, be utilised as an edging for the latter.

T. KAUFMANNIANA, THE WATER-LILY TULIP, IS THE FINEST OF ALL SPECIES FOR THE ROCK GARDEN.

T. pulchella from Asiatic Turkey is a somewhat variable species, usually rosy crimson or carmine crimson in colour. It is a dainty flower of dwarf stature, enjoying a warm nook, as does T. primulina, with white, sometimes pale primrose and lilac flowers and conspicuous yellow anthers. About 9ins. in height, T. primulina is indigenous to Algeria.

Perhaps the finest of all tulips for the rock garden is the water-lily tulip, T. Kaufmanniana, in its varied forms. Some flowers are white with a golden centre, some white flushed red, others almost wholly red or yellow, and as still another variation, one very fine variety is white and golden centred, the outside of the perianth apple green. The glorious golden base, a marvel of colouring and reminiscent of the setting sun, is, however, always present, and a fully open flower, like unto a great water lily, is indeed lovely. A curious character attaching to this species is that the flower-buds are coloured from their conception and not green as in the familiar Dutch and Darwin tulips.

Such magnificent tulips as Greigii, Eichleri, Fosteriana and præstans I have not hitherto mentioned, for their proportions are as magnificent as their colouring, and while quite "at home" on the rock garden of generous dimensions, they are not so suitable for one of less pretension, and I particularly wish to focus attention upon those species of lowly stature and rare beauty. These bulbs will not be planted until early autumn, during the period September–November, but I most strongly advise the enthusiast to institute early enquiries for these bulbous gems. Stocks are much depleted, and considerable search and correspondence may be entailed before possession is secured. R. E. A.

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BULBS FOR CUT FLOWERS IN SPRING

A List of Suitable Varieties which are Decorative yet Inexpensive

UNLESS one has a very well filled purse, bulbs grown solely to supply cut flowers cannot be of the newer and more expensive kinds, but there are plenty of older and cheaper ones which are quite good enough for the purpose. Here, for example, is a list of a dozen very moderately priced narcissi which will provide a succession of beautiful flowers throughout the spring. Golden Spur, Henry Irving, Emperor, Empress and Mme. de Graaff, all trumpets; Lucifer, Cynosus, Sir Watkin and Frank Miles of the incomparabilis section; Mrs. Langtry and White Lady of the Leedsii division; and the well known Barrii conspicuus. To these may be added the Campanelle jonquil (N. odorus Campanelle), the double N. incomparabilis Golden Rose (an improved "Butter and Eggs") and the old Pheasant's Eye, which takes long to establish, but once settled down will increase year by year.

Single early tulips are more attractive in the cut state than are the doubles and a good and cheap half dozen would be the following: Prince of Austria, Rose Misante, Yellow Prince (fragrant), Thomas Moore Improved, Crimson King and White Swan. All the May-flowering tulips are charming for room and table decoration and a mixture of the Darwin and Cottage types will give excellent results at small cost. However, should it be preferred to buy named varieties, these will be found a good selection, although none is a recent introduction by any means: *Darwin*.—Clara Butt, Etguste, Farncombe Sanders, Rev. H. Ewbank, La Marveille, Flambeau. *Cottage*.—Golden Crown, Moonlight and Inglescombe Pink, Picotee, and Inglescombe Scarlet. The gorgeous Parrot tulips are too "floppy" to be suitable when cut for anything but a hanging basket, but the Rembrandt and Old English tulips, so quaintly flamed, blotched and feathered are beautiful arranged in big groups in jars or bowls of some deep plain colour—green, brown, copper or dull blue—but their price is higher than that of the majority of tulips already mentioned in these notes.

SNOWDROPS, WHEN ARRANGED IN LOW BOWLS, ARE EXCELLENT FOR INDOOR DECORATION IN EARLY SPRING.

THE ORNITHOGALUMS ARE USEFUL SUBJECTS FOR CUTTING. *The flowers last a long time, as much as three or four weeks in water. The one shown is O. arabicum which has black centres to the flowers.*

All kinds of irises are to be reckoned among the loveliest of flowers for decorative purposes, of the bulbous type, the February blooming Iris reticulata and its variety Krelageii, are best, perhaps, grown in bowls or pans, but they are very dainty when cut if arranged in slender stemmed vases. At the end of May the hybrid xyphium—sometimes known as Dutch irises—come into bloom to be followed by the Spanish and the English sections, the last named flowering about the end of June. Each of these irises may be planted in mixture satisfactorily and the expense will be far less than if named varieties are chosen. It is said that while Dutch and Spanish irises prefer a light soil, the English do better in a heavy one, but the last mentioned thrive in my garden, the soil of which is exceptionally light.

Possibly some excuse is needed for introducing the winter aconite, Eranthis hyemalis, in this article, as it is a tuber, not a bulb, flowers in winter, not spring, and is not generally regarded as suitable for cutting! But it comes into bloom when the garden is most barren of flowers and its cheerful little golden stars dotted thickly among tufts of mossy saxifrage in a shallow bowl are very pleasant to look upon in dull December. A cross between E. hyemalis and E. cilicica, which has been introduced under the name of E. Tubergeni, has larger, but paler coloured flowers than E. hyemalis.

Snowdrops, especially that fine variety, Galanthus Elwesii, should be planted as largely as possible, preferably in slight shade. The bulbs should be put in 3ins. deep and left severely alone, the pernicious practice of forking among them being strictly forbidden.

Muscari Heavenly Blue and M. alba grandiflora, are very pretty for cutting except that the blue—a very good colour by day—is dingy under artificial light. The curving sprays of Scilla nutans, with their white, pink or blue bells are most graceful in vases, while Milla (triteleia) uniflora (palest lavender) and M. u. violacea (lavender with a violet stripe down each petal), are particularly charming combined with mauve primroses and tufts of saxifrage. The milla bulbs are quite cheap and increase rapidly in almost any soil. The cutting value of Leucojum æstivum and the ornithogalums are scarcely fully appreciated, I think. Of the first named, the Gravetye variety has larger bells than the ordinary kind and is decidedly desirable; it blooms in May. The three ornithogalums most satisfactory in water are O. umbellatum splendens, an improvement on the old Star of Bethlehem; O. nutans, with spikes of silvery grey and pale green flowers—curious, but decorative—and O. arabicum, which has white flowers with black centres and golden anthers. The last requires a little protection in exposed situations; the bulbs should be planted 6ins. deep.

R. E. H.

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THE BUSY MAN'S PAGE

Flowers for Next Year.

MOST gardeners have noticed the sturdy development of self-sown plants, and this, in the case of certain hardy annuals, or plants that are often treated as such, is due to the fact that the specimens are able to get well established in the autumn. Try sowing clarkias, eschscholtzias, love-in-a-mist, Iceland poppies, cornflowers, sweet alyssum and coreopsis any time before the end of August, and you will make certain of a wonderful display of bloom next summer. By far the best plan is to make the sowings in the positions where the plants are to remain. This is really quite an easy matter to arrange, as patches in the borders are cleared. At the start, thin sowing is important and when the plants have grown a little, thin out once more. Perhaps even another sorting-out will be required, although one should leave rather more plants than will be ultimately required in order to cover any possible losses during the winter. Keep a sharp watch for slugs, woodlice, etc., for these pests will be active as long as the warm weather lasts and will be likely to fancy your seedlings. If the early autumn is very dry, watering will help the plants to get up to a fair size before the setting in of the winter.

SEEDLING POLYANTHUS SOWN IN MAY AND JUNE IN BOXES.

They are now ready for transplanting to their flowering positions. If planted out this month they soon establish themselves in their new situations. All divisions of primroses and primulas should be planted out in the same way.

Saving Seeds of Rock Plants.

THE seeds of many of the spring-flowering rock plants are now fully ripe. Helianthemums, many kinds of dianthus, ramondias, dodecatheon, androsaces, Silene alpestris, primulas, alpine poppies, saxifrages and many others, are covered with bursting brown cups and pods. The seeds should be collected as soon as possible in dry and sunny weather. A good method of gathering them is to put the seed-pods into the small tin boxes in which typewriter ribbons are sold. Any small tin box will do, however. When the box is half full, put the lid on and shake it vigorously; the seeds will easily come out, and the refuse of the pods can be gently blown off. The process may be repeated until the box is full. Label each box before putting it away. The tight-fitting lids of these cases make them excellent receptacles when it is desired to keep the seeds for any time.

Most alpine seeds should, however, be sown as soon as they are ripe. A seed trial ground is an interesting experiment in a rock garden. Cover a piece of level ground, in partial shade if possible, with 6ins. of light soil, loam, sand and powdered lime rubble and chips. In dry weather keep it damp by watering with a fine rose.

When collecting the seeds throw some of them loosely on this mixture, without attempting to cover them—Nature's own method of propagation. (It is well to put some kind of "bird-scare" on the ground.) Delightful surprises sometimes result from this casual seed-sowing. Difficult subjects will often root and grow with vigour, untended save by "Nature, that old Nurse," which, under experienced cultivation in frames, will not produce strong healthy plants.

How to Take Cuttings of Heaths.

IT is fairly generally supposed that cuttings of heaths are difficult to root successfully. This is not true, however, providing that one or two essential rules are followed. In the first place, the cuttings should be prepared from the half-ripened young shoots, an abundant supply of which will be procurable during August or early September, which is the best time to insert cuttings of these plants. Thin, weak shoots should be rejected as material for propagation, for they will never produce strong, sturdy plants. At the same time it is necessary to sound a warning against the choice of thick, sappy growths, for these invariably damp off if used for propagating purposes. As a rule the laterals growing from the young vigorous shoots make the best cuttings. They should be from 1in. to 1½ins. in length, and may be pulled off with a "heel" and trimmed with a very sharp knife. Should suitable cuttings with a heel be unprocurable, they should be cut cleanly across just below a joint. The lower leaves must then be carefully removed with the aid of a fine-pointed pair of scissors. Erica cuttings do not require much depth of soil in which to root, consequently the 48-sized pots should be filled to one-half their depth with drainage, a layer of leaves or moss being placed over the drainage to prevent the soil being washed away. The pots should be filled to within half an inch of the rim with a compost consisting of two-thirds peat and one-third sand, the peat being passed through a ¼in. sieve. A thin layer of sharp sand should then be sprinkled over the surface, and the pots watered through a fine rose and allowed to drain before the cuttings are inserted. From two and a half to three dozen cuttings can be accommodated in a 5in. pot, a small dibber being used to insert them, taking care that they are made quite firm. As each pot is filled, water with a can fitted with a fine rose, and then stand the pots in a shady corner of the greenhouse or cold frame and cover over with a suitable bell-jar. Exposure to sunlight must be carefully avoided.

Each morning the bell-jar must be removed and all condensed moisture wiped from off the inside of it. The cuttings must be watered when the soil becomes at all dry and any decaying leaves removed.

In from two to three months the young plants should commence to form roots, and ventilation must then be admitted, first by slightly tilting the bell-jar and then gradually increasing the amount until the jars can be dispensed with. The tips of the plants may then be removed to induce bushiness, and the following May a suitable opportunity should be chosen to plant out the young ericas in nursery lines, allowing 4ins. between the plants and 9ins. between the rows, and the following autumn splendid bushy little plants will be ready to transfer to their permanent quarters.

Clipping Hedges.

DURING a moist season hedges grow rapidly and quick-growing shrubs like privet require clipping several times to keep them neat. Those of slow growth—*e.g.*, yew and holly—do not get out of order if they are trimmed once annually early in August. Except in the case of laurel and holly, shears are the best implements to use, but they must be sharp at the outset. For large-leaved shrubs secateurs or a knife are best, as with either the leaves need not be cut. Always trim closely and aim at procuring an even surface by passing lightly over hollows and cutting hard back those portions that are projecting beyond the general outline. The top being the most prominent should be clipped with extra care, and if the operator is doubtful of his ability to do the job creditably unaided, he will find the garden line helpful when dealing with straight hedges. It is well to bear in mind when clipping that a hedge which is wider at the top than below will, sooner or later, become weak towards the base. After clipping is completed clear away all weeds at the foot of the hedge.

THE YOUNG PLANTS TRANSFERRED TO THEIR FLOWERING POSITIONS IN THE BORDER.

Note that each plant has sufficient space to grow freely. They are planted about six to nine inches apart.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Paths in the Garden.

IT is always a surprise to me that no two gardens seem ever alike. The garden illustrated on this page has quite a distinction of its own. The crazy paving paths are laid in an unusual fashion, according to the owner's fancy, the edge of each path being a ribbon of flowers of all kinds. Madonna lilies make a showy centre to the elliptical flower bed, while tall standard roses at intervals along the lawn side emphasise the division between lawn and path.

This front garden won a premier award in the recent Garden Championships organised by the London Gardens Guild, the judges considering that the standard of cultivation was extremely high. The grass, as the picture shows, is in perfect condition.

Contrast with this the second picture, where the path shown is straight. I, personally, prefer the straight path, with its arches of roses. Here again, the ribbon border which divides the lawn and path has been accentuated by becoming the home of numerous climbers which clothe the wooden arches with their blossoms. Without some such tall feature in this border, it would tend to appear unnecessary—one might be tempted to step over it. The straight path leads to a rockery garden and the whole design of this garden illustrates the value of variety in adding apparent size to the small town garden.

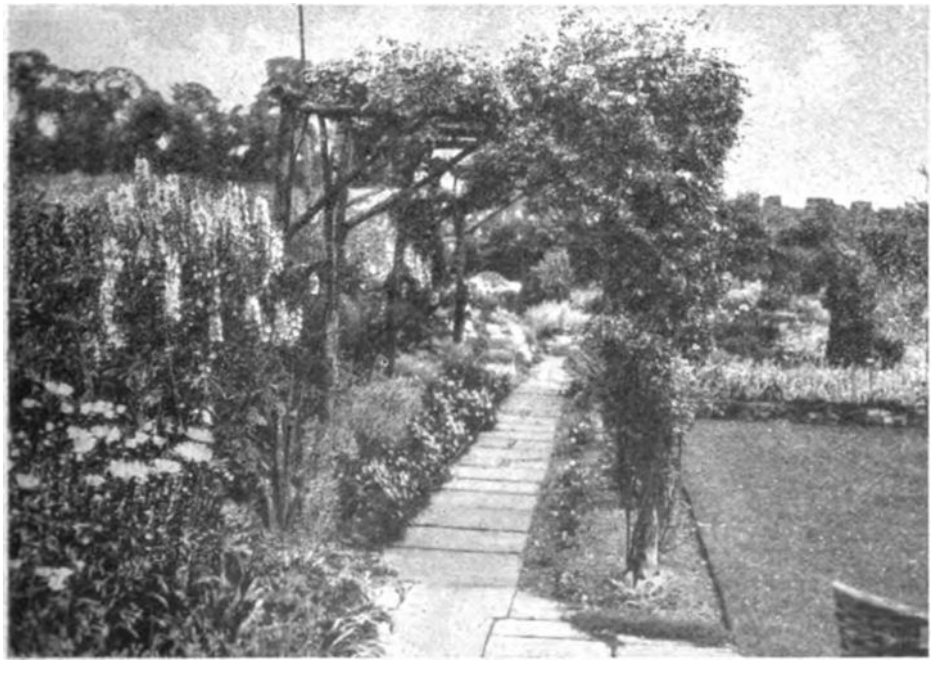
AN ATTRACTIVE FRONT GARDEN IN A LONDON SUBURB.
It is simply designed and well planted. The centre bed of Madonna lilies makes a most effective feature.

Chrysanthemums in Pots.

THE heads of early-flowering chrysanthemums are developing fast. Even now the earliest sorts are adding colour to the flower border. Beyond staking and thinning out of overcrowded shoots, there is little to do to border varieties. But plants grown in pots of the late blooming sorts, need more attention. As the flower buds begin to show, a dose of liquid manure should be given once a week. For this purpose soot water and manure water made by stirring animal manure in a barrel, should be given alternately. Where these natural stimulants are not available, a pinch of one of the prepared fertilisers should be given to each plant once a week.

If large blooms are desired, a certain amount of disbudding will have to be done. But for ordinary decorative purposes, the specially large blooms are not required. If mildew makes its appearance, spray the foliage with potassium sulphide (liver of sulphur), one ounce to three gallons of water.

The leaf miner is best checked by pinching the affected foliage between the thumb and finger to crush the minute grubs. Black fly is best kept in check by spraying with insecticide. Allow as much sunshine as possible to reach all the foliage and the reward will be an abundance of richly coloured foliage and flowers.



A STRAIGHT FLAGGED PATH WITH A BORDER ON EITHER SIDE.
This is a decorative feature in a small garden.

The Bulb Order.

THE arrival of early bulb catalogues is a reminder that the bulb planting time will soon be here. The bulb trade is no exception to the rule of first come, first served, or rather first come *best* served. Most growers grade their bulbs, and, naturally, the best quality are sold first. Early hyacinths that are required for Christmas decoration should be planted without delay. Among the daffodil section, Henry Irving, Telemonius plenus, Obvallaris and Paper White narcissus should be potted. Orders for outdoor bulbs should be dispatched as early as possible.

When bulbs arrive from the growers, they should be carefully unpacked and stored until required for planting. This is important as they somtimes get damp during transit. In selecting bulbs, size is not the only guide to quality. Weight is equally important. Further details will be given later on indoor and outdoor culture of bulbs in town garden.

After the Strawberry Crops.

AFTER the third season, strawberry plants are not worth keeping, and new plants must be raised. Where an old strawberry bed is now being dug over, seedlings of winter greens can be planted out. Give a dressing of fertiliser before planting, and set the seedlings 2½ft. apart each way. If onions are to be sown out of doors, these could be put in drills between the rows of winter greens. As soon as possible they should be transplanted or thinned out to 9ins. apart.

Remove Dead Flowers from Dahlias.

COLTNESS GEM, and other single dahlias, have been displaying their beauty for several weeks now. To prolong the flowering season, and to secure fine late blooms, cut away every dead flowerhead from the plants. Unless this is done the strength of the plant goes into the seed heads and less blooms are produced. This, of course, applies to other plants besides dahlias.

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WORK IN THE FLOWER GARDEN

Chrysanthemums in Pots.

Watering them in Rainy Weather.

WHEN watering a number of chrysanthemums in pots one day in July, after rain had fallen, a friend made the facetious remark, "What, watering after all the wet last night!"—a remark which went to show that he was not a grower of them and led to the reason for the trouble and labour involved being explained.

It was demonstrated to him—to his satisfaction—that the pots being full of roots, and the leaves hanging over the sides of the pots, acting as a foi , and so preventing the rain reaching the roots, how necessary it was to guard against the plants becoming dried up, in what appeared to be a time when one could dispense with the water pot. In brief, in a time of plenty of moisture, one may overlook the need for water, and so chrysanthemums may become quite dried and starved.

Especially is this so with plants grown in moderate sized pots—5in. and 6in., for instance—that unless watered systematically are apt to lose their foliage, besides injuring the development of the buds. As a grower of some hundreds of chrysanthemums in pots, I know something of the task of watering and feeding, but it is a task never begrudged when I remember that from October until well on into January, there will be a reward of flowers which no other plant can possibly give, and whether the weather be wet or fine, they are examined every day while standing in the open, so that their needs may be satisfied. They are worth it all!—C.

Pools in the Rock Garden.

A MUCH greater interest is created in a rock garden by the presence of pools of fresh water. Such pools are entirely distinct from the fish or lily ponds, perhaps with paved edging, that are constructed in many gardens, often in conjunction with a rockery. These are formal, and obviously artificial, but a pool surrounded by rocks is the most natural use of water in the garden one can imagine. The introduction of a few pools of this nature allows a greater variety of plants to be grown with a consequent increasing interest in the garden. Many bog and moisture-loving plants can be placed round the pools to add colour to the rock garden during the summer months when the rich spring display is over.

It is quite an easy matter to make these pools, which need not be of any great depth unless lilies are to be grown; at all events, a chain of pools of varying depths could be formed across the rock garden, as shown in one of the illustrations, the first one near the source of the water being only 2ins. or 3ins. deep, and the last one 3ft., more or less.

A CHAIN OF POOLS OF VARYING DEPTHS CAN BE FORMED ACROSS A SMALL ROCKERY.

To ensure a circulation of fresh water, pipes from the main house supply must be led to the highest part of the rockery; and as this is expensive, it means that the rock garden should be as near the house as possible. A standpipe and tap can be will hidden among the rocks or shrubs near by, and the outlet pipe should be inserted among the rocks so that the water appears to be gushing out of a rocky mass. Let the water fall from one rocky projection to another and then run down a channel into the first pool, which overflows into the second pool, and so on, with, at the other end, an outlet into the drains, or perhaps the water can be allowed to spread itself over a bog garden near by.

A ROCKERY POOL CAN BE MADE AN ATTRACTIVE FEATURE IN MANY A SMALL GARDEN.

Along the channel and actually under the cascade will grow numerous ferns and other plants, and along the rocky banks of the pools can be planted mimulus, primulas of many kinds, forget-me-nots, acorus, king cups, loosestrifes, spiræas, funkias and many other moisture-loving plants.

The effect is far more charming than the perfectly square or round pool, as the illustrations demonstrate, showing how well this has been carried out by one of our readers, Mr. W. M. Frames of Sidcup, Kent, in a garden of average size.

Colour Schemes with Common Flowers.

THERE are certain plants that seem almost indispensable in the garden, and of these one is the delicate blue perennial flax, Linum perenne. This species is of light and delicate growth and lends itself to the formation of many pleasing colour schemes. Owing to its light and graceful habit, it may be associated quite freely with dwarf plants, as well as with those of taller stature. Last year I had a narrow border planted out with this flax and nemesia alternately, and the whole picture was one of entrancing beauty, the blossoms of the linum forming a veil of hazy blue over the brilliantly coloured nemesias. This year a similar scheme was adopted in a small bed, the companion plant in this case being Sweet William Pink Beauty instead of nemesia. The effect was equally fine, and I am hoping to have a further display in late autumn in this way. The linum is cut down to within a few inches of the ground—to promote new growth that should flower later in the year—and in the place of the sweet william, now pulled up, are planted pink antirrhinums, grown from a late March sowing. There are many more ways in which this linum may be utilised, and the above notes must be taken merely as suggestions of one or two lines which might be followed up.

Linum perenne will come quite freely from seed sown outdoors in shallow drills at this season, and the resultant seedlings need not be transplanted till late autumn if thin sowing be practised. A good stock of seedlings should be raised, for bedding out schemes usually swallow up a goodly number of plants.

Another indispensable plant is the mauve catmint, easily raised from cuttings, as described in recent issues of this journal.

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Nepeta Mussinii, as it is botanically named, will flower continually from June till September, the mauve blossoms being borne in light and elegant spikes. Mauve is a colour that associates well with most other shades—bar scarlet—but, perhaps, the happiest blending is with pink. Thus, the schemes that suggest themselves for a narrow, and perhaps rather dry, border are—an edging of mauve catmint, with the main part of the border planted with pink flowered annuals, such as Godetia Schaminii, Lavatera rosea, pink clarkia, etc. Nepeta, with a backing of the delightful pink antirrhinum Nelrose: and nepeta with pink, silvery-leaved carnations.

The mauve catmint is also invaluable for growing on old retaining walls and for any bare bank or piece of rockwork which is not in total shade. Plants growing under these conditions may be allowed to remain for several years, and will in the course of time reach a very large size. For edging purposes, it is better to replace the plants after the second year, or they will overspread the whole border.

A New Evening Primrose.

Œnothera Clutei.

THIS new evening primrose is a native of Arizona, where it was discovered by Mr. Willard Clute in 1919 when botanising in the Navajo Indian Reservation Territory. This species was described by Nelson and named after the collector. During the spring of 1926 Mr. Clute sent seeds to Mr. T. Hay, superintendent, Hyde Park, and to him we are indebted for our plants. This species is evidently a biennial, as the first season it formed a large rosette of leaves. During the second year it throws up a stout central shoot about 4ft. in height. From the base of this other less strong lateral shoots have developed, altogether forming a large handsome plant. The flowers are large, about 4ins. across, and are borne in great profusion. In colour they are of a soft yellow like Œ. biennis, but the petals are not so broad and regular as in the later species, but are open or show light at the base and open out almost flat in the form of a Maltese cross, giving the flower a distinctive and pleasing effect. Flowering, as it does, with great freedom, a mass of this plant is very effective, and if it ripens seed, which it has every appearance of doing, it should prove valuable for grouping in the mixed border or planting in large masses in the semi-wild parts of the garden.—J. COUTTS.

THE NEW AND ATTRACTIVE EVENING PRIMROSE, ŒNOTHERA CLUTEI.
From the basal rosette of leaves it throws up a long flower spike some four feet high carrying soft yellow blossoms.

How to Trap Earwigs.

THESE cause the gardener no small amount of anxiety. Their love of dahlias and chrysanthemums, to say nothing of rose and other blooms, is at times enough to try the patience of the mildest of men. The old and favourite method used by dahlia growers is to place a flower-pot on the top of the stake. This is good enough, but try putting pots on the ground as well. Fill them with paper and examine them every day. Other methods include tying hollow stems of plants about the plants affected. Rolls of paper will do just as well. A splendid plan is to fix up a number of match boxes among the plants. Fill these with moss or similar litter and leave them part way open. The pests need some place in which to hide during the day, and such receptacles as these provide them. The advantage of using matchboxes, dried hollow stems, rolls of paper, etc., is that when found full of the pests they may simply be destroyed and fresh ones provided. A daily examination should be made. Insecticides may deter the earwigs but will not get rid of them.—T. H. H.

An Attractive Globe Flower.

(Trollius pumilus yunnanensis).

WHEN any reference is made regarding a trollius, we immediately think of the globe flowers and the various forms of T. europæus, but the plant named above is quite distinct, and the flowers resemble a large richly coloured buttercup. In T. pumilus we have a dwarf plant about 6ins. in height, which produces light yellow flowers in June and July above a tuft of small glossy leaves. This plant is suitable for a moist situation.

The variety yunnanensis was, I believe, introduced by Purdom some eighteen years ago, and it is an excellent subject for the bog, or wherever the soil is on the damp side. It is finer in all its parts than T. pumilus, the scapes are branched, and the beautiful bright golden yellow flowers are nearly flat and fully 3ins. across. In the centre of the five massive sepals is a circle of paler yellow stamens, while the light green foliage is both ample and pleasing to the eye. In the garden here it is nearly 2ft. high, and had over twenty flowers open at one time. A clump of six or eight such specimens is quite a feature during late June and early July. Like many other members of this group, they resent root disturbance, and having planted them in a sunny but damp position, they should be left alone for several years. Propagation is effected by division in early spring and by seeds. These, if sown as soon as ripe, will readily germinate in a cold frame, and healthy seedlings will be the result.—T. W. B.

The Fishbone Thistle.

Chamæpeuce Casabonæ.

THIS is a noble-foliaged plant of the Composite family. Most authorities underestimate its height, giving such as from 2ft. to 3ft., whereas it would be truer to write 3ft. to 5ft., and even 6ft. in a congenial place. The plant shown was nothing short of 6ft., and with the purple flowers crowning its thistle-like head made a conspicuous subject. The chief glory of this fishbone thistle is, of course, its fine leaves, of a shining greyish green colour with a white mid-rib and small brown spines on the ends of the leaves.

THE HANDSOME-LOOKING FISHBONE THISTLE WITH ELEGANT GREY FOLIAGE.

A light or well drained soil is necessary to obtain well developed plants, otherwise the plants are stumpy in appearance and correspondingly less handsome. The wild garden would be a suitable place for this thistle if the ground is porous and the site not overshadowed too much. It is best treated as a hardy biennial, its flowering-time being July to August.—C. T.

Michaelmas Daisies—The Worth of Final Staking.

IT is a fact, one may see demonstrated every autumn, that many people who grow Michaelmas daisies in their gardens do not get full value from them, because they fail to recognise the importance of giving the plants enough stakes. Looking over a border a few weeks ago, I noticed most of the plants had been given one stake earlier in the season, around which a cord had been loosely tied. This was altogether inadequate, for many shoots were sprawling on the ground, and the wood having become hard, it was quite impossible to get them in anything like position without breaking or injuring them. It is well, even at this date, to examine Michaelmas daisies with a view to giving them help in this direction, as if left to themselves wind and rain beat them down. Three or four stakes about a plant with twine drawn around them will often prevent an accident.—W. L. L.

Cheiranthus Allionii: Planting Out in Autumn.

MANY gardeners make the mistake of letting seedlings of this cheiranthus remain until the following spring before getting them into their final quarters for blooming. But when lifting the plants thus late, the long tap root is severed, and many of them die away. It is better to shift the plants in autumn before the roots have become too strong. C. Allionii does not like disturbance at all, and I would much prefer to sow thinly on a bed to themselves, or prick out the young seedlings as soon as large enough, and leave them at that, but one cannot always do so, as I am convinced that most of the failures occur with large plants that have pushed out their long tap roots, and when these are once broken, they take a long time re-establishing themselves.—F. W.

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NURSERIES OF THE BRITISH ISLES.—IX

MESSRS. R. H. BATH, LIMITED, OF WISBECH.

THROUGHOUT the British Empire Messrs. R. H. Bath of Wisbech are known as raisers and growers of narcissi and tulips. Their fame in this connection has spread far and wide largely owing to the very fine exhibits of these bulbous plants which this firm have displayed at the R.H.S. shows and other floral exhibitions. They have introduced some of the finest of our modern narcissi and are one of the pioneer bulb-growing firms in England. To discover the beginnings of the firm one must go back to the eighties of last century, when Mr. R. H. Bath founded, in 1880, the Floral Farms at Wisbech, which is situated near the Wash some ten miles inland. At first the nursery was devoted solely to the cultivation of fruit and vegetables, chiefly raspberries and strawberries. As many as 250 acres of the former and 150 of the latter were grown. As the soil in the neighbourhood of Wisbech is all alluvial deposit reclaimed from the Wash, the firm realised that their land was particularly suitable for the culture of flowers and bulbs. A start was made with wallflowers, foxgloves, polyanthus, pansies and sweet williams, and in 1894 over 40 acres of pansies alone were grown for the markets throughout England. At first only a few acres were planted with bulbs, but so successful were they that within a few years over 100 acres of bulbs were grown at the Floral Farms. Ever since then the bulb industry at Wisbech has steadily increased, until to-day Messrs R. H. Bath are one of the leading and largest bulb-growing firms in the country.

A FIELD OF EARLY-FLOWERING TULIPS AT THE WISBECH FLORAL FARMS.

THE GLORY OF THE SNOW (CHIONODOXA LUCILIÆ) GROWING UNDER FRUIT TREES AT MESSRS. BATH'S NURSERIES.

Narcissi, tulips, gladioli, crocuses, chionodoxas, snowdrops, muscari, and bulbous irises all flourish remarkably well in this rich alluvial soil, and they do equally as well as those cultivated in Holland; the chief difference being that the bulbs are generally smaller, but, on the other hand, they are much hardier and in some cases flower better than Dutch-grown bulbs. It is an interesting fact to note that Messrs. Bath sold to Dutch buyers and shipped to Holland during last year 20 tons of narcissi grown on the Floral Farms.

This firm has shown untiring energy in the development and improvement of the daffodil and tulip, and for the last twenty years they have met with great success in the raising of new narcissi. They have sent out many new varieties, all of which have been given awards of merit by the R.H.S. and have proved themselves valuable garden varieties. Bath's Flame is one of the most notable, and during last year 150,000 of this variety were sold. Scarlet Perfection, Advance Guard, Premier, Golden Sunrise, Orange Glow, Phyllida and Scarlet Beauty are merely a few of the fine narcissi which have been introduced by Messrs. Bath. Narcissus Premier is a uniform deep yellow throughout. The flowers are of perfect form, 4ins. in diameter, and of beautifully smooth texture, and nearly every flower is up to exhibition form. It is very vigorous and free, and Messrs. Bath consider this variety to be one of the best yellow Ajax they have raised. They have also purchased the entire stocks of new varieties from other raisers; in fact, they have the largest stock in the country of many of the new varieties. A considerable number of their new daffodils are sent abroad, particularly to New Zealand and Australia. This year 2lb. of hybrid narcissus seed was saved and sown, probably a record quantity of narcissus seed saved by any firm in one season. The narcissus specialist in particular should make a point of visiting the Floral Farms during April, when about three acres of narcissus seedlings can be seen in flower, for he will find much to interest him.

DAFFODIL PREMIER.

Raised by Messrs. Bath and shown for the first time this year.

It was tulip-time when we paid our visit to Messrs. Bath's nursery. We were taken from one tulip field to another. Each field was a blaze of colour and a magnificent

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sight. Reds contrasted with yellows, pinks blended with mauves and purples, a veritable sea of waving heads. The early tulips were over, but the Darwins and cottage tulips were in their full splendour. Over 12 acres are devoted to the cultivation of tulips, and every year the beds are changed, for this firm does not advocate the planting of tulips on the same land two years in succession. The bulbs are lifted, graded and planted out on fresh land which has been worked to a depth of at least 12ins. and given a good dressing of bone meal. Narcissi follow the tulips, and the former are always sterilised before replanting. Messrs. Bath have one of the largest sterilising plants in the country. In the six tanks which they possess they are able to sterilise 6 tons of bulbs per day. It is this sterilisation and constant change of land that ensures all Messrs. Bath's bulbs being so very vigorous and healthy.

It is impossible in the short space at our disposal to give an adequate description of the many fine varieties which we saw on our visit. There were tulips of every colour and shade to be seen, some of the new bronze varieties being particularly attractive. The well known Clara Butt, which is still the best pink Darwin both for garden and market purposes, was in good form. Quaintness, a variety of golden brown flushed rose; Yellow Picotee, a small-flowered yellow tulip edged with pink; W. T. Ware, of deep yellow colouring; and Inglescombe Yellow, a variety which forces well, are a few cottage varieties which we selected as being particularly suitable for the amateur to grow. Dido is a new cottage tulip, one of the largest and most beautiful of all tulips. Illumination was a striking tulip of clear yellow and red; The Sultan, a handsome maroon-black Darwin; King Harold, another fine tulip of dark maroon scarlet; Bleu Aimable, one of the most attractive and distinct of the bluish mauve Darwins; William Pitt, with its vivid cochineal red blooms; William Goldring, a true ruby red; Valentine, an early Darwin of pale purple violet; Prince of Orange, a rich orange scarlet cottage tulip; and Flamingo, a tall-growing Darwin of soft rosy pink, were other outstanding varieties. A particularly good bedding variety was Petrus Hondius, which is a clear and brilliant cerise. Other good varieties were Orange Globe, Violet Queen, Blue Bird (one of the bluest of tulips) and Princess Elizabeth. Rembrandt tulips are one of Messrs. Bath's specialities. They have introduced some of the most effective and interesting varieties, each possessing unique combinations of colour.

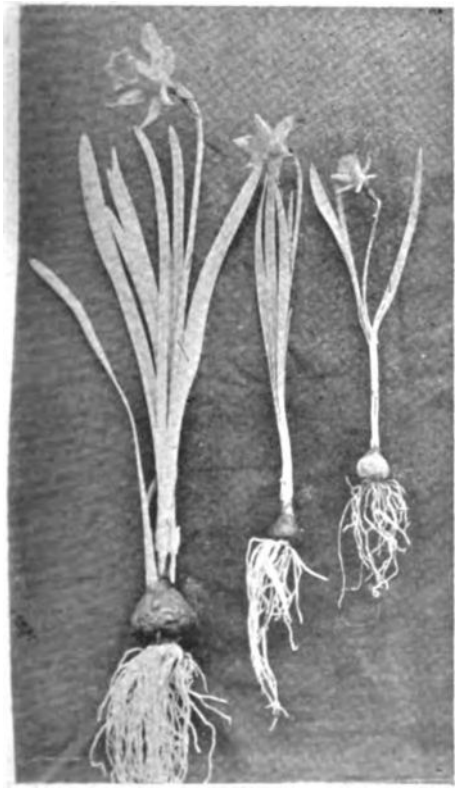
Many other plants besides narcissi and tulips are grown on the 392 acres of land which comprise the Floral Farms at Wisbech. Messrs. Bath possess a fine stock of pyrethrums, and they have introduced two of the best of the modern border varieties, namely, Harold Robinson and Eileen May Robinson. These two very successful varieties have large blooms of good substance, they are strong growing and should be included in every herbaceous border. Harold Robinson, a rich crimson scarlet pyrethrum, is very vigorous in growth, and Eileen May Robinson, with its long-stemmed pink blooms, is a beautiful flower for cut purposes. Herbaceous phloxes, peonies and delphiniums also occupy considerable space. Their collection of peonies contains the best varieties raised both in Europe and America. In recent years gladioli have received considerable attention at the Floral Farms, and at the present time there are 8 acres devoted to this plant alone. This firm are busy raising new varieties, and many of these will shortly be put on the market; while among the hybrid primulinus gladioli they have a number of striking new introductions, one being a variety of an uncommon shade of a delicate rose pink colouring.

Muscari and chionodoxas are also grown in very large quantities, and last year as much as 1½ tons of M. Heavenly Blue were planted. A number of acres are devoted to the cultivation of roses, dahlias, pansies, gooseberries, strawberries and raspberries. Bath's Empress pansies, a special strain of fancy pansies, have become famous throughout the world, and a large stock is raised annually, for this strain is always in great demand.

WHAT OUR READERS SAY

DWARF DAFFODILS.

SIR,—We send you the accompanying illustration showing relative sizes of the miniature daffodils—minor, nanus and minimus. The figures are about a third natural size. All are distinct from one another in form. In the case of the true minor, the corona at margin is more open and flanged than in nanus and the perianth segments are more twisted. A variety sent out from Holland under the name of minor appears to be a somewhat larger plant, slightly taller than our minor and with flowers a little larger. It reminds us of one of the wild French forms sent to us many years ago by a botanist at Grasse (France). Our minor originates from a stock which was grown by the late Rev. John Nelson.



THREE TYPES OF DWARF DAFFODILS. *Narcissi minimus, nanus and minor.*

The true Narcissus nanus is found in many old gardens in Ireland. The variety which has often been sent under this name from Holland is a different plant altogether, namely, lobularis, which is a larger plant of a different colour and not so attractive.

Narcissus minimus is the smallest and dwarfest of all trumpet daffodils, as well as the daintiest and only grows about 3ins. to 4ins. high.—MESSRS. BARR AND SONS, *London, W.C.2.*

A PLANT FOR COVERING A FENCE OR WALL.

SIR,—Where it is desired to cover an ugly wall or wooden paling, there are few more effective flowering plants than Solanum crispum, the potato tree, and though a native of Chile, is perfectly hardy in most places.

It throws out strong lateral branches which can be trained as desired, and has a sequence of large clusters of blue purple coloured flowers. The plant illustrated has been in flower for a month and continues to throw out fresh blossoms; though only planted two years ago, it already covers 12ft. by 6ft. of paling. The strong leader shoots thrown out should be cut back or tied in as they grow; if this is not done the growth is so vigorous as to become unsightly.—M. P., *Hants.*

SOLANUM AS A SCREEN PLANT FOR A FENCE.

HARDY FUCHSIAS.

SIR,—During July, August and September, the rock garden and shrubbery is not overdone with flowering subjects, and it has been a source of wonder to me that hardy fuchsias are not more frequently seen in gardens, especially in the southern counties. Near the coast they are often met with, and in Cornwall I have seen them employed as hedge plants. Farther inland the only one frequently seen is F. Riccartoni, and in some instances it develops into quite a large bush, while occasionally it is cut down by frosts, but only to break up from the base again with renewed vigour. Other fuchsias that should be tried include F. corallina, which is aflame with colour in August and September. Such examples are most effective on the rock garden, especially where they can be raised to the line of vision, and perhaps falling gracefully over a large rock. Then we have F. pumila, like a miniature Riccartonii. F. macrostema, of which there are some nice varieties, such as globosa, and the slender gracilis.

Fuchsias enjoy a light loamy or sandy soil, the chief essential being a rooting medium which retains a certain amount of warmth. Full sunlight is desirable, then the twiggy branches assume an attractive brightness.

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Sunshine and warmth will produce large bushes, laden with blossom in late summer, and during the majority of our winters they will escape injury to any great extent. Cuttings root readily from roots in August or September, and it is a profitable plan to keep a few examples in a cold frame or cool greenhouse during the winter to replace any casualties. There are many positions in gardens where fuchsias would produce that bright bit of colour so desirable late in the season.—B., *Chepstow.*

A DECORATIVE BROOM.

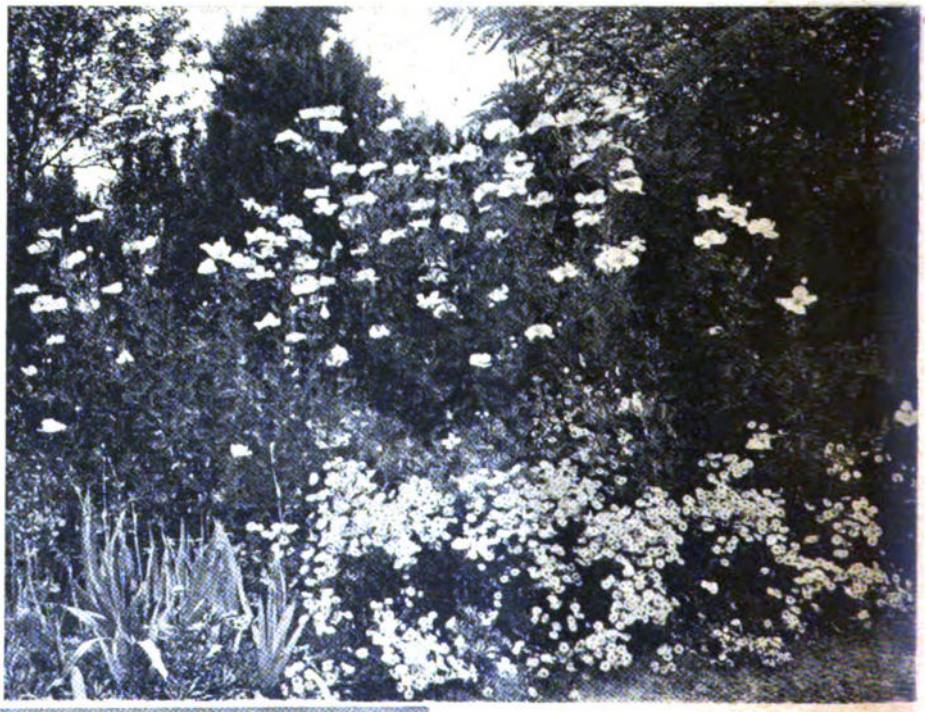
(*Cytisus racemosus*).

SIR,—Most gardeners will recognise this beautiful plant as a greenhouse subject, and at one time quantities were grown in 5in. pots for Covent Garden Market, while larger examples were often seen in private gardens under glass. Grown under such conditions very fine specimens are obtained, but even so they are much inferior to those planted out in a more or less sheltered part of the garden. Here they grow freely and the terminal spikes of bright yellow flowers are 8ins. to 10ins. in length. No protection is afforded during the winter months; and in a vicarage garden near Chepstow is a specimen several feet high and as broad. The plant was bought a few years ago in a 5in. pot for dwelling-house decoration, and after flowering it was merely transferred to the garden, where it has developed into quite a healthy and free-flowering shrub. This idea could be put into practice by many, and other plants more or less hardy could be treated in the same way, rather than throwing them on the rubbish heap directly they have served their original purpose. C. racemosus is said to attain a height of 3ft., but outside it will exceed this figure, and during May the plants will be a mass of bloom. Little or no pruning is needed, but, as a rule, it pays to give the plants a slight trim over when the flowers are past their best, and this will also prevent the formation of seed pods. This subject can be raised from seeds, but often the resultant seedlings are mere weeds compared with the original, so cuttings constitute the best and most reliable means of propagation. These are made from partially ripened shoots and will form roots if given a little bottom heat in July or August.

Examples growing in pots in the greenhouse should be cut back fairly hard and when they have started into growth, they should be repotted, shaking away as much of the old soil as possible, without disturbing the roots to any great extent. When established, a few weeks in the open will ripen the growth and, consequently, induce them to flower freely when brought under glass about October. C. racemosus is reputed to have been introduced from the peak of Teneriffe in 1835, but it may be a plant of garden origin.—C.

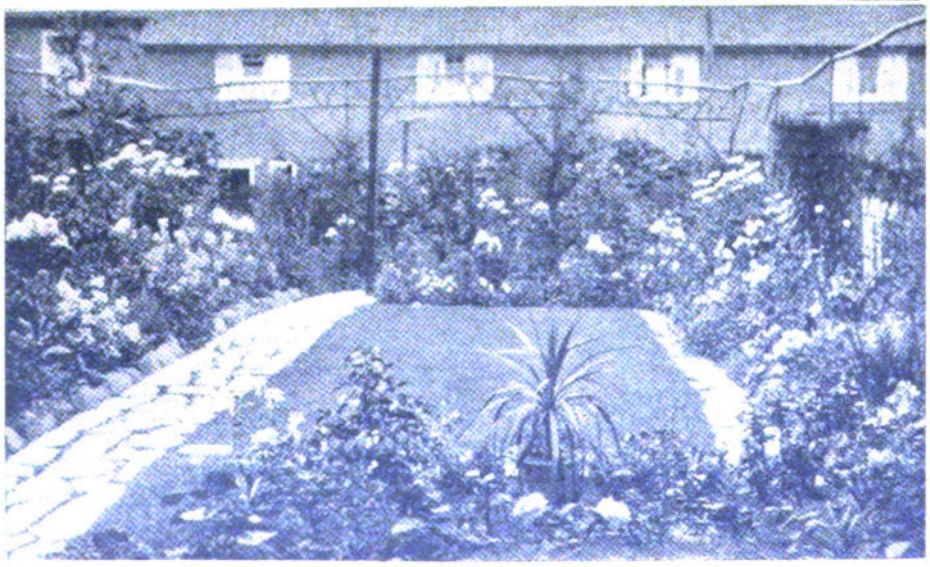
OUR PHOTOGRAPHIC COMPETITION

This competition will close in our issue of September 17th. Readers are requested to send in photographs before that date. Many of these may not be published in our competition pages, but will, if suitable and of sufficient interest to readers, be published in other pages.



The Californian tree poppy, Romneya Coulteri, makes a most delightful addition to the large herbaceous border or other part of the garden where it can be allowed to extend at will. The large white, delicately crimped flowers are greatly enhanced by the mass of golden anthers, besides which a delicious perfume pervades the surroundings for some distance. It may be propagated by root cuttings and, once established, requires no further attention beyond cutting to the ground in early spring before growth commences.

The guinea photograph, sent in by L. W. OLIVER, 40, *Broughton Hill, Letchworth, Herts.*



Only nine months ago my garden was left in a very rough state by the builders. Since then by hard work I have got it in its present state. In the borders are phloxes, delphiniums, aubrietias, Michaelmas daisies, Chrysanthemum maximum, and also stocks, asters and antirrhinums. These last three plants I raised myself from seed.—MR. F. W. ASHBY, *Parkstead Road, Roehampton, S.W.*15. Award of 5s.

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The secret of beauty in a flower garden is to grow those plants which make happy and robust growth. These clumps of Primula Beesiana are a joy each year. They edge a rocky pool in the lowest part of the garden. This species of primula is a most accommodating plant and succeeds perfectly in such a situation.—MISS M. GRAHAM, *Oakland Avenue, West Hartlepool.* Award of 5s.

This terrace, which overlooks the tennis court, is paved with bluish-coloured bricks, and the path edging, bench and tubs which can be seen are made of concrete. This method of paving is most effective, and its colouring makes a pleasant contrast with the purple-black heliotrope in the border.—MISS HELEN INGERSOLL, *East Setanket, New York.* Award of 5s.

This photograph, taken in May, 1927, is of a Derbyshire rock garden which was made by the owners out of a field. The big broom in the back is the white broom. In front of it is Cytisus præcox. The large bush of Erica arborea in the foreground was raised from a tiny slip.—MRS. W. WILSON, *Holmesfield, Sheffield.* Award of 5s.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Substitute for Moss.

A good substitute for moss for covering over the crocks in plant pots before filling up with compost—especially in dry districts where moss is hard to find—may be found in Arenaria montana pulled from the random paving. It is also excellent for sending away flowers by post.—P. B.

Lilium candidum.

Unless it is imperative to remove clumps of bulbs of Lilium candidum, they are best left alone, especially if they are doing well; but if they must be shifted, it should take place immediately after the flowering stalks have died down, and before the new growth has advanced. Too often removal of the bulbs is put off late in autumn, when new growth is in evidence, and it is seldom they take kindly to a late shift. To those who want to buy new ones or remove old ones, do so without delay. But if a clump is giving satisfaction and yielding its pure white blossoms, every season, I strongly recommend its being left undisturbed.—D.

Lobelia in Winter.

At the approach of autumn I have always pulled up my lobelias and thrown them away with other annuals. However, last year, I called on a friend just before Christmas and was surprised to see beautiful lobelias in masses of bloom growing indoors in a pot. They made a very uncommon and effective splash of colour and my friend assured me that they had bloomed all through the autumn from the time she transplanted them from the garden. This year I have resolved to pot mine up in the same way.—D. W.

How to Keep Pot Plants Alive While on Holiday.

Place a pail of water on a pair of steps and beneath and around it as many pots as can be accommodated. Now tie as many pebbles as there are pots to strings and drop the pebbles in the pail, allowing each piece of string to hang over or lay upon a pot. The continual dripping will thus keep alive many plants that would otherwise perish. Adopt this method also in a greenhouse by using three or four strings to each pot.—B. P.

Lifting Potatoes.

When the foliage turns yellow, it is time to dig up early potatoes. The work must be done promptly, otherwise, should the weather turn very wet, the tubers are almost certain to be ruined by disease. Another reason for avoiding delay is that the ground is cleared for another crop. Store the tubers in a cool, dark place, or clamp them in ridges in a convenient part of the garden. The ridges should be low and thatched with turves or straw to exclude light. Tubers set apart for seed should be of even size, shapely and free from blemishes. These need not be placed in the dark, but, on the whole, they will be best clamped for the present.—G. F.

A Cheap Fertiliser.

Since animal manures have become so scarce and costly, I have had quite wonderful success by following this plan: Whenever a section of the garden becomes vacant—after potatoes, shallots, peas or tomatoes, I at once seed it down in rape or red clover. Using these alternately and the growth is dug in when about a foot high. On one spot (unfenced), where I must grow potatoes or nothing, by keeping to this practice, potatoes have been grown for fifteen consecutive years, and the crop is still good and clean. It sometimes happens that by taking up potatoes early in August it is possible to get two crops of green manure turned in before winter stops the growth.—H. R.

To Prevent Midges.

A small smouldering fire is the best preventive. Get a large baking tin, have a couple of iron supports soldered on underneath to keep it about 2ins. off the ground, also a light chain fixed to two sides about 3ft. long so that the tin can easily be carried, like a censer. Then when at work in the garden, light a small fire in the tin, throw a handful of weeds on it now and again. This will smoulder beside you and can easily be carried by the chain, from place to place, and all midges and flies kept at bay.—H. M.

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BULBS FOR SCOTTISH GARDENS

THE cultivation of bulbs in the open and in pots has made substantial progress in Scotland during the past ten years. Not only is the popular trio consisting of daffodils, hyacinths and tulips more extensively grown, but the public have discovered that among the lesser-known species, of which camassia, fritillaria, chionodoxa, muscari, ixia and scilla are typical, there are floral gems that succeed under simple treatment and contribute to the glory of the garden at a time when there is usually a dearth of colour in bed and border. But there are other indications of increased interest being taken in these bright harbingers of spring. Amateurs who were content with the results obtained from the cheaper or standard varieties are now specialising in up-to-date sorts for pot culture. This is particularly noticeable in the daffodil classes. Old favourites, such as Emperor, Empress, Victoria, Golden Spur, Sir Watkin and Barrii conspicuus, still represent the bulk of the retail trade, but within the past four or five years there has been an improving demand for higher-priced novelties that find a place in the catalogues of enterprising seedsmen. Bulb shows that were non-existent in war time have come into vogue again, and their reappearance has been followed by greater activities and stimulated enthusiasm on the part of competitors and the general public.

In this good work representatives of the trade have given a helping hand. Messrs. Austin and McAslan, for instance, have established a spring show in Glasgow, which has provided an object-lesson in successful bulb culture. The support given to the competitive side has justified the enterprise, while the educative influence of the private exhibits is reflected in the large attendance of flower-lovers. Mr. J. Montgomery Crawford, Barassie, Ayrshire, is another pioneer, and although his efforts are on a smaller scale, they have been attended with an encouraging measure of success. He specialises in the newer daffodils, and at the annual exhibitions held at Highfield visitors will find such choice specimens as Carnation (the scarlet-white double), Crœsus, Dragon, Fireball, Firetail, Golden Sunrise, The Marquis, Treasure, Queen of Hearts, together with seedlings of his own raising, of which a new poeticus variety has been called Lindberg.

Daffodils are probably the finest of all hardy bulbous plants and one of the least fastidious. Most varieties accommodate themselves to almost any soil and situation, but they prefer a rooting medium that has not been heavily manured. According to the late Dr. Crawford, who was a well known authority on bulb culture, the safest manures consist of basic slag, bone meal and potash. The treatment he advised is as follows: Sprinkle 4 oz. of slag or bone meal to one square yard in the trench where the bulbs are to be planted and lightly mix these commodities with the bottom soil; then dust the surface after planting with sulphate of potash at the rate of 1½ oz. to the square yard.

Daffodils may be planted in the months of September, October and November, but the earlier the better, as it is advantageous that the roots should be formed before the

THE ATTRACTIVE POETAZ NARCISSUS, A FINE FLOWER FOR GARDEN AND HOUSE DECORATION.

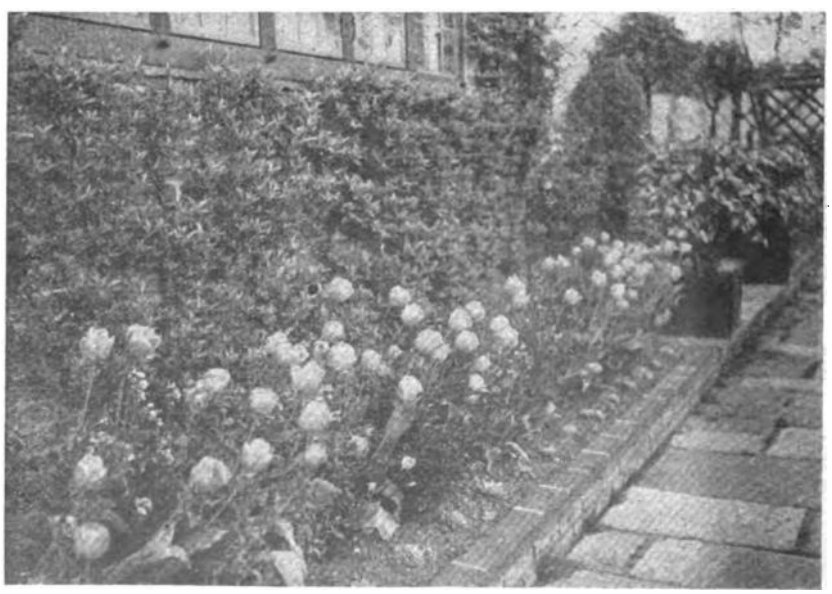
ground becomes too cold. Rare or expensive varieties are safer planted in virgin soil, which should neither be too heavy nor too light, and best results are got from shallow planting, which means that the top of the bulbs should be about 3ins. under the surface of the soil. When grown in the border daffodils are most effectively arranged in clumps of not fewer than three or four, but their grace and charm is accentuated when established in grass.

Among the large trumpet sorts Golden Spur is indispensable for early bloom, while Emperor, Empress, Grandis, Horsfieldi, Glory of Leiden and Cervantes are the best of the cheaper yellow and bicolor groups, and when finances permit, the claims of Van Waveren's Giant or King Alfred, the best of the golden trumpet daffodils, should not be overlooked. In the chalice cupped section Gloria Mundi, Sir Watkin, Lucifer and Frank Miles offer a sufficient choice, and if there is space one or two clumps of Barrii conspicuus and the Poetazhy brids deserve a place, as they remain a long time in flower and are useful for cutting.

HYACINTHS.

To obtain blooms for the decoration of the home at Christmas hyacinths should be potted in September in a compost of turfy loam and leaf-soil with sufficient sand to render the mixture porous, and additional bulbs may be planted at intervals of two or three weeks with the view of providing a succession of bloom. To encourage root development before top growth begins plunge the pots in ashes to a depth that will ensure a covering of a few inches. Watering is unnecessary if the soil is properly moistened when put into the pots. Before the top of the flower-spike pushes through the ashes remove the pots indoors and place them in a subdued light, and after the top growth has assumed its natural green colour it can be exposed to full daylight near the glass, where the pots may remain until forced into flower. Bulbs of one variety should be selected for pot culture, and three bulbs are sufficient for a 6in. size. The cynthella or miniature hyacinths are well adapted for ordinary pot culture, and they cost about a half less than the ordinary bulb; but if the latter are preferred, try Jacques, pale rose, which produces a handsome pyramidal spike; Grand Maitre, deep lavender blue with large bells; and Edith Cavell, one of the finest pure whites.

Grown in small beds out of doors hyacinths make a charming colour display, especially when situated in a lawn. Late planting and deep planting tend to delay the period of bloom, and as a rule late flowering in the open is preferred, as the plants are less liable to injury from frost. October or November is therefore a suitable time and, generally speaking, the bulbs flower better and only a few days later when planted to a depth of 9ins. The ideal soil for hyacinths is a light sandy loam that has been deeply dug and enriched with old cow manure a month or so before planting. Heavy land should be forked over and a liberal supply of sand added. Some growers also make a practice of surrounding the bulb with sand to further improve the drainage. Hyacinths lend themselves to varied colour schemes and combinations. Harmonious effects can be obtained by planting varieties of red, white and blue together, or associating white with blue or red, pale yellow and dark blue, or different shades of any of these colours are very pleasing to the eye. A bed composed of pale blue and cream hyacinths is, to my mind, the prettiest of



A BORDER OF EARLY-FLOWERING TULIPS.

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all. These colours may be arranged in alternate rows or sections, but an arrangement that finds favour with many gardeners is to plant square and circular beds with a single and double row of one colour and fill up the central part with another colour to harmonise.

EARLY TULIPS.

Owing to their wider colour range the early-flowering tulips possess greater decorative possibilities than the other members of the popular trio. They are as accommodating as the daffodil and, being very much cheaper than hyacinths, they are favoured by growers of all classes, but especially by amateurs possessed of limited cash resources. Like all other bulbs, tulips require a well drained soil, and they can be planted when conditions are suitable from mid-September until mid-November. Plant the bulbs 4ins. deep, and the size of the leaves which are sent up necessitate a space of 5ins. or 6ins. between the individual bulbs. The Duc Van Thol varieties are best for early flowering, and a later and more brilliant colour display may be obtained by planting single or double varieties, such as Prince of Austria, orange scarlet; Thomas Moore, terra cotta; Prosperpine, carmine rose; Prince de Ligne, golden yellow; Max Havelar, orange flushed salmon rose; and Kaiser Kroon, crimson with yellow margin.

The beauty of a bedding display may be enhanced by associating tulips with forget-me-nots, aubrietia, double white arabis, alyssum and other dwarf subjects that bloom about the same time and which may be used as carpeting or edging. There is probably no finer sight in the spring garden than a bed of Kaiser Kroon, but if something uncommon is wanted, try a colour combination of Queen of the Violets and any yellow variety.

There is an increasing demand for Parrot tulips, a gorgeous and distinct species with brilliant coloured flowers of grotesque forms. They make a fine display in borders in succession to the early varieties and remain in good condition when used as cut bloom. Among the cheaper varieties are Mark Graaf, yellow, scarlet and green; Café Brun, coffee colour and yellow; and Perfecta, striped red and yellow.

OTHER BULBS.

Apart from their showy appearance in the garden, the Spanish and Dutch irises are invaluable for the supply of cut flowers in late May and early June. They are among the cheapest of bulbous flowers, and should be planted early in the season, as the bulbs are small and are apt to become soft by late autumn. As these types of iris sometimes attain a height of 24ins. to 30ins., they should never be planted singly. Grown in clumps they give variety of colour to a mixed flower border, and if space permits a bed of iris arranged in rows of one colour rainbow fashion makes an impressive show.

Not later than September plant snowdrops in large clumps 1in. apart and 3ins. deep. The crocus is a general favourite and a plant of easy culture, and may either be naturalised in grass or arranged in a fairly broad line near the path. It should also be planted early after the same manner as the snowdrop. Other useful spring-flowering bulbous plants are the grape hyacinth (Muscari Heavenly Blue), dog-tooth violets, Scilla sibirica (a pretty little blue flower which makes a good companion to the snowdrop), Chionodoxa (the Glory of the Snow), camassia and fritillarias. They should all be planted in October. J. Y.

THE FRUIT AND KITCHEN GARDEN

Fruit Trees on Walls.

FRUIT trees trained on walls often suffer through drought at their roots at this season. Although we may experience heavy showers of rain during the summer months, and as a result the soil in the open borders is fairly moist, that at the foot of walls will be found almost dry. Much too dry the soil will be where the ground has a gentle slope, and dust-dry where the incline is sharp. For the benefit of my fruit trees in such positions I always fork up—just loosen—the surface soil and pour in clear water several times until sufficient has been applied to moisten the soil to the lowest roots. Then I follow up with a good dose of liquid manure, taking care to leave the soil loose and not to tread upon it. In the case of late pears I find that the fruits benefit as well as the buds and trees generally. Where summer pruning has been done there will be now as a result numerous young shoots growing from the cut-back stumps of branches, and all such shoots should be pinched out forthwith. Where trees are so treated the experienced cultivator can see at once how well they are being prepared for next year's crops. Trees from which the fruits have been gathered should be thoroughly syringed several times. —GEORGE GARNER.

Duration of Strawberry Beds.

IT is impossible to lay down any hard and fast rules as to the length of time over which a strawberry bed will produce on a profitable scale. Beds have been known to crop abundantly for seven years, or even more; but, as a rule, after three years there is a tendency to deteriorate. After the third year the plants should be watched closely for signs of wearing out one of the most important being the formation of small crowns; other indications are a falling off in the size and quantity of the fruit produced. On a deep rich loam the beds may well be allowed to carry on into the fifth year; but on light and poor ground there will be a marked falling off in the crop after the third year. To maintain a succession of plants at their best, a certain number of rows should be destroyed each year and a similar number planted with young healthy stock. Where the soil is of an extremely light nature one year old plants sometimes give the best returns, and here new quarters must be made up each year. If the plants are set in rows from 2½ft. to 3ft. apart, the beds can be worked in connection with the early potatoes, and these can be followed immediately by the late broccoli, the latter crop being worked in without digging.—L. B.

Grow Apricots.

RIPE apricots are so delicious that it is a wonder more people do not grow this fruit. Contrary to a common idea, apricots are not really difficult to manage and, if a few points are borne in mind, the trees usually bear well. As the planting of an apricot tree should take place directly the leaves fall in the autumn, the preparation of the position should be carried out in the late summer. The apricot must have a warm wall. On the whole a due south aspect is the most suitable, but, failing this, the next best is south-west. It is a mistake to plant apricots with a south-east aspect, for the tree, being very early with its development of flowers, is likely to suffer from cold winds and frost. Best of all the apricot likes a deep, somewhat heavy loam, and it is essential that the drainage should be good. Where the soil is not quite so good as might be wished it is an excellent plan to work a barrow-load of good loam into the situation. Apricots also appreciate lime and, except in chalky or limestone districts, old plaster or lumps of chalk may be profitably dug into the soil. The apricot dislikes fresh manure in contact with its roots, and for the enrichment of the ground one should use bone meal, mixing half a gallon freely with the soil where each tree is to be planted. Fan-trained trees are the best to plant and spur-pruning is the proper system to adopt with apricots. Summer as well as winter pruning is needed, and the removal of large portions of branches is to be avoided as this encourages gumming. Whenever there is space train in young stems, and if the spurs, as the side shoots bearing fruit-buds are called, become too long, shorten them to about half their length. In a dry summer the trees should have weak liquid manure occasionally if they are to bear heavy crops. They will also benefit by a top-dressing or mulch of decayed manure 3ins. or 4ins. deep which is applied in the spring. Thinning of fruit should be started in good time when the fruit is about the size of peas. Remove the smaller ones first and complete the thinning after the formation of stones has commenced, when the fruits will be about the size of walnuts. Anything like overcropping on the part of the tree will result in small fruits of poor quality.

It is usually necessary to protect apricot blossom to make certain of a good crop. Two or three folds of herring netting suspended from the top of the wall will answer the purpose. The best variety of apricot for general planting is Moor Park. Frogmore Early, which is ripe at the end of July, is somewhat small, but it is very sweet. Hemskirk is another early form with larger fruits of good flavour. Another excellent variety is Blenheim, which ripens immediately after Frogmore Early.

Harvesting Onions.

TOWARDS the end of August in the southern counties the large-bulb onions are, usually, ready for lifting, drying and storing. In the northern the middle of September will be soon enough to store the big bulbs. Only in a few cases should the big specimens be grown on into October, when they are required for exhibition, as late-lifted bulbs rarely keep well. I have seen large bulbs lifted and shown early in August that have kept sound through the winter longer than those even of medium size have which were harvested late in the season. If they become marked—weathered—no treatment afterwards, however good it may be, will arrest the general decay of the bulbs. The latter should be quite sound in every way when they are stored. One week at least prior to lifting, carefully remove the soil from the base of each large bulb, almost exposing the roots. When engaged in lifting place the fingers under the bulb and pull up the roots. If the weather is dry and settled, lay down the bulbs with the roots towards the south; if the weather is unsettled, lift the bulbs while they are actually dry and place them on a dry base in an open shed or in a cold frame, but be sure that the lights are well tilted, otherwise the heat may do some harm—scald the skin. When thoroughly ripened and dried the bulbs should be stored without unduly cleaning them.—HANTS.

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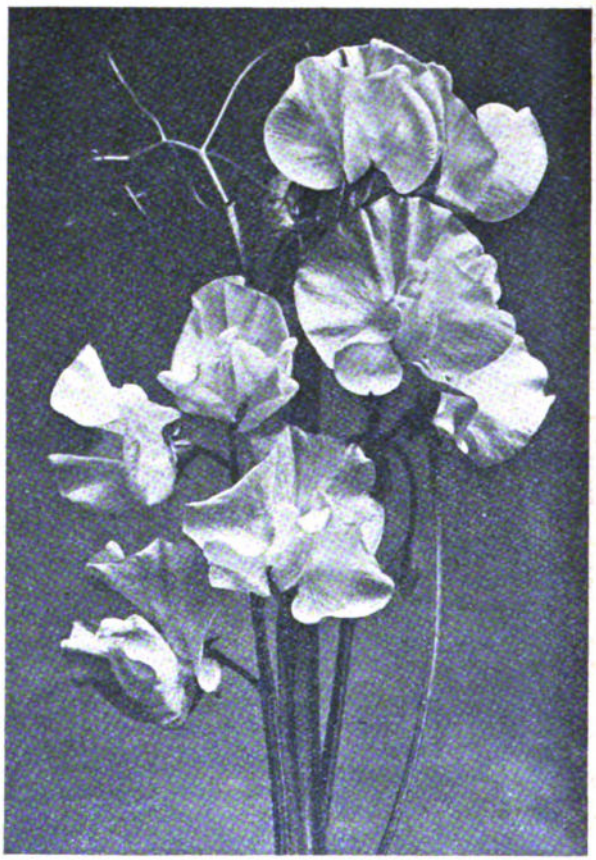
FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

ARE the judges of the Scottish Sweet Pea Trials too generous in their awards? This question was raised by an amateur exhibitor when the results of the past seasons observations were made known at the Show and the view was taken that honours should only be given when the seedling was distinct or was recognised as an improvement on existing varieties. The opinion was further expressed that with the exception of Mrs. A. Searles and probably Pinkie, the new sweet peas showed no advance when compared with those placed at the head of the respective colour classes. and that the multiplication of too-much-alike varieties should be discouraged by the English and Scottish Societies. But how, it may be asked, is that ideal to be realised? Are all synonyms to be censored by these two governing bodies? They might, of course, withhold a certificate of merit, but that policy would not prevent a raiser from distributing a new variety and the fact should not be forgotten that there are several popular and meritorious sweet peas in commerce to-day that have never received official recognition. Sybil Henshaw, admittedly the best of the crimson class, is a case in point and there is the anomalous position of Mrs. Searles, which did not qualify in the English trials, but was considered worthy of a gold medal when tested in Scotland. Besides, that high award is not always to be relied upon as an indication of the merits of a new variety, for it is common knowledge that the subsequent results of the individual test are sometimes at variance with the official trials. Olympia, the recipient of the Scottish gold medal last year, is most disappointing this season. The complaints are general. Both in private gardens and when exhibited it has been inferior to Royal Purple, particularly in the size of the bloom, all of which suggests that trials are simply an independent test of the purity of the stock, while the bestowal of honours may be taken as an indication of the vigour of the plants and the condition of the peas at different stages during the period of observation. After all is said and done, the grower—whether he belongs to the numerous constituency of enthusiastic amateurs whose ambitions do not extend beyond the decoration of the garden, or the more advanced body of exhibitors—is the ultimate judge of the merits of these so-called novelties, and he is usually a reliable guide.

There is probably no other town in the west of Scotland where so much enthusiasm and friendly rivalry exists among gardeners, as at Cumnock, and the inhabitants generally are proud of the success of the local competitors at the Glasgow Show. At the opening of the show of the Cumnock and District Sweet Pea, Rose and Carnation Society, Miss Moore, who formally opened the exhibition, and ex-Provost Miller, who presided, congratulated the prize winners at Glasgow and specially commented on Mr. McMillan's achievement in the carnation classes. That grower further added to his reputation at the local show by winning six classes of carnations and picotees. He also won the Society's silver trophy for the most meritorious exhibit of sweet peas. The nine vase class was won by Mr. James Logan; while a vase of Magnet grown by Mr. Robert Smith had a triple honour bestowed on it, being awarded first prize in its class, special prize in the section for growers with over 300 plants and the prize for the best vase in the Show. Although the rose classes were weak as the result of the first blooms being over, Mr. E. McMahon staged a specimen of the fine crimson variety, Capt. Kilbee Stuart, which was of a high exhibition standard and secured the award given for the best rose in the Show. Mrs. McMillan exhibited a choice collection of carnations and Mr. David Smith's stand of roses and sweet peas was noted for the number of new varieties. Miss Moore has presented the Society with a silver bowl and there are hopeful indications that next year's show will excel all previous exhibitions.



THE GOLD MEDAL SWEET PEA, MRS. A SEARLES (CERISE) AND ST. MUNGO (CREAM PINK), SILVER MEDAL.

The rambler roses are making the countryside gay, contributing a wealth of colour to gardens and brightening many drab places in our industrial towns. Dorothy Perkins, Excelsa and American Pillar are in evidence everywhere.

As all the roses of the Wichuriana and climbing polyanthus types produce their bloom on the new wood of the previous year, amateurs are reminded that they require different treatment from the dwarf bedding forms of hybrid teas and hybrid perpetuals. Any pruning that is needed consists of cutting out the old wood on which the present season's bloom was produced and this should be done after the flowering period is over, towards the end of September. All dead wood and weak straggling growths should also be removed. It will be noticed that strong growing shoots are sent up from the base of each plant and the best of these should be retained to replace the old shoots and furnish the bush with foliage for next summer's bloom. When the weather is not favourable to the ripening of the new wood in autumn, the stems sometimes die back in winter and it is, therefore, advisable to leave more than is actually required to provide against losses. If this treatment is observed any superfluous growths can be cut away in spring.

SCOTTISH SWEET PEA TRIALS

THE results of the sweet pea trials conducted by the Scottish National Sweet Pea, Rose and Carnation Society at Helensburgh were announced on the opening day of the annual show held at Glasgow, and in accordance with custom vases containing specimen blooms of the meritorious varieties were staged for public inspection.

GOLD MEDAL.

Mrs. A. Searles, sent by Robert Bolton and Sons. This glowing cerise variety contained a rogue in the Reading trials, but during the two years it has been grown in Scotland the stock was quite fixed.

SILVER MEDALS.

Pinkie, raised by Morse and Co., California. A deeper toned Hebe that made an outstanding bowl when exhibited by Messrs. Dobbie and Co. at the Chelsea Show in May. It had the high honour conferred upon it as the favourite bloom chosen by Queen Mary from among fifty varieties.

St. Mungo, raised by George Bowness, Busby. In my notes this seedling is described as the best cream pink in the trials. A strong grower with occasional double standard blooms.

Charm, raised by J. Stevenson, Wimbourne. Quite distinct from Mrs. Searles and might be described as an improved Charming, with which it may be confused when in commerce.

CERTIFICATES OF MERIT.

The Admiral (Cullen and Son, Witham). A new shade of deep blue. One of the largest peas introduced; numerous four-bloom stems.

Victoria (W. J. Bland, Victoria, British Columbia). Quite a pleasing lavender, but I do not know that it is any advance on existing varieties of that colour class.

No. 86 (Dobbie and Co.). A Mrs. Tom Jones blue that may possibly displace the older variety.

Mountjoy (W. E. Sands, Lisburn) and *No.* 35 (Robert Bolton and Son). Both belong to the cerise colour class, which is already too numerous.

Corona (Cullen and Son). The rose flowers are large and well formed, but the colour is not so fashionable as it used to be.

Auld Reekie (George Bowness). This variety was in a backward condition at my first inspection, but it has come on satisfactorily and was staged in good form. It is a big cream pink flower lighter in colour than St. Mungo.

Hero (Morse and Co.). Consistently good in the trials, a dark coloured cerise with plenty of four blooms on long stems.

No. 68 (J. Stevenson). There were two rose varieties in the trials, and it is a coincidence that each received a certificate.

Glorious (J. Stevenson). Another good cerise which will probably increase the perplexities of growers who have only space for one representative of that colour in their collection.

ST. MUNGO.

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BULBS TO BUY (see page 559).

SEP 8 1927

THE
GARDEN
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Vol. XCI.—No. 2908 Saturday, August 27th, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2908. AUGUST 27, 1927. PRICE TWOPENCE.

INCREASE YOUR VIOLAS FROM CUTTINGS

IF you want to keep your violas true to colour and type, cuttings are the best means of doing so. A great deal towards success is a correctly prepared cutting, and this is a failing with many people, but a little practice works wonders. There are two chief advantages derived by propagating from cuttings in preference to division of roots. Plants resulting from cuttings are, as a rule, more vigorous; also, they can be procured in large numbers.

This is about the best time to make a start, so long as the weather is favourable. Growers will notice that after removing first cuttings from the old stool, further growth will quickly follow, so that a steady supply may be relied on.

The Right Type of Cutting.—The most likely are from the basal shoots, as these are not hollow, being of recent growth, and, if properly trimmed and inserted, seldom fail to root; this type of cutting may also be obtained when the old plant is in flower, and may sometimes be pulled off with small roots adhering to them, this being an excellent start for an amateur grower. Shoots must be cut off well down into the crown of the plant; they are then of a firm and woody nature. Another type of cutting is that obtained from lateral growths; very often one is reduced to these as our favourite coloured plant fails to make the required basal shoots. It is necessary when wanting lateral cuttings to be very careful to overlook your plant first, and any shoots that are 2ins. or 3ins. long should be broken off at the axil of the stem. Take off the lower leaves and bracts; they are then ready for the prepared bed in a cool frame. One point that should be guarded against is, trying to get cuttings from long, coarse roots that have been bearing flowers practically all the summer. If, by a stroke of good luck, these do root, they will never make satisfactory plants, being, as all stems are, quite hollow. According to the time you wish to bed out, so you must treat your old plants. Often it is a good plan to bed a few old stools in a spare corner; you can then avoid spoiling your showy flower beds in the front of the house. Cuttings should be from 2½ins. to 3ins. long. Having obtained all you require, the next move is to a cool and shallow frame.

Loam, leaf-mould and silver sand must be passed through a sieve, this being well mixed and dug in several inches deep. The bed is then levelled, trodden very firm and watered. When moisture has well soaked in, proceed to insert cuttings in rows about 2ins. apart, with a similar distance between each plant. A small, short dibber must be used, and holding the cutting at its apex with the left hand, having made the hole about 1in. deep, insert the cutting, and with the right hand drive the dibber into the soil close to the hole, thus you force the soil against the cutting and at the same time fill in the cavity. By this method, no pressing of the soil with the fingers is required. A thick layer of sand should always be spread over the surface of the bed previous to planting. The frame lights should be kept tightly closed and shaded well for the first few days; cuttings will soon root under these conditions, and splendid plants will result, these same standing the winter weather well. Like most plants, the viola has its enemies and diseases, the chief being red spider, which lives in a fine web spread over the leaves of both pansy and viola. They suck the skin of the leaves and makes pale patches on them. The best remedy is: 2 oz. of soft soap in a gallon of water, as this pest hates moisture. For slugs or snails, powdered lime and soot is the cure, also bran laid in heaps on the bed is effective. Mildew is a rather frequent bother, which appears in grey patches on the leaves and causes them to shrivel up. The worst affected leaves should be hand picked and burnt; then spray with 1 oz. sulphide of potassium dissolved in a quart of boiling water, and made up to 2½ gallons with cold water.

The Value of a Margin.

WHETHER it be in the flower domain or in that part of one's garden devoted to the culture of vegetables, it is a mistake to overcrowd plants or to make use of the whole of the space at one's disposal at the first onset. How often do we find it is the ground we left spare for "nothing in particular" that comes in opportune for something we had overlooked and yields good results. In the case of ground already occupied by crops, we may, if we have sown seed too thickly, make amends by judicious thinning while seedlings are young. Too often the injunction to "sow thinly" is overlooked, and this is the only way to put matters right. Overcrowded vegetables never give a good account of themselves, and flower seeds are mostly sown much too liberally in a confined space. It is well to bear in mind that it is the individual plant which has proper room for development which invariably turns out the best. Ground left vacant can always be put to good advantage afterwards. It comes in useful for a variety of things, for sowing later seeds, for pricking out biennials or other plants we may not have bargained for, for providing standing room for chrysanthemums and other plants for winter flowering that are being prepared by open air treatment.

This Week's Work

For Gardens in the South and Midlands.

Take cuttings of geraniums, verbena, calceolarias, marguerites, fuchsias and other bedding plants.

Pot up freesias and Paper White narcissi.

Make a sowing of winter spinach.

Sow seed of Primula malacoides in pans of light sandy soil.

Insert hydrangea cuttings.

Cut out old fruiting wood of black currants and raspberries.

Transplant seedling spring cabbage.

Clean up and mulch asparagus beds.

This Week's Work

For Gardens in Scotland and the North.

Propagate loganberries by layering the points of young shoots.

Begin planting holly, yew or laurel hedges.

Increase apple and pear stocks by budding.

Pot up Roman hyacinths.

Sow East Lothian stocks.

Dig late potatoes when the haulm begins to wither.

Repot arum lilies.

Trap earwigs on dahlias and chrysanthemums.

Transplant late varieties of broccoli.

Begin harvesting onion crop.

Prepare ground for new lawns or greens.

Plant English iris.

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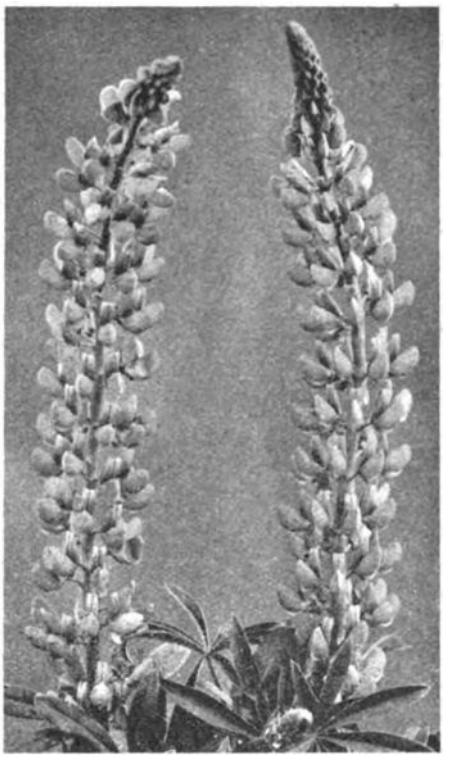
LUPINS FOR PRESENT PLANTING

No garden is complete without lupins. They are among the most decorative and brilliantly coloured plants for the early summer. They can be planted during the next few weeks.

FEW plants are more valuable for decorative effect in the garden, whether grown singly or in masses, than the hybrid lupins which are the happy result of crossing and re-crossing the old L. polyphyllus—still to be reckoned among the best of the blues—with L. arboreus. These beautiful hybrids may be planted in either autumn or early spring, but on the whole, the former is the best time to choose. They like plenty of sun, but are not exacting as to soil, although they prefer one that is not heavily charged with lime and is on the moist, rather than the dry side; indeed, they succeed particularly well if planted at the edge of a pond or stream, in which their tall spikes will be reflected delightfully. The odious slug is the worst enemy of the lupin and it must be fought with every weapon available. The ground round each plant may be watered with a solution of alum, or ringed round with the latter mixed dry with ashes. Sanitas powder is effectual but expensive if many plants are to be protected, and encircling them with rings of galvanised iron or with strips of felt soaked in paraffin will—sometimes!—baffle the foe. In dry, hot weather, lupins should be plentifully supplied with water, otherwise they may drop their buds, and a little weak manure water given when the flowers begin to open will help them.

Many of the newer hybrid lupins are shaded in combinations of colours which sound bizarre but are in reality wonderfully harmonious. One of the most striking is Chocolate Soldier, illustrated on the front cover of this issue, an introduction of Messrs. Waterer Sons and Crisp's, in which deep reddish-purple, chocolate-brown and yellow are blended. This lupin would make a good centre, or culminating point in a large mixed group. Less striking in colouring, but very attractive are the same firm's Dresden China, the keel of which is French grey, deepening to lavender, while the standards are shaded from pale yellow to white; Glow-worm, bluish-mauve deepening to violet with gold-tipped upper petals; and Cinderella, silvery lilac shaded with creamy-yellow. Mayflower and Opal, both raised at the Twyford Nurseries, are respectively porcelain-blue and white and a beautiful opalescent shade. They would combine well with lupins of stronger tones of blue, such as Hawker and Friar of the well known Downer strain, in an "all-blue" border. A very pretty planting scheme is one which includes blue lupins and peonies in soft tones of pink and rose, with white Campanula persicifolia in front, while another good combination is that of white foxgloves, lupins shading from blue through gold to cream and white, and June-flowering flag irises in blue, yellow and white. Lupins and irises are always charming together and a wide border of irregular outline



LUPIN GLOW-WORM, BLUISH-MAUVE WITH A GOLD TIP TO THE PETALS.

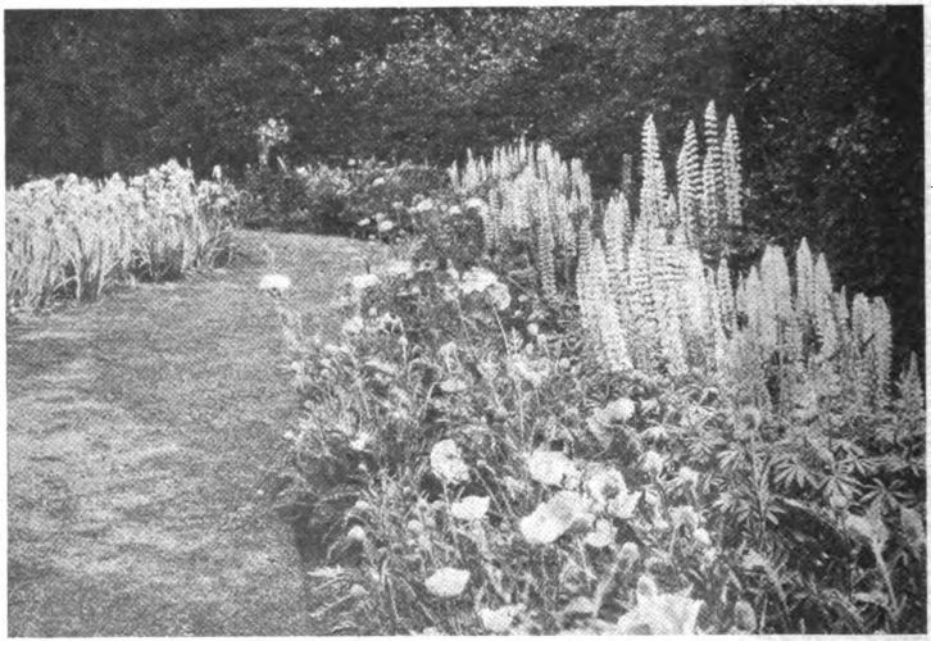
flanking a broad turf walk, filled entirely with masses of lupins and irises, either all blue or multi-coloured, without any other flowers, is a most beautiful sight in early summer. Groups of lupins in a mixed border are always effective, but here the question of succession is apt to arise; this, perhaps, can be best solved by interspersing the lupins with delphiniums and planting phloxes immediately in front of them and hollyhocks behind, an arrangement which will extend the beauty of the border until the end of August or thereabouts.

A very great improvement has taken place in pink and red lupins of recent years; they are no longer insipid or dingy as in the past was too often the case, but clear, soft, shades which look well either alone or in combination with other colours. There are some beautiful pinks among the more modern lupins raised by Mr. Downer at Chichester, notably Pink Pearl, which is really rose-colour, Irene Hamilton and Beacon, both pure pink, Wright, deep pink; and the very dainty Tunic, shell pink and white. Other fine lupin varieties are Artist, delicate blue with a hint of rose colour; Delight, warm red; May Princess, blue purple; May Queen, royal purple; Victoria, almost plum colour; and Countess of March, the flowers of which open almost white, but become gradually flushed with rosy-wistaria, deepening with age. This fine variety, however, is not at present on the market, as the stock is not yet large enough for distribution. Many of the hybrid lupins have this chameleon like tendency to change colour as the flowers reach their full development, but, unlike such transformations in many other plants, the alteration in hue is usually pleasing.

Really good yellow hybrid lupins have been, until lately, scarce. Now, however, Messrs. Harkness and Sons of Bedale have raised, among their Regal strain of lupins, a number of beautiful yellows—ranging in shade from the warm cream of Mrs. Sivewright to the golden bronze of Marjorie—which are perfectly hardy. A group of these, including, besides the two named, Gold Crest, Ada, Hilda Wilson, Yellowhammer, Advance and Cleopatra, would make a gorgeous picture, especially if seen against the purple-brown foliage of Prunus Pissardi or the copper beech (Fagus sylvatica cuprea).

A list of some of the finest of the hybrid lupins, other than those already mentioned, is given below.

Some good hybrid lupins for planting this autumn are Attraction, violet purple; Armageddon, deep purple blue shading to light blue; Brightest and Best, rose red; Beauty of Somerset, pale yellow, flushed pink; Blue Star, bright blue; Chelsea, medium blue; Chameleon, blue and yellow, changing to blue and white; Enchantress, white; Effective, yellow and white; Geraldine Kelway, shell pink; Hilda Wicks, Wedgwood blue tinged mauve; Icicle, white; Joy, pink and gold; John Harkness, mahogany red; Milkmaid, blush white; Mount Everest, white; Prince of Orange, orange shading to buff; Queen of Sheba, violet and gold; Red Star, red purple; Sunshine, buttercup yellow; Twilight, mauve; 21st Lancers, mauve and orange; Wargrave Beauty, rosy mauve. R. E. HEAD



LUPINS, IRISES AND POPPIES—A BLAZE OF COLOUR IN EARLY SUMMER. *This is an arrangement which many amateurs should try.*

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BULBS TO BUY NOW

The following notes should serve as a guide to those who are in doubt as to what bulbs to select for flowering in their garden next spring.

FOR several reasons, ordinary people with ordinary gardens must find it extremely difficult to know what to buy in the way of fresh varieties when the time comes round for them to send their requirements to the bulb dealer. They see, comparatively speaking, little that is new in their neighbours' gardens, and they have no opportunity of visiting large shows where the newer varieties are displayed. Perhaps, too, last year or the year before, some did take their courage into their hands and bought some unknowns, but those unknowns did not turn out the success that was anticipated, and when the time for ordering comes round again—what then? The catastrophe is too recent to be forgotten. "Once bitten, twice shy," "No more dark horses," "Old friends are best"—sentiments like these are very near the surface when the next order is made out. The result is, "I had better stick to what I have had before." This, of course, is very likely the wise and only thing to do under certain circumstances: as when, outside, a colour scheme has to be considered, or when, indoors, the drawing-room is all in all; but in an ordinary way among ordinary people who have ordinary gardens, we would suggest that a trial be given every year to one or two novelties—something, that is to say, which they have never grown before. No variety is too common to be included. This production is intended to be a sort of horticultural cocktail made of bulbs. It is to be hoped that that the contents are good and will prove of use.

ANEMONE.

The St. Bavo strain, flowers from mid-March to mid-May; so bright and jolly. St. Brigid. Giant French.

CAMASSIA.

So easy to grow, so distinct, and so uncommon.

Cusickii (lavender).
esculenta (rich blue).

CHIONODOXA (GLORY OF THE SNOW).

Luciliæ (blue with white centre).
sardensis (gentian-blue self).

CROCUS (SPECIES).

If these are strangers, try a few early-flowering ones; then, next year, speciosus and zonatus, which bloom in autumn.

Imperati (heliotrope and fawn).
Susianus (yellow).
versicolor (white).
Sieberi (mauve).
Tomasinianus (lavender).

ERYTHRONIUM.

American varieties which want shade and damp, but well drained soil. Try them.

grandiflorum (yellow).
Johnsoni (rose-pink).
Hartwegi (buff).

GRAPE HYACINTH (MUSCARI).

Heavenly Blue (rich blue).
plumosum (for a cold house).

HYACINTHUS.

The species mentioned is truly a hardy gem.

amethystinus (a real pale blue).

HYACINTHS (DUTCH) FOR THE OPEN GROUND.

First-sized bulbs are too heavy. I prefer *second* or even *third* sized bulbs.

General De Wet (pale pink).
Grand Maitre (blue).
Lady Derby (rose pink).
General Pelissier (red).
Innocence (white).
Schotel (pale blue).

FOR POTS.

It is necessary to get *prepared* hyacinths to have flowers at Christmas. I prefer Cynthellas (miniature) to larger-sized bulbs. The same varieties do duty for both Cynthellas and also for larger bulbs.

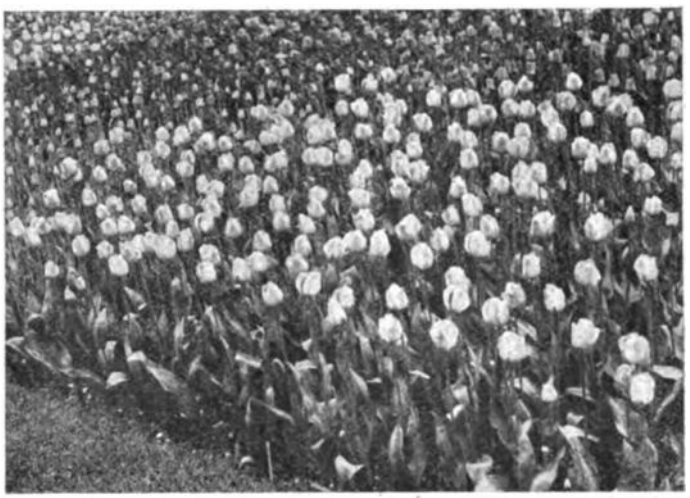
Innocence (white).
Queen of Pink.
*Orange Boven (ruddy apricot).
Jacques (pale pink).
*Menelik (darkest blue).
King of the Blues.

(* Second-sized bulbs recommended. Two or three first-sized bulbs for those who like the old-fashioned big spikes.)

Chestnut-flower (semi-double pink)
Distinction (not large, claret).
Corregio (white).
Johan (lavender).
Perle Brillante (pale blue).

TULIPS.

As in the case of daffodils, varieties are as the sand of the sea shore in number. To reduce these to tabloid form in a thoroughly satisfactory manner is beyond the power of man. The more you know, the more hopeless does it seem; yet this means that those who know but little, need all the more help. For detailed descriptions catalogues must be consulted.



A GOOD TULIP FOR OUT-OF-DOORS, THE LAVENDER MAUVE WILLIAM COPLAND.

(1) DARWINS.

A FINE TEN FOR OUT OF DOORS.

Clara Butt (pink.)
Eclipse (maroon).
Edmée (rose edged pink).
International (ruby-red).
Petrus Hondius (rose).
Suzon (pale pink).
William Copland (lavender-mauve).
Faust (very dark).
Millet (rich crimson).
Pride of Haarlem (cerise).

(2) COTTAGE VARIETIES FOR OUT OF DOORS.

Avis Kennicott or Mrs. Moon (deep yellow).
Boadicea (mahogany and orange).
Gesneriana major (bright crimson).
Marksman (scarlet).
Moonlight (pale primrose).
The Fawn (fawn and cream).
Bronze Queen (biscuit brown).
Ellen Willmott (primrose).

(3) FOR POTS (EARLY VARIETIES).

To get away from the beaten track, we suggest:

Brunhilde (white, yellow flamed).
De Wet (magnificent orange).
Prince of Austria (sweet orange-red).
Rising Sun (rich yellow).

(4) DARWINS FOR POTS IN MARCH.

Baronne de la Tonnaye (rose edged blush).
Pride of Haarlem (cerise).
The Bishop (purple).
William Pitt (dark scarlet).
Erguste (lavender-mauve).
Farncombe Sanders (rosy scarlet).

(5) SPECIES.

Dasystemon (white, large yellow centre).
Kaufmanniana (palest primrose).

IRISES (BULBOUS).

There is a good deal of uncertainty about the names of the varieties in the different sections. The Dutch flower the first, then the Spanish. Dutch and Spanish need light ground.

(1) DUTCH.

Apol (lavender and white).
Rembrandt (blue and yellow).
Van Everdingen (yellow and cream).
David Bles (violet-blue).
Van der Helst (pale yellow).
Voerman (white).

(2) SPANISH.

Cajanus (yellow).
Prince Henry (purple and bronze).

THE GLORY OF THE SNOW, CHIONODOXA SARDENSIS, IS A BULB EVERYONE SHOULD PLANT.

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Rossini (lemon and white).
Souvenir (soft mauve).
W. T. Ware (primrose).
Queen Wilhelmina (white).
Royal Blue (deep blue).
Thunderbolt (bronze).

(3) SPECIES.

reticulata (blue-purple and orange).

NARCISSI (DAFFODILS).

Daffodils for show are outside the purpose of these selections. Most red edges and red cups burn planted out of doors. Most varieties except the polyanthus-narcissus varieties and the small species do well in grass. In grass plant clumps or drifts with one variety only, never plant mixtures. See dealers' lists for detailed descriptions.

TWELVE VARIETIES FOR OUT OF DOORS.

Barrii conspicuus (red edge to cup).
Blackwell (red cup).
Campanelle jonquils (rugulosis variety).
Emperor (yellow).
Empress (white and yellow).
Lady Margaret Boscawen (white and yellow).
Mme. de Graaff (creamy white).
Norah Pearson (pale yellow and white).
Sir Watkin (yellow).
Virgil (a poet).
*Lucifer (red cup).
*Whitewell (orange and white).

(* If the soil is light.)

TWELVE VARIETIES FOR POTS.

Almira (improved ornatus).
Admiration (bunch flowered).
Aspasia (bunch flowered).
Cervantes (pale yellow).
Firebrand (red cup).
Golden Spur (deep yellow).
King Alfred (rich yellow).
Lady Moore (red edge).
Lucifer (red cup).
Orange Blossom (bunch-flowered)
Weardale Perfection (yellow and white).
W. P. Milner (nearly white under glass).
(*Note.*—Under glass, red cups and red edges do not burn, as a rule.)

ORNITHOGALUM (STAR OF BETHLEHEM).

nutans (silvery grey).
umbellatum (white).

SCILLA (SQUILL).

sibirica (blue).
sibirica alba (white).

SCILLA (WOOD HYACINTHS).

The nomenclature is confused. Some prefer the nutans—the shepherd's crook type of spike—others the hispanica, candelabra-shaped spike.

hispanica alba maxima (white).
hispanica Blue Queen (blue).
hispanica Rose Queen (pink).
nutans alba major (white).

BULBS FOR THE GREENHOUSE

How to Succeed with Bulb Growing Under Glass

WITH most greenhouses there will be a gap in the flower supply from the beginning of the New Year till stocks, schizanthus, cinerarias, primulas, etc., take up the running towards the end of February and early March. This void, however can be adequately filled with a proper selection of bulbs, and, fortunately, there is ample material from which to choose. To be successful a few cultural details must be observed, and the principal factor is to pot early so that each receptacle contains plenty of roots before the bulbs are brought into the greenhouse.

Early September is a good time to pot up hyacinths, early narcissi, early tulips and Iris tingitana; while the end of August is recommended for freesias. The rooting medium consists of sweet wholesome loam 3 parts, and 1 part leaf-mould, to which is added a little sharp sand to render the whole porous. The pots should be clean, and a few broken potsherds placed in the bottom of each for drainage.

Potting up bulbs is really a simple operation, and in the illustration can be seen a pot of freesias and one of narcissus which will be complete when each pot is filled with soil. The soil is made fairly firm, and brought up to a level so that the tops of the bulbs are just covered. Having placed the bulbs in position, the compost is pressed well between the bulbs with the fingers, and not unduly firmed immediately over their tops. Pots 5ins., 6ins. and 7ins. in diameter are suitable; but where bulbs are plentiful and a quantity of cut flower is required, boxes 6ins. or 8ins. in depth can be utilised. The bulbs of freesias are small, and for this reason many beginners overcrowd them, and, in consequence, the flowers are on the small side. Ten to fifteen bulbs are ample for a 5in. or 6in. pot, and after the potting operation is completed they should be stood in a cold frame and kept shaded until growth appears. At this stage admit plenty of air, keep the roots moist, and do not overcrowd, thus promoting sturdy growth. Here they will remain until space can be found for them on a shelf in the greenhouse; but protection from frost is necessary. Iris tingitana is afforded similar treatment. Narcissi, tulips and hyacinths should be placed in a convenient spot outside, duly labelled, and then covered with old, well seasoned ashes to a depth of 3ins. or 4ins. Periodical examination must be made after five or six weeks, and those showing signs of growth should be removed to a cold frame and shaded for a few days, or the tops of the leaves will probably turn yellow. The pots will be well filled with roots, and from now onwards they must not suffer from lack of moisture, otherwise the flower buds will fail. Early in November the first batch is placed in the greenhouse, and if others follow at intervals of a fortnight a supply of bloom will be kept up until flowers appear outside.

Among those suitable for early work will be found the Roman hyacinths, but, unfortunately, these are expensive; happily, a fairly good substitute can be obtained in the specially prepared miniature or Cynthella hyacinths, and these may be had in various shades of blue, red and pink; but the pure white variety is excellent for Christmas decoration. Moreover, it is one of the most satisfactory.

A general favourite for early forcing is Narcissus Paper White, a bunch-flowered variety often seen in florists' shops; and among the trumpet daffodils are Golden Spur, a beautiful clear yellow; and Cervantes, a sulphur yellow.

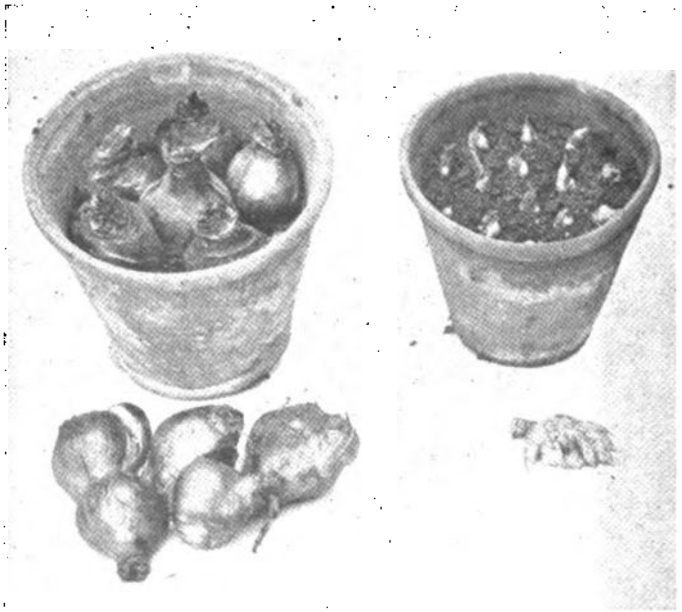
In tulips we have the Duc Van Thol varieties, and Pottebakker, pure white; also Iris tingitana; while a few pans of snowdrops, such as Galanthus Elwesii, would also be very effective.

When we come to making a selection to follow the above, we have many more varieties from which to make our choice, and almost any of the hyacinths are suitable.

For general work I have found the following narcissi give excellent results: Emperor, a large yellow fine flower, is one that cannot be left out, and it deserves to be grown in quantity because it gives such a grand display and is excellent for the garden the following year. The rich golden yellow King Alfred is more expensive, but a few potfuls should certainly be included; and the white and yellow Empress adds a little variety. In the Barrii section is Barrii conspicuus, a popular form with a soft yellow perianth and orange-scarlet edged cup. Among the star or chalice-cupped narcissi will be found Sir Watkin, the Welsh Giant Daffodil, Lulworth, and Lucifer, which has a white perianth and an intense orange red cup. This is a most pleasing variety for pots. For those who like it the old double golden yellow daffodil is recommended; I always grow a small batch.

From time to time I have tried a number of tulips for pots and boxes, and Prince of Austria is one that has proved its worth year after year. It is showy, a beautiful large copper orange scarlet, and sweetly scented. Keizerskroon is another favourite, with its scarlet and gold flowers; while of the double-flowered varieties Tournesol, a rich scarlet bordered with golden yellow, is hard to beat.

The above selection is, no doubt, open to criticism, but the object of this note is to give the beginner a good show at a small cost. With the exception of N. King Alfred, all are cheap as bulbs go, and they are easily grown. It is not advisable for the novice to begin with expensive varieties, and in many instances they would not afford the same amount of pleasure as a good potful of Emperor. B.



HOW TO POT NARCISSUS AND FREESIA BULBS.
A start should be made at once.

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PLANTS FOR A NARROW BORDER

It is often a problem how to fill a long narrow border. Here are a few plants that will succeed and look well in such a position.

IN selecting plants for a narrow border—that is to say, one not more than 3ft. in width, care should be taken to choose as far as possible those of a fairly compact habit, excluding all of straggling or ultra-rampant growth, especially those with running or stoloniferous roots, as have many of the Michaelmas daisies. Such narrow borders are often found in small town or suburban gardens, and here they are frequently backed by a wall or fence 4ft. or 5ft. high, against which wall shrubs, not too vigorous of growth, should be entirely informal, and groups of lilies—candidum, croceum and chalcedonicum, for instance—and montbretias may be here and there allowed to fill almost the whole width of the border. Excellent plants for the back portion of the border are delphiniums, not the 6ft. and 7ft. giants, but Capri, Lamartine, J. S. Brunton, Mrs. Thomson and others of the Belladonna strain, none of which exceeds a height of 4ft. to 4½ft.; the dwarfer varieties of Chrysanthemum maximum (Winnie Stokes Mesagrande (deep violet) and Pink Pearl are, perhaps, the prettiest.

If possible, a narrow border should be sufficiently raised to allow of an edging of rockery stones, over which may be grown an infinite variety of charming trailing plants, including such good things as aubrietias; Veronicas repens, prostrata and rupestris; Campanulas garganica, pusilla and others; Arenaria montana; Dianthus cæsius and D. deltoides; Phlox subulata and Hypericum reptans. If the border cannot be raised, it

A SMALL NARROW BORDER IN WHICH THERE IS A SKILLED COMBINATION OF HERBACEOUS PERENNIALS, BULBOUS PLANTS AND A BACKGROUND OF SHRUBS. SUCH A BORDER WILL PROVIDE COLOUR OVER A LONG PERIOD.

can be grown with good effect. The escallonias, especially macrantha, langleyensis and montevidensis; Cotoneaster macrantha and C. horizontalis; Cratægus Pyracantha Lalandei; Cydonia japonica and C. Maulei; Ribes speciosum (syn. fuchsioides); the single and double kerrias, and the less familiar white-flowered Rhodotypos kerrioides are among the best for the position; but all will need to be kept well within bounds. A hedge, especially if of some greedy evergreen such as privet, is not desirable at the back of a narrow border, but where it exists it may be enlivened by growing climbers on poles immediately in front of it. Roses occupy over-much space, but clematises of the Jackmanni and lanuginosa sections, which can be cut hard back every year, are suitable; and Lathyrus latifolius, the everlasting pea, in its white, pink and grandiflora varieties, may be grown either on poles or on bamboo canes laced together in threes or fours with string.

A 3ft. border will afford ample room for two nominal rows of plants exclusive of any used for edging, but their arrangement is a good one); Lychnis chalcedonicum; Campanulas latiloba, latifolia and lactiflora; Sidalceas candida and Sussex Beauty (pink); Anemone japonica; Achillea millifolium Cerise Queen; Lupinus polyphyllus (hybrids of various colours); Aconitum Fischerii; Echinops Ritro; the new hybrid Eryngium Violetta, which is a fine violet blue; and Phlox decussata in variety.

For the next division of the border there is a large choice of plants of the right height—that is to say, from 1½ft. to 2ft. Here is a list of a few of the most desirable: Veronica spicata (the blue type is better than the pink or white varieties); long-spurred aquilegias; Helenium pumilum; Campanulas persicifolia and trachelium; trollius hybrids (unless the border is very dry); Anthemis tinctoria Canary Bird; Geum Mrs. Bradshaw and G. Lady Stratheden; Malva moschata and M. m. alba; and asters of the Amellus class, especially King George and Beauty of Ronsdorff. Dwarf erigerons are quite suitable, and of these Elsie (lilac), Quakeress (rosy lavender), Asa Gray (apricot yellow), is best, on the whole, to avoid a straight one-plant edging, which seems to accentuate its narrowness, substituting for this a series of clumps of well chosen plants that do not grow more than 9ins. to 12ins. tall. Within this category come Viola cornuta (purple and white), Polygonum affine; Geranium grandiflorum; Platycodon Mariesii (the Chinese bellflower); and the old fringed pink. When, however, all the plants in the border have become well established and made good growth, it is possible there may not be room for this third "row," in which case a straight edging will be unavoidable, and for it nothing will be more suitable than either forget-me-nots or double daisies for spring effect, and Alyssum maritimum Little Dorrit for summer flowering.

Bulbs that throw up a great quantity of leaves—such as crocuses and daffodils—are scarcely desirable in so limited a space; but tulips may be planted freely. Spanish irises may also be freely introduced, and spaces near the edge of the border filled with scillas and chionodoxas. R. E. H.

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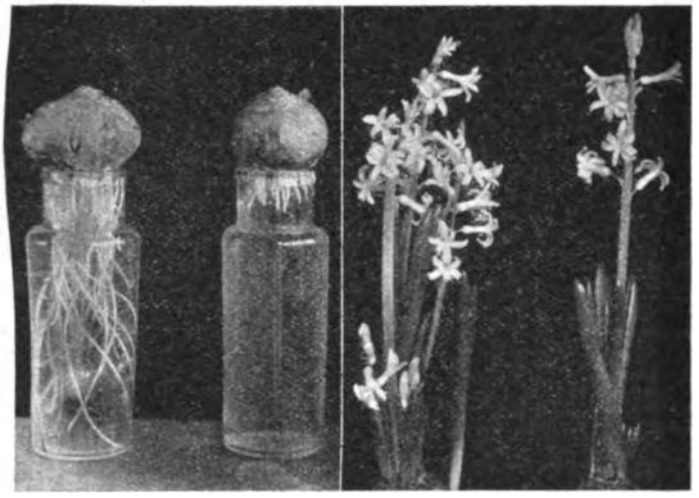
THE BUSY MAN'S PAGE

Root Bulbs Well.

WHETHER bulbs are grown in water, soil or fibre, it is most important that they should be given a chance to make plenty of roots before the top shoots are encouraged to grow to any extent. The best plan is to keep the bulbs in some rather dark place for a few weeks at the start. The illustrations show how much better is the development of Roman hyacinths when these are allowed to develop plenty of roots before being brought into the light.



BULBS SHOULD ALWAYS BE WELL ROOTED BEFORE BRINGING THEM INTO THE LIGHT.

THE DIFFERENCE BETWEEN WELL ROOTED AND NON-ROOTED BULBS.

Planting Christmas Roses.

CHRISTMAS roses should be planted in a sheltered position that is cool and moist, and where partial shade could be afforded the plants. A favoured situation is among ferns and other low-growing plants or on the margins of shrubberies away from the roots of shrubs, which have a tendency to exhaust the soil. Special beds are sometimes made up under a wall or hedge with a northern aspect, and the plants are put out in such a way that they can be easily protected by cold frames and handlights. The Christmas rose thrives much better when the quarters are deeply dug and properly drained, and the soil that suits this subject very well comprises a deep, rich loam, with which should be incorporated quite freely well rotted manure and leaf-mould. When planting in borders that are margins to shrubberies, take care to dig deeply, and in poor, light soils work a heavy dressing of cow-manure in the bottom spit.

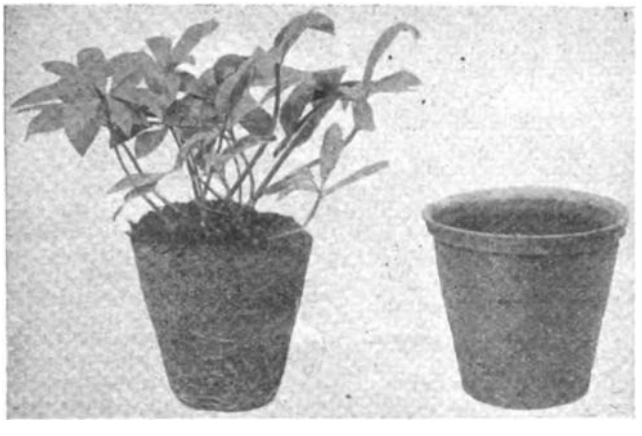
When to plant the Christmas rose is a much-vexed question. Some growers are strongly in favour of planting in February or March, directly after flowering has ceased. Other most successful growers—and these are in the majority—are strong advocates of planting in late August and September, after the plants have finished their growth. The hellebores are impatient of removal; the roots resent being disturbed. For this reason, therefore, these plants should never be lifted unless they are old and impoverished or wanted for dividing into numerous pieces. It is not at all an uncommon experience to be able to obtain from the specialists small plants in pots. This is a great advantage, as it enables the would-be grower to plant his Christmas roses with the sure prospect of the ultimate issue being quite satisfactory. In Fig. 1 a capital specimen for planting out at the present time is shown. Such a plant many growers would divide into three pieces, but, if quick results were desired, it could be planted whole. During the summer—in fact, since it flowered last winter—the plant in its pot has been plunged in a bed of ashes; this has maintained the roots and soil in a cool, moist condition. The plant has been turned out of its pot, in order to show the thick, fleshy character of the roots. When plants are lifted and divided, each piece should contain several crowns. Small plants that have three or four leaves should be planted 1ft. asunder, and larger plants should be spaced out correspondingly. Pieces about 6ins. in diameter are a very good size for planting. Fig. 2 depicts the same plant as represented in Fig. 1, planted in position. The reader will note the crowns visible in this plant, which, of course, denote promise for the flowering period.

Potting Lachenalias.

IT is time now that these interesting winter-flowering bulbs were potted. A suitable compost is two parts loam, one part leaf-mould, and half part well decayed manure and sand. Half a dozen bulbs will be sufficient for a 5in. pot placed half an inch deep, or, if the variety is expensive, one bulb in a 3in. pot will make a good pecimen. Half-pots are generally used instead of flowerpots, as these show the plants off to more advantage. Place the pots in a cold frame, give very little water and shade until growth commences. On the approach of frost place in a temperature of 45° to 50°, and when the flower-spikes appear give weak liquid manure occasionally. The lower the temperature the stronger the foliage will be. Some good varieties are Nelsoni, bicolor, pendula, Rosemary, Bullfinch and Grain. These can be obtained on the average from 8s. to 12s. a dozen.

Sow Winter-Flowering Stocks Now.

THE winter-flowering stocks are fine plants for indoors during the barren months of the year, and, if the grower takes care to choose the correct varieties, he has little trouble in getting a delightful show of sweet-scented flowers. Snow White, White Riviera, Market, and the perpetual-flowering variety All the Year Round are good whites. Empress Elizabeth, Parma Violet, Christmas Pink, Yellow Prince, Pink Beauty and other tints are also to be had. If seed has not yet been sown, then get it in at once, filling boxes with a sandy loam such as is in general use inside. As soon as the seedlings can be handled, carefully transplant them in threes into a 4½in. pot, the compost now consisting of one part in three of decayed manure, sand and mortar rubble. Keep the plants in the frame and water with care after transplanting, until growth starts again. In October take the plants inside, place on a sunny shelf near the glass, but in a cool greenhouse, and feed as soon as flowers begin to appear. As it is somewhat late to sow seed, intending growers should make efforts to obtain seedlings, as far as they can.



THE CHRISTMAS ROSE.

A suitable subject for planting now after the plants have finished growth. They should not be greatly disturbed when transplanting.

CHRISTMAS ROSES PLANTED IN POSITION.

These plants succeed under the half shade of tall trees, but should be protected from winter wet.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Garden Ornaments.

ONE of the features in garden planning in which the novice can easily make mistakes, is in the placing of stone ornaments in the garden. Here is a picture of a garden in which a sundial has been successfully introduced. Its setting, amid the stone flags of the pathway, raised a little on square slabs of stone, is just right. One passes the sundial on the way to the arbour in the corner. Stonecrops peeping from the crevices at the base of the sundial add to the suggestion of an old world garden.

For the small garden, I doubt if there is a more fitting ornament than a sundial. It does not fall into the class of "useless" ornaments, and the base forms a home for many such dwarf plants as creeping thyme, thrift and stonecrops.

A SUNDIAL IS ONE OF THE BEST OF ORNAMENTS FOR THE TOWN GARDEN IF IT IS SUITABLY PLACED WITH REGARD TO ITS SURROUNDINGS.

Thin Out Climbing Roses.

MOST of the strong-growing cluster-flowered climbers, like American Pillar, Crimson Rambler, Blush Rambler and Dorothy Perkins, are best thinned when the flowering season is over. If plenty of young growth has risen from the base, cut clean away all the old flowering wood. Great care must be exercised in doing this operation as the tips of the young, vigorous shoots are very tender and are easily broken. A good plan is to tether the young shoots to one side, away from the old wood and when the latter has been cut away it is easy to tie in the young shoots. Use fairly stout string for tying, as it will have to last twelve months. Raffia is useless as a permanent tie.

Having summer-pruned climbing roses in this way, a stimulant is advisable. A few ounces of one of the prepared fertilisers, that are frequently advertised in this journal, should be sprinkled on the soil round the base of the plant, and hoed in, taking care not to damage the roots.

Success with Bulbs in Bowls.

THE practice of growing bulbs in ornamental bowls, with the use of peat fibre, is happily on the increase. This is understandable, as, in addition to the added beauty of pretty bowls, there is less need for watering, and as there is no drainage to the bowls, there is less risk of spilt water.

Peat fibre mixture can be bought ready for use at any local florists for a small sum. This contains ground shell, charcoal, and special fertilising ingredients. A peck would be sufficient for several large-sized bowls.

Daffodils and hyacinths are the easiest bulbs to grow in this way, and I would recommend beginners to try them first, as there is much more likelihood of failure with such things as tulips or freesias. The first batch may be planted now, and the second a couple of weeks later, so that they flower in succession. Hyacinths bloom first, and daffodils are slower.

Any sort of glazed pot, bowl or vase can be used, and there is no fear of the fibre damaging the bowls. Use the fibre damp, and fill the bowls three-parts full, pressing the fibre down firmly. Press the bulbs firmly into the fibre until they are three-parts covered, and then sprinkle a little more fibre round them. Plant close together, but do not allow the bulbs to touch each other. Water thoroughly, holding the bowl on one side to allow surplus moisture to drain away.

Stand the bowls in a cupboard, or plunge them under the fine coal ashes out of doors. Air is necessary, and if a closed cupboard is used, leave the door slightly open. Keep cool, airy, moist and dark, until the top growth commences. Remove into the light gradually, and water sparingly until leaves and flowers are developing well.

When the flowers appear, place the bowls in the full light of the window but still in a cool, airy room.

Best Varieties.

Among the single daffodils, Golden Spur, Emperor, King Alfred and Sir Watkin are all easy to grow indoors. Van Sion is an old double kind and a certain bloomer. Of pot hyacinths, La Victoire (crimson), Moreno (waxy pink), L'Innocence (white), King of the Blues, and City of Haarlem (yellow) are good for bowls and pots.

Very early flowers, such as crocuses and snowdrops, may be grown indoors, but unless they can be kept very cool, failure will result. Never try to bring them on by putting them in a warm, dry room. Buy them for indoor culture in single colours—yellow, purple, lavender or white—and keep the pots in a cool room until the flowers are well developed.

Most of the failures with tulips are due, I think, to faulty watering. If the soil becomes too dry, the plants receive a check, which is fatal to tulip culture. And the soil must not be too wet, either; a happy medium is required. Pottebakker (white) and Keizerskroon (red and yellow) are two useful varieties of tulips for pot culture.

Scillas, anemones, grape hyacinths and Spanish irises can also be grown in peat fibre, and make a change from the more common flowers, but they are not so sure to succeed as are hyacinths and daffodils.

EVEN A SMALL LAWN IS A GREAT ASSET IN A TOWN GARDEN.

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NOTES ON THE FLOWER GARDEN

A Decorative Honeysuckle for Covering a Wall.

Lonicera tragophylla.

THIS beautiful honeysuckle was first described from material sent to Kew by Dr. A. Henry. It was afterwards introduced by the late Messrs. James Veitch and Sons, through their collector, Mr. E. H. Wilson, who discovered it in Hupeh, West China, where it is found at elevations of 4,000ft. to 7,000ft. and 8,000ft. According to Wilson it is known to the Chinese as the Ta-chin-yin-hua (great gold and silver flower). It first flowered in the Coombe Wood Nursery in 1904. Its large golden yellow flowers, which are freely produced—as the illustration shows—place it in the first rank of known loniceras, and when it first flowered it was acclaimed as a valuable addition to our gardens, and one which would soon be generally cultivated. This, unfortunately, is not the case, for, so far as the writer knows, it is by no means common in cultivation at the present-day.

This is due, no doubt, to the fact that its cultural conditions are not properly understood, for it grows freely in any good garden soil, but the important point in its successful cultivation is that it must be grown in a position where it gets partial shade. The plant in the illustration is growing on a north-west wall, its roots shaded with shrubs and, in the writer's experience, L. tragophylla should generally succeed in such a position or on a wall facing east. Another reason why this plant is scarce may be due to the fact that its propagation is by no means easy, and it has to be increased by means of layers. It is, however, such a beautiful species, that it is worth some trouble to keep and try to cultivate successfully.—I. C.

A DECORATIVE HONEYSUCKLE FOR GROWING AGAINST A WALL, LONICERA TRAGOPHYLLA.

Marguerites for the Winter.

AT this time of year many marguerites will have finished flowering; these, if cut back now, will afford an abundance of cuttings which will supply flowers for the autumn and winter months. Plants cut back should be kept in a dry state until they commence to break out into new growth, and when a start has been made repot them. In taking the plants up out of the border the roots should be trimmed so that when they are potted up there is a fair amount of space in the pots for the plants to grow without soon becoming pot-bound.

The plants should be given a good watering after potting, then afterwards only the surface kept moist when necessary. Carefully keep the plants in check by occasional stopping, and any that show signs of flowering early should be stopped back below the flowering-stem. When the plants have become established repot them into their flowering pots without delay in a compost of two parts maiden loam, one part leaf-soil and half a part sand. Pot moderately firm, and after potting and watering the plants, stand them out in a sunny position on an ash bottom if possible.

One of the most important items in cultivating these plants is keeping them free from insect pests. A useful insecticide, which is quite simple to make, is a wineglassful of paraffin to four gallons of water. As soon as the leaf maggot or other insects are noticed, the plants should be sprayed. The sprayer I prefer is a nozzle syringe, and spread a fine spray with the finger. If this operation is done once a fortnight, there will be no trouble with any form of insect pest, and if the plants are kept clean to start with, syringing with this mixture once every two or three weeks will keep the pests at bay. The best time for syringing is either in the evening when the sun is setting or on a dull day, but on no account while the bright sun is upon them, as this causes the leaves to blister. When the autumn frosts appear remove the plants into a light, airy greenhouse, and if given cool treatment at first and a little heat later on as the nights become cold they will make headway.

Marguerites are useful to grow either for cutting or as pot plants, and if mixed with chrysanthemums have a charming effect when used for table decoration.—G. B.

Trolliuses as Adjuncts to May-Flowering Tulips.

EVERY autumn one meets with people who, desirous of making their gardens beautiful in spring, plant bulbs of tulips. Some show a preference for the stately Darwins, while others evince an interest in the old cottage sorts.

In the Darwins proper, we have, as yet, no yellow, and so Inglescombe Yellow of the cottage section is planted which, generally speaking, blooms in a little later.

Where a clump of bright yellow flowers is desired, which appear simultaneously with the Darwins, I have found that trolliuses meet the case, and for years now I have, at the back of a border where tulips are planted, a row of T. europæus which always gives a prodigality of lemon yellow flowers in May. I wonder that lovers of yellow flowers do not grow more of the trolliuses, which can now be had in a variety of tints of yellow and orange. The plants are quite hardy, will grow in almost any garden, can be divided frequently, and never fail to flower, more especially if a few weeks before the buds make headway, the plants are mulched with old manure, and given abundance of water should the season prove dry. I would remind any interested that the clumps may be shifted in the autumn, and, planted in good ground, will bloom next spring, especially if care is taken to get the clumps up without injury to the roots. Trolliuses associate well with tulips, and with me, bloom in advance of that useful cottage sort mentioned.—W. F.

The Azure Sage.

Perovskia atriplicifolia.

DURING August and September, this charming shrubby plant will make a fine show in the garden, and it can be planted in various positions, providing the situation is one where the sun shines for most of the day. It is a deciduous and rather uncommon subject with fragrant grey foliage, and it will attain a height of 3ft. to 5ft. The growth, however, dies back considerably in winter, and even so, this is no disadvantage, because to produce the best flowering shoots the plant must be cut back to within a few inches of its base early in April. Examples treated in this way are now in full bloom, the light and elegant loose growths bearing panicles of beautiful violet-blue flowers. The whole inflorescence is covered with a white meal or farina, a condition which renders the whole plant most attractive. The azure sage is well adapted for the border, the shrubbery and rock garden. At Castleford, Chepstow, it is used effectively in close proximity to boulders on the outskirts of the rock garden. Here several plants are grouped together, and it will succeed in any ordinary loamy soil.

It can be increased by cuttings in July and August, and it is possible to lift and divide old plants in the spring. P. atriplicifolia is a native of the Himalayas and Afghanistan, where it is found in quantity.—T. W. B.

Orange Sunflowers in the Border.

FOR creating a bold display in the herbaceous border during July and August, the heliopsis or orange sunflowers can be strongly recommended, and it is surprising that they are not more frequently met with in gardens. They somewhat resemble the sunflowers or various species of helianthus, being hardy herbaceous perennials and plants that will thrive in almost any soil, providing the situation is an open one.

In H. Pitcheriana we have a fine bushy plant about 2ft. or 3ft. high, which produces a wealth of deep rich orange flowers 2 ins. or so in diameter. Heliopsis B. Ladhams is another useful subject, very similar to the preceding, but the flowers are slightly larger, the petals being more or less rounded instead of flat, and the colour a little paler yellow. Both these plants are worthy of a place in the border; they are more graceful than the average sunflower and are very effective in a cut state. Another point in their favour is they are not so rampant as the helianthus, and they can be safely left for

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three or four years without being lifted and divided, a fact which renders them quite suitable for the small garden.—B.

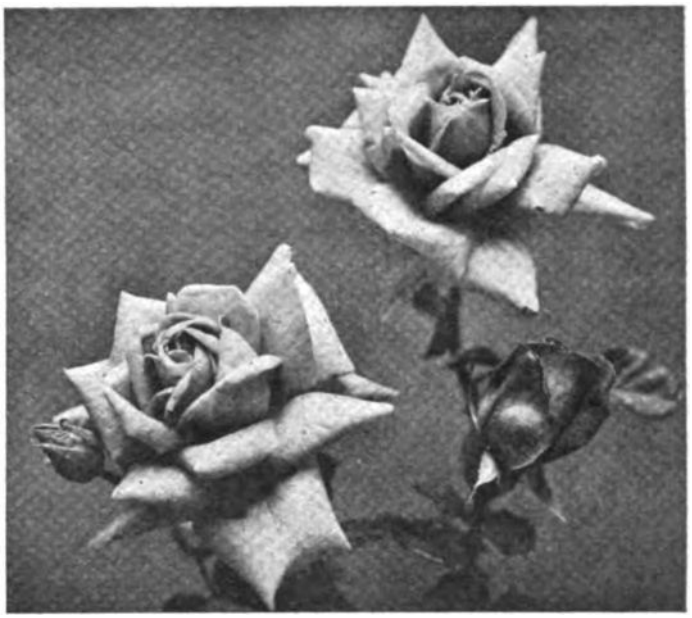
Gaillardia The King.

THE florists' varieties of gaillardia, or the blanket flower, constitute a fine and wonderful series of hardy plants for a sunny border, and, moreover, they are easily grown and very free flowering. The form named The King is certainly the best with which I am acquainted, and for several weeks it has given a glorious display; while, judging from the growth of the plants, a supply of bloom will be kept up until frosts put an end to the flowering period for this season. The whole plant is about 2ft. to 2½ft. high, and individual flowers carried on stout, long stems are about 4½ins. in diameter. The showy, broad petals are deep red, margined with bright yellow, and in a group in the border they are very effective, while in a cut state they are highly appreciated. No doubt young plants give the best results, and from a batch of cuttings rooted last September, the flowers are much better than from old plants left undisturbed from the previous year. The side growths that appear at the base of the plant make excellent cuttings, and these will readily form roots in a cold frame or in a partially shaded border in the garden. They should be transferred to their flowering quarters in early spring.—T. W. B.

Two Uncommon Roses.

MOST of our popular roses are raised in France and in England, but there are a few very good ones of German origin like the well known Kaiserin Auguste Victoria, which Peter Lambert brought forward in 1891. I should like, however, to draw attention to two newer varieties which seem to be of universal merit. One is a hybrid tea raised in 1917 by the late Dr. Krüger and called Freiburg II. It is a very good bedding rose of rather vigorous growth. The beautiful shape of the flowers is well shown in the illustration. The colour is that of a peach blossom with deeper shades of the same colour on the reverse of the petals. The petals are of good substance, opening well in all weathers. The dark green foliage is very resistant against mildew.

The other rose shown in the second illustration is a very different one, belonging to the class now called Pernetiana (Austrian briar hybrids). It was raised by W. Kordes Söhne at Sparrieshoop, Holstein, in 1921. The colour of its fine-shaped flowers is very difficult to describe. It is sometimes an almost golden yellow, edged with coppery yellow, but mostly there is a rather distinct veining and splashing of carmine in it. The colour is rather changeable, according to the season, and probably, too, according to the location. Nevertheless, the beauty of the rose is surprising wherever it may be grown. It is certainly a very attractive combination of colours even among this group of strangely coloured roses. It grows very freely and forms good, upright bushes, well adapted for bedding and for garden decoration. The blooms are freely produced throughout the season, and also valuable for cutting purposes.—C. S.



A NEW GOLDEN YELLOW PERNETIANA ROSE, SUITABLE FOR BEDDING PURPOSES.

Two Beautiful Pentstemons.

PENTSTEMON HETEROPHYLLUS is a variable plant, and in its best form, with flowers of clear steely blue colouring, it is exquisitely pretty. It is well placed high up on the rock garden, where a colony of appreciable size will prove a noteworthy feature throughout the greater part of the summer. The plant is not at all fastidious, but displays a preference, I think, for a well drained soil in full sunshine and does not object to a very dry situation. Some 18ins. high, P. heterophyllus was introduced from western North America as long ago as 1834. Propagation is by cuttings inserted in a cold frame during the summer months.

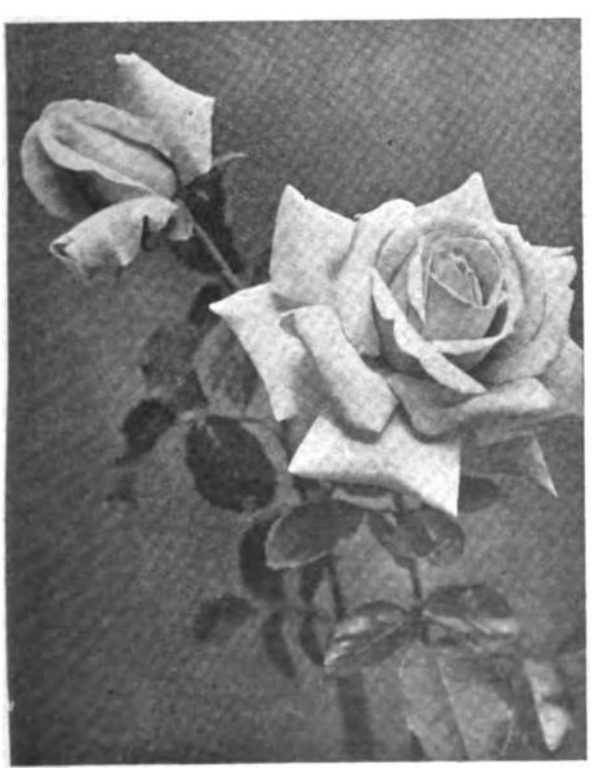
A very different plant and one equally lovely is P. isophyllus, with glaucous foliage and tall graceful spikes of salmon-coloured flowers; I was recently much captivated by the beauty of this pentstemon as seen growing in narrow borders on either side of a paved walk.

The flower spikes are from 2ft. to 3ft. in height, and are ideal for decorative purposes. A most valuable attribute of this plant is its extremely long flowering season. The first flowers will usually open during July, and in a normal season the plants will continue to make a brave display into November, providing the spent flowers are removed with some regularity.

Cuttings form a ready means of increase, and, indeed, very few plants root with greater freedom than does this very pretty pentstemon.

The plants should be generously massed to afford an opportunity of envisaging the real capabilities of this first-rate border subject. Pentstemon isophyllus may also be used to great advantage on the large rock garden.

Both these plants are hardy in most parts of the country in any but abnormal winters. It is wise, however, as with so many other plants, to maintain a small stock in a cold frame, and thus be not altogether at the mercy of our unfavourable winter conditions. —RALPH E. ARNOLD.



FREIBURG II, A BEAUTIFUL BEDDING VARIETY OF VIGOROUS HABIT.

A Trailing Plant for the Rockery.

Arenaria montana.

MANY are acquainted with the diminutive Arenaria balearica, but the merits of the mountain sandwort, A. montana, are not quite so well known. The genus arenaria is a large one, but few are in general cultivation, so it is pleasing to meet with at least one representative that has proved to be such a useful plant in a variety of positions. This arenaria inhabits the mountains of southern France and the highlands of Portugal and Spain, and it has proved hardy in this country over a large number of years. Of a procumbent and trailing habit, it is ideal for the rock garden, where it will be quite at home falling over the face of a large rock. If a small shrub is near at hand, this arenaria will attempt to climb, and attain a height of several feet. It is also suitable for walls, a form of gardening which is attracting considerable attention; while along the front of the flower border it can be employed with advantage.

The mountain sandwort is very floriferous during the months of May and June, and the individual pure white blossoms are about the size of a florin, the leaves being narrow and dark green. It is certainly a pretty subject at this season, and, being a good grower, it does not demand any special culture beyond a gritty root run where it is fairly well drained.

Such a delightful plant is indispensable, especially when we realise its beauty and the ease by which it can be brought to a high state of perfection. My plants do not seed freely, but it is readily increased by division in the autumn. Once it is established it flowers very freely, producing trailing masses of snow-white flowers.—T. W. B.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE allocation of space in a small garden is a perplexing problem to many amateurs whose ambitions extend beyond a limited collection of flowers and vegetables to the cultivation of a few popular fruits. A partial solution may be found in planting strawberries in a single row as an edging to a vegetable bed or border, an arrangement which enables cultural work and picking to be done from the path. As regards apples, a single cordon tree requires no more space than that occupied by a root of potatoes, and if the plan adopted in a Giffnork garden is followed, the owner may possess quite a good collection by planting the trees 2ft. apart on each side of the main walk, thus forming an avenue that combines the useful with the ornamental.

Wasps frequently do a lot of injury to the fruits of plum and pear trees at this season, but as they always travel in a straight line from their nests, it is seldom difficult to locate the habitat of these troublesome pests. A simple method of destroying a wasps' nest is to tie a rag round a piece of stick and after saturating it with cyanide of potassium, insert it in the entrance to the nest, which may be dug out on the following day. Care must be taken in the handling of the substance, as it is poisonous and should not be left lying about. Boiled potatoes covered with moss make a good trap for woodlice, earwigs and beetles. The traps should be examined each morning.

Although a number of proprietary weed killers are sold as non-poisonous, analysis made at the North of Scotland College at Aberdeen show that they are all more or less poisonous, the only difference between the poisonous and the non-poisonous being that the one contains arsenic and the other does not. When tsteed, a number of the arsenical preparations were quite successful in destroying the weeds, but the arsenic had the effect of making the walks black, especially at the sides where the liquid had collected. Trials are, therefore, being conducted this year with the object of eliminating the poisonous substances, and the results obtained are of interest to gardeners generally. The materials used are finely ground copper sulphate and sodium chlorate in solution, also known as weed-death. Weather conditions had not been suitable to the action of the latter, consequently it had not done so well this year, the walks being thickly covered with moss. On the other hand, copper sulphate had cleared the walk of weeds without the assistance of the hoe, but it was ascertained that when it was applied in the form of a solution it was of no use and that it was necessary to scatter the powder on the surface and allow it to be washed down by means of a shower or dew.

Potato trials form an important branch of the research work at Aberdeen College, and the experiments demonstrate the value of sprouted seed compared with unsprouted tubers. Plots of sprouted and unsprouted seed of Great Scot and Golden Wonder were planted on seven different occasions, beginning on March 1st and continuing at fortnightly intervals until June 1st, and the following figures, representing the highest yields obtained, are typical of the difference in the weight of the respective crops: Great Scot, sprouted, 18 tons 12 cwts.; unsprouted, 14 tons 16 cwts. Golden Wonder, sprouted, 18 tons 2 cwt.; unsprouted, 14 tons 1 cwt. In each case the earliest plantings were of better quality than the late plantings. Some light has also been thrown on the disputed point involving the cropping powers of whole and cut seed, and it would seem that the method of dealing with cut seed has a direct influence on production, for the trials of the past four years have proved beyond a doubt the influence of light and shade in the preparation of the seed. The lesson to be learned is that seed tubers should never be exposed to the sun when cut. Some people may be sceptical as regards the effect of that condition on the cropping results, but here are the actual figures. Seed cut in bright sunlight a few days before planting gave a yield of 12 tons 13cwts., while seed cut in the shade a few days prior to planting, produced 14 tons 19cwts. Lime has also a beneficial influence on cut seed when planted and covered up at once. Under this treatment the crop weighed 15 tons 1cwt., and came nearest to the total of 15 tons 10cwts. obtained from whole seed of a medium size. The difference between the yield of whole and cut seed is, therefore, so small that it would not be perceptible in the small quantity of potatoes grown in an average garden.

In its great productive capacity, the big vine at Kippen, a picturesque little village situated some ten miles from Stirling, has exceeded all previous records with a total of 2,394 bunches in 1927. This compares with 1,905 bunches in 1926, and brings up the output during the past twenty years to 25,901 bunches. This remarkable vine, now recognised as the largest in the world, was planted by Mr. Buchanan, thirty-six years ago, and at present covers 5,000 square feet of roof space (three houses), the longest spread of branches being 300ft. and the girth of stem 44ins. The size and enormous productive capacity of the Kippen vine are emphasised by comparison with other large vines in the country. The Kinnell vine at Auchmore Killin, ninety-five years old, has a roof area of 4,275 square feet and in its best years the average crop was 500 bunches; while the Monressa vine at Roehampton, sixty-three years old, extends over 3,584 square feet and gives a crop of 700 bunches. Although always spoken of as one of the big vines, this, in reality, is two vines with separate roots planted widely apart in the same house. The vine at Cumberland Lodge, Windsor Great Park, is 149 years old and with a roof area of 2,760 square feet the crop averages 450 bunches; and the Hampton Court vine, which has reached the old age of 159 years, is the smallest of the lot, the roof area being 2,200 square feet and the crop 200 bunches.

ST. MUNGO.

FLOWER SHOW FIXTURES.

Sept. 1.—Islay.

Sept. 1 and 2.—Greenock, Paisley Florists, and Perth.

Sept. 2.—Darvil.

Sept. 2 and 3.—Alloa and Leith.

September 3.—Bearsden, Bothwell, Cambuslang, Cembusnathan, Carstairs, Coldstream, Crieff, Old Cumnock, Dalkeith, Douglas, Duns, Fenwick, Galashiels, Cowlairs, Mosspark, Possilpark, Glenfield and Kennedy (Kilmarnock), Johnstone, Kilbirnie, Kirkintillock, Lesmahagow, Neilston, Penicuik, Renfrew, Shettleston, Shotts and Stonehouse.

HOW TO LAY A GARDEN PATH

AT this season, when alterations in the garden are taking place or new gardens are being made, a few words of advice as to the construction of paths may be appropriate. Most gardens have paths of some sort, and whether they are made of cinder, gravel, crazy paving, asphalt or brick is a matter for individual taste; but no one, I think, will deny that square paving of varying sizes, from the points of view of simplicity, ease of laying and that the first cost is the last, should have first consideration when the kind of path is being decided upon. It requires nothing in the way of repairs, whereas paths constructed of gravel or cinder need periodical attention and renewal.

It is necessary to decide the position of paths before designing the remainder of the garden. Very often paths are made without any regard as to whether they link up with other features. It is not suggested that walks should be made all over the ground available, but it is very useful—and good planning—for paths to lead up to principal features of the garden. In this way delightful vistas can be obtained, and in small gardens a feeling of a much larger area is given. Paths also have a better appearance when set off with a stretch of grass on each side, either as a lawn or a narrow strip between path and border.

Actual construction depends a lot on the soil. When cinder or gravel is used it is very necessary to have a foundation of broken bricks, etc. Where the subsoil is clay, the path should be excavated to a greater depth than on light soils, and it may even be necessary to assist drainage by laying a row of land drainage pipes at each side. Care should also be taken to raise the centre of the finished path, as this will facilitate the drainage of surface water. Providing there is a subsoil of chalk or gravel, crazy paving, bricks or flagstones can be laid direct on to the soil, although it is an advantage to bed the stones or bricks in a layer of sifted cinders. This need not be more than 1in. or 1½ins. in depth.

Whatever the materials used, the procedure is more or less the same. The paths should be marked out with a line (3ft. is a suitable width for a main path), the turf cut and removed with a turfing iron. If gravel or cinders are contemplated, it will also be necessary to remove the soil to a depth of 6ins. to 9ins., which should be determined according to lightness of the soil. When the path is not being cut through grassland, boards of a suitable depth can be utilised for marking the boundaries. Turf or borders can be made up to this guide, which can be left permanently. After removing the soil, broken bricks or large clinkers will make a good foundation. These should be rammed down quite firmly to a depth of 2ins. below the surface of the finished path. Rolling after a good quantity of water has been put on the foundation will help to consolidate the path. It is necessary to have the foundation quite firm, as otherwise when the top surface is put on it would sink, and hollow places appear, which cause puddles in the finished path. Finally, constant rolling will prevent the surface from coming up when walked upon.

A comparison of the costs of a path in different material is difficult, and the figures given can only be taken as approximate ones. Much depends on the locality and

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THREE STAGES IN THE MAKING OF A GARDEN PATH.

1.—*Raking and levelling the soil preparatory to laying.*

2.—*The paving stones being placed in position.*

3.—*The finished path edged with grass verges.*

how far the material has to be carted. In each case a path 50ft. long by 3ft. wide has been taken as a guide.

Flagstones are, of course, the most expensive, and cost is regulated by the quantity required, but a quotation recently obtained for 150 sq. ft. made up of an equal number of pieces 2ft. by 2ft. and 2ft. by 1ft., each 1½ins. thick, was 1s. 1d. per sq. ft., delivered. It must be remembered that the work of laying is simple and can easily be done.

Crazy paving can be purchased generally from local nurserymen for 50s. per ton delivered, and the quantity required (depending on the thickness) is approximately two tons for 150 sq. ft. Some nurserymen will undertake supplying and laying of the stone, and charge generally 7s. per sq. yd., but it must be remembered the work is more tedious compared with rectangular pieces of stone.

Asphalt is a messy procedure and should only be done when contractors can be got to estimate for the work. Cost of delivering and laying 6s. per sq. yd., but warning should be given that, unless properly carried out, the sun plays havoc with these paths and causes gaps to come which need to be filled up.

Gravel.—The cheapest of all paths so far as initial cost is concerned, but the most troublesome from the fact that weeds will continue to grow and that constant rolling must be carried on as well as an annual raking over and possibly the addition of more gravel. This is sold by the yard, generally a builder's cartful. One yard will be sufficient for 150 sq. ft., and will be about 2ins. thick. Clinker or large gravel stones must be used as foundation; these can be had for 7s. or 8s. per yard.

WHAT OUR READERS SAY

A FINE DRACÆNA.

SIR,—While on a visit to the garden at Ardengraig, Rothesay, the residence of Sir John Reid, a very keen and enthusiastic gardener, I saw a very fine specimen of Dracæna indivisa, an illustration of which accompanies this note. The plant was in full flower and the broom, one of the finest seen in Scotland, measured 4ft. in height by 3ft. in width. The accompanying illustration gives an idea of the great beauty of the plant and was taken by Sir John Reid.—J. Y., *Glasgow*.

SOME ROCKERY HINTS.

IT is unfortunate that really good rockery plants are expensive, and need special soil and conditions if they are to thrive; but they are so fascinating a tribe that no gardener can afford to ignore them.

One great favourite is the cumbrously named Lithospermum prostratum. This produces a mass of glowing deep blue flowers during the spring and early summer, and often again in the autumn. Another dainty beauty is the dwarf phlox, G. F. Wilson, with the most delicate of pale blue blossoms, and surprisingly successful results may be had from a packet of seed of Linaria alpina, a variety of toad-flax, very charming in "habit," as the garden books say, and gay with purple and orange flowerets for quite ten or twelve weeks on end. It can be grown on walls or as a rock plant, and makes a delightful border for stone-edged flower beds and pathways. Sown in February, it flowers the same year, and, if happy in its situation, it will continue to sow itself freely, thus becoming, for all practical purposes, a perennial. Another charming plant, easily grown from seed, and not nearly so well known as it deserves to be, is the dainty Leptosiphon hybridus, which produces quantities of tiny star-like flowers in the loveliest shades of pink, mauve and orange.

A FINE PLANT OF DRACÆNA INDIVISA IN FULL BLOOM.

In a new garden, of course, almost anything that will grow quickly is welcome, and particularly anything that will flourish in full sunshine and not need watering; for nearly all new gardens are lacking in shady corners. When making my rockery, I invested in some seed of Cerastium tomentosum—with its alluring second name of "Snow in Summer"—and trustingly scattered it broadcast over the bare spaces. During the first summer its tufts of silver grey foliage and white flowers made a pleasant enough showing; but the next year they had increased in size so alarmingly that it seemed as though everything within reach would be smothered out of existence. When the flowering season was over I had a busy time digging and dragging up huge masses of this too rampagious plant. Moral: Do not grow cerastium unless you have a very large rockery, and do not in any case grow it near less vigorous and more cherished rock plants.

Another thing to be looked upon dubiously by the owner of a small garden is the large

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flowered perennial mesembryanthemum. I planted a small piece of this on the top of a 5ft. wall, and it has done well enough, covering a large space in one year with its fleshy green trailers, though its flowers, so far, have been rather sparse. Here it has room to hang down, and can easily be cut back when it threatens to spread too far. But another piece, planted on the low wall at the foot of the garden, has had to be, with great labour, entirely removed, for not only were its hefty 6ft. and 8ft. long trails spreading all over the flower beds alongside the wall, but they were also threatening to kill by slow strangulation several members of a cherished tamarisk hedge. Fortunately, this was discovered just in time, and the too ardent grower torn up root and branch—no easy task, as I said before—that the smothered tamarisks might have room to breathe and live, like their fellows. The dwarf mesembryanthemum, with its pretty little mauve pink flowers, is a different matter altogether, and an ornament to any rockery. But avoid the other at all costs, unless you can give it space unlimited in which to "ramp"!—FAY CORNISH.

SOUTH AFRICAN CHINCHERINCHEES FOR THE GREENHOUSE.

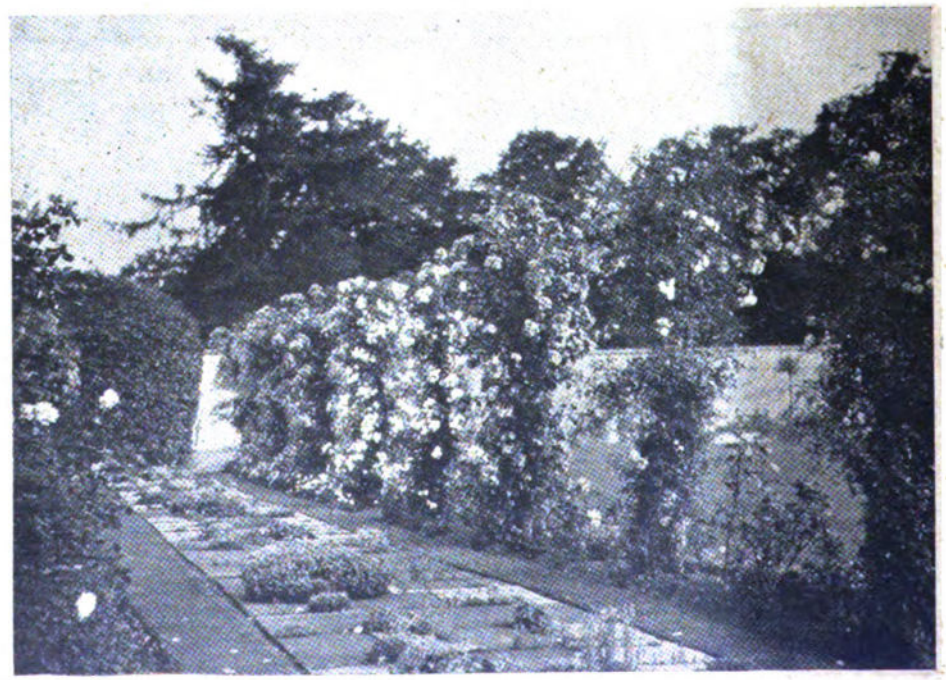
SIR,—Enclosed is a photograph of a plant of Ornithogalum lacteum, or chincherinchee, in flower in a cold greenhouse in York. It is a South African plant not often grown in this country. When the bulb was received, two years ago, it was about the size of a large snowdrop. It was grown on in ordinary cool greenhouse temperature with periods of ripening and resting, which are plainly shown by the condition of the plant. After two years of this treatment the flower-spike appeared and grew to about 2ft. 6ins., the flowers opening as the spike developed. The portion of the spike actually covered by flowers is about 12ins. At the time the photograph was taken some of the flowers had been open a month, and it will be seen that there are still a large number to expand. The flowering period is thus an unusually long one. The petals are white with delicate veinings, the yellow stamens adding a bright touch of colour. An interesting point is that after having been cut and dried the flowers have the faculty of reviving to a considerable extent when placed in water. —W. J. WALLER, *York*.

A HANDSOME FLOWER SPIKE OF ORNITHOGALUM LACTEUM.

SNAKES IN THE GARDEN.

SIR,—I have had a considerable experience of the common grass snake (and vipers) in various parts of the country and my observations do not agree with the conclusions which Mr. J. Gregory draws concerning the death of his carp. With one solitary exception all the grass snakes that I have known have swallowed their food whole. With solids this, of course, is from necessity, as the snake has no teeth for masticatory purposes, and a frog would present no difficulties to a snake. On several occasions I have killed a snake which had recently swallowed a toad and have released the toad, which, after squatting in a dazed manner for a short time, has revived sufficiently to walk away. I feel that Mr. Gregory must look elsewhere for the cause of his "half-devoured frog." With regard to the carp with a deep gash in the side of its neck, I should hesitate for a long time before attributing this to a grass snake. I have on a number of occasions watched snakes swimming in a pond which contained a number of carp of various sizes and degrees of markings, from the typical fish, through a motley of colourings, to self "gold" and "silver," and in no case has a snake made the slightest attempt to take a fish. The snake's method of progression through the water was, to me, most interesting. While undisturbed a snake would carry its head and an inch or two of body clear above the water, and so far as I could see—owing to refraction one can rarely be positive as to what happens under the surface of water—the snake would progress almost vertically, and propulsion was derived from rotary movements. On a stone being thrown into the water the snake would dive, but remain under water for only a short time. The exception which I mentioned to snakes swallowing their food whole was the case of one snake which developed a liking for grapes. On several evenings it entered the vinery soon after dusk and *sucked* the berries, leaving the skin and a portion of the flesh hanging by the stalks.—A. CECIL BARTLETT.

OUR PHOTOGRAPHIC COMPETITION



This charming Ipswich garden has its paved path bordered on either side with rose arches. Climbing roses have been planted up pillars which are linked together by means of chains, and the long rose shoots are trained along these. Each year the roses are a mass of bloom. The path is paved with square slabs of York stone, and many rock plants are growing in between the crevices of the stone.

The guinea photograph, sent in by F. G. BROOK, *2, Willoughby Road, Ipswich.*

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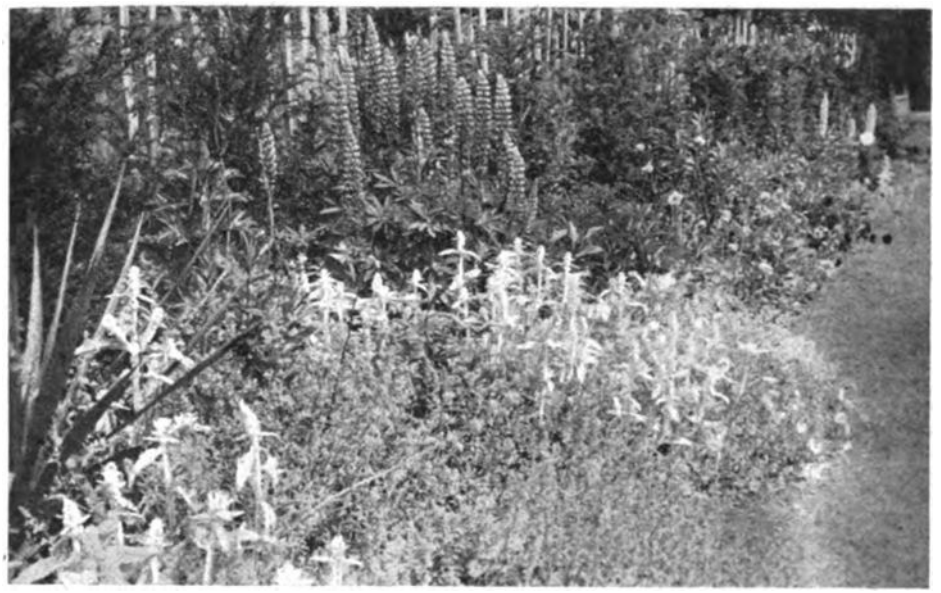
There is a great charm about stone steps. Those that I have made in my garden look delightful, and are now clothed with nepeta and the pink antirrhinum Nelrose. E. P. ELLIOTT, *Southport.* Award of 5s.

This part of the water garden in Dr. H. J. Clement's garden at Salem, Oregon, is most picturesque with its white wooden bridge and clumps of irises. Iris versicolor and I. Pseudacorus are doing well. MISS E. BELL, *U. S. A.* Award of 5s.



The various plants growing in my herbaceous border form delightful colour combinations, and the young yew hedge behind the border forms a good background. Blue lupins, pink helianthemums and stachys look well together. In the centre are yellow and red geums, while at intervals towards the front of the border clumps of catmint have been planted. C. C. UNDERHILL, *Canterbury.* Award of 5s.

This arch was made from some trees at the bottom of the garden that had to be lopped. The roses used for decoration are Lady Gay and Crimson Rambler. W. M. GAMBLE, *Chingford.* Award of 5s.

This photograph gives some idea how the back part of a dwelling-house may be improved by a small rock garden and by the use of odd paving stones. The spaces between the stones are planted with thyme and other similar low-growing subjects; and flourishing in the little rock garden are cheiranthus, æthionema, achillea, saxifrages, campanulas and Raoulia australis. M. H. MOULTON, *Chepstow, Mon.* Award of 5s.

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FRUIT AND VEGETABLES

Laying-in Young Wood of Cherries.

ALL stone-fruit trees should be closely examined now, especially those on walls, and mental notes made of ways and means to improve them. Young wood is a valuable asset, that is when such wood is of normal growth—of medium strength, short-jointed and well ripened. Some old wood is generally found to be unsatisfactory, and such must be removed in due course, and, if there is not any young wood to replace it, gaps occur in old trees, whereas in the case of younger specimens young shoots are necessary for extension. Usually in the case of Morello cherries there is a danger of having too much young wood, then there is overcrowding, immaturity and a loss as regards the crop. It is for these reasons that I suggest to inexperienced growers the desirability of closely examining the trees now. Where young branches are to replace old or diseased ones, the latter should be cut out forthwith. It is useless in itself and harmful to the young shoots if retained. Young shoots to be fastened in as leaders are best shortened now one-third their length, then the basal buds will grow next year, whereas if retained their full length perhaps many basal buds may not grow, then there is a blank space, very undesirable both for appearance and waste of space, as the latter is so valuable.—CHRISTCHURCH.

Cauliflowers to Stand the Winter.

WHERE early cauliflowers are appreciated, the best, usually, are those grown from seeds sown in the month of August or early in September. Spring-raised plants require very careful treatment if they are to "turn in" satisfactorily at an early date, and usually glass protection must be afforded and very gradual must be the full exposure to the weather. Autumn-raised plants, too, require some protection during severe weather, but in a temporary form only, and such that any amateur can easily apply. In northern counties, seeds should be sown quite a fortnight earlier than in the south; in the midlands a week earlier. September 10th to 20th is a suitable time in the extreme south. In the north the seeds may be sown in boxes, as the resultant seedlings must be transplanted in any case, but I much prefer to sow them in cold frames and remove the lights entirely; in the southern counties the open border is the ideal place. A sheltered position does not mean one enclosed by high hedges, or fences, walls or trees, but where the border is protected by some low structure such as will break the force of the wind, especially that from the north and east. The best soil is a medium loam, and one in which these kinds of plants have not been previously grown. If poor, enrich it a little with some rotted manure; also in all cases, except in chalky soils, add some old mortar rubble. Make the soil very firm after digging it deeply. Sow the seeds thinly and transplant the resultant seedlings 4ins. apart in borders where a temporary protection can be given, or in cold frames. But to be successful with autumn-raised cauliflowers the plants must be grown sturdily and as hardily as possible.—GEO. GARNER.

Clean up the Asparagus Border.

AS soon as the feathery foliage of the asparagus plants begins to die down, the cleaning up of the bed may be carried out at once, often a very necessary operation, because weeds are difficult to remove in the height of the growing season. First of all, cut the stems some 3ins. from ground level and lay these aside to be burned. After this, remove all weeds in any fashion that is without danger to the asparagus roots, and carry these away too; if, in doing this, slugs are found to be present, dust the soil with fresh soot afterwards. Loosen the ground with the hoe or a Buco cultivator carefully and apply a mulch of fibrous, semi-rotted manure. As growers know, this mulch may with advantage be omitted until springtime, if the soil is a wet one. Do not forget that an old asparagus bed may be improved by liming, the best form to use being basic slag of low phosphatic content at some 4 oz. to 6 oz. per square yard. Lastly, dig the alleys, and the bed is ready for its long winter rest.—CLYDESDALE.

Autumn-Sown Broad Beans.

IT is not common practice to sow broad beans in autumn, but many growers, especially in the "kinder" districts, do it with the advantage of earlier cropping in the following summer. Should the winter be a bad one or chill storms come along in spring, there is no advantage in sowing during autumn, because plants recover slowly from a check at that time. So, having "placed our cards on the table," I now remind readers that it is time to sow these broad beans. Almost any variety may be treated in this way. Plant them 3ins. deep and a trifle closer than in spring. It is best to avoid fresh manure and, perhaps, not too wise to manure at all. When the beans are well through the ground, earth up a little; indeed, when the garden is kept too wet in winter by incessant rains and a heavy soil, place the beans on the surface level and hoe a ridge of soil over them to a depth of 3ins. or 4ins.—LANARKSHIRE.

Hardy Lettuce to Sow Now.

CERTAIN varieties of lettuce are exceptionally hardy, and they may be sown at once in the open in order to ensure supplies in winter and spring. Speaking broadly, they may be treated much like the winter endive. In colder parts, overhead protection may become necessary but, even when plants seem to dwindle away as winter advances, the advent of spring calls them into life again, and a supply of green salad is then certain. Not all varieties will do well, of course. Among Cos kinds we have long depended on Black Bath, Winter White and Veitch's Hardy White. In the cabbage varieties, Hammersmith Hardy is a good kind, as well as what is called Winter Arctic and the variety, Standwell. All the Year Round may also succeed. As it is fairly late, sow thinly in firm soil where the plants are to grow and avoid transplanting as far as possible.—H. H. A.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

Carnation Cuttings.

A year or so ago, when taking my cuttings, I tried an experiment. Half of the batch were planted simply as slips, the other half were treated as follows: I split the stems with a sharp knife to a length of about 2½ins., and in planting these latter a drill was drawn about 4ins. wide and 4ins. deep and filled with sharp sand. The cuttings were pressed firmly into the sand with the split stems extended so as to lie at right angles to the cutting. When the cuttings were lifted for planting in permanent quarters, those treated in the manner described possessed two roots, and the majority of these made more bushy plants and carried more blooms than those simply inserted with a heel.—A. C.

Rolling New Gravel.

To roll new gravel on a path is difficult, unless the gravel be dry or thoroughly saturated; between these extremes the roller will pick it up and a bad mess will be the result. This can easily be overcome—if the area be not too great—by spreading newspapers and rolling over them. The same method can successfully be used on a lawn, when—as is sometimes the case—a depression or bare patch is repaired by sprinkling mould and fresh seed on the top.—G. L.

Home-Saved Seeds.

Home-saved seeds are quite successful if proper care is taken and fresh seed obtained at least every three years. Seed should only be saved from strong, healthy plants. The following is a method I have found to serve well both for flower and vegetable seeds: Keep an open eye for fine well formed vegetables and flower blooms. As soon as you see these mark them with a little piece of red ribbon tied in a conspicuous place. When the seed-pods form it is best to pull some off, leaving about three or four to mature. When they are ripe and dry (on no account pick while wet, as mildew will be prevalent) pick them off and rub over a piece of white paper. Be careful to deal with one kind of seed at a time. To finish off, clear up rubbish, packet the seeds and name clearly in ink.—C. J. L. W.

Earthing-Up Celery.

The earthing-up of celery can be greatly simplified by the use of an ordinary garden line. Place one stick, with line attached, firmly in the ground at the bottom of the trench; then, keeping the line just taut, twist it once round the first stick of celery about 4ins. or 5ins. from the ground. Proceed to the next plant and repeat the operation until all the plants are secure. Finally, place the second stick in the ground. Both hands are now free to carry out the work of earthing-up quickly. When soil has been placed up to the line, this can be easily untwisted and a second operation can be commenced, if necessary, higher up the plants. A great saving of time will be effected if this method is carefully carried out.—J. G. F.

Drying Flowers for Winter Decoration.

To ensure flowers suitable for drying for winter decoration retaining their original colour when gathered or bought, bunch lightly and tie, and put, heads first, into a large paper hat-bag or pin newspaper carefully around them not to crush them; the great object is to exclude all air, so see there are no holes in the bag. Gather ends of bag or paper to the stems, tie, and make a loop and hang in rather dark dry place for a month. They will then be ready to arrange in vases. Sea lavender is a very good flower for drying in this way. Everlasting flowers (which should be gathered half-open) and honesty also answer to this treatment.—N. W.

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WORK IN THE GREENHOUSE

Hydrangeas for the Amateur.

This is the time to take cuttings to increase your stock of these desirrable plants.

ONE of the greatest mistakes the amateur makes is in trying to grow too much in his small greenhouse. A much better plan would be to concentrate on one or two varieties of plants and grow these to perfection. This is by no means so difficult a matter as one might at first imagine. For instance, what could be better than a collection of up-to-date varieties of hydrangeas for next spring. In the old days one had to be content for the most part with whites and blued varieties, for let it be noted there is no blue hydrangea, only by blueing the soil or the plant by application of special material from the specialist. However, a good collection might be made by consulting the growers' lists. You may have bright carmine (Etincelant), pink (Maréchal Foch), dark rose (Helge), mauve (La Marne), red (Rubis), salmon (Krimhild) and many others. These are but a few of the various colours to be had at fairly reasonable rates from the dealers. Certain sorts are more easily blued than others, La Marne is one, Maréchal Foch another. However, the amateur may wish to produce plants from some older varieties of H. hortensis, from which all others came. This is no difficult matter, for the plants are easy to manage and are ideal for the amateur, as they require little or no heat and after a certain stage require plenty of water. In fact, they are cool-house plants. The method of growing plants with one large head of bloom is best for the small greenhouse.

How to take Cuttings.

The present is a good time for taking cuttings. These are obtained from old plants, and shoots that have not flowered are chosen, the plants having been stood outside to ripen the wood. The cuttings should have three pairs of leaves and the cut made square below a joint. Remove the bottom leaves and, above all, make the cuttings very firm in their small pots. A good soil mixture is leaf-soil, peat and loam in equal parts, and plenty of sand; where peat is not obtainable, increase the quantity of leaf-soil used. When potted to the grower's satisfaction, the plants may be placed in the cold frame and kept close until rooted. They must also be syringed twice daily, but at the same time the atmosphere of the propagating case must not be damp and stagnant. When the plants are rooted, plenty of air must be given, starting by gradually increasing the ventilation until it is possible to have the lights off altogether. Soon the plants will be ready for their final pots. Six-inch pots are a suitable size for the ordinary amateur's greenhouse.

Treatment of Plants.

After potting on, the plants are stood outside in order to ripen the wood, otherwise no flower of any worth will result. Gentle feeding may commence and the doses be increased as the plants need it. The compost for the final potting must contain a good proportion of peat. It should be peat (two), leaf (two), loam (one), with a fair amount of sand. Again, where it is not possible to obtain peat, increase the leaf-soil. Good results are to be obtained by this method, although it is better to exert oneself to get peat. Needless to say clean, well drained pots must be used. Good results are to be obtained by wintering the plants in a cold frame using some protective covering in hard weather. A better plan is to move the plants into a cool greenhouse, but there must be no great heat (in fact, only enough heat to keep out frost). When the flower buds begin to form, feeding may again commence. It is advisable to use much care in applying artificial fertilisers. Certain of these are not suitable for hydrangeas, and it is certainly worth while to purchase one of the special fertilisers from the specialists advertising in these pages.

Apply Blueing Powder Now.

At the same time, one might order some of the blueing powder which is mixed in the soil for the final potting or made to mix with water and applied to the plants in that way. By following these instructions it will be possible to have a good show of hydrangeas in the cool greenhouse next spring. When growing well, these plants must have plentiful supplies of water and for that reason are to be recommended for the amateur's greenhouse. It is on this point that so many owners of small greenhouses go wrong. A glance through a dealer's list will help the novice to select new varieties to grow. In any case, if you have never tried propagating these plants, do so this year. The present month is the time.—T. H. H.

A New Greenhouse Primula.

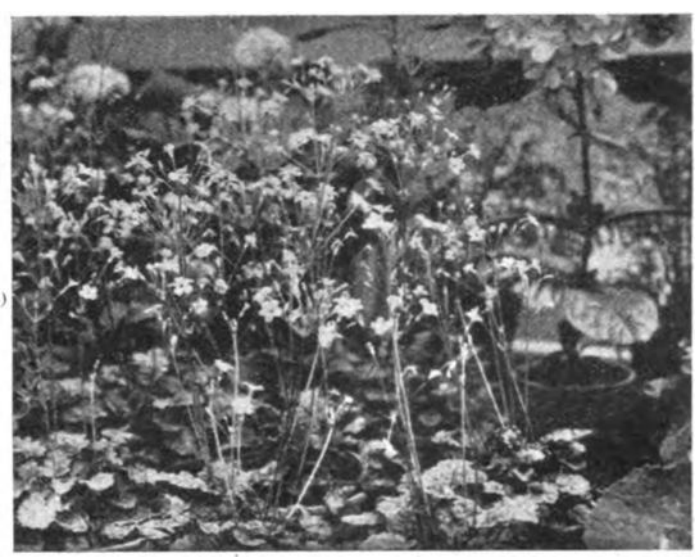
PRIMULA EFFUSA is quite a recent introduction from Yunnan, Western China, where it was discovered in 1914 by Handle-Mazzetti and Forrest. In 1922 Forrest and Ward collected it in the same neighbourhood, Fenghow. It first flowered at Kew during the spring of 1925. It is a very graceful and dainty species, which, when it is better known, should prove as popular as the older and better known P. malacoides, to which group it belongs. The illustration may give some idea of what the plant is capable of doing, A well grown plant in a 5in. pot normally produces a sheaf of its slender, graceful inflorescences. It is easily raised from seed, which may be sown towards the end of July or during August. It thrives in any good potting compost, and grows freely in an ordinary greenhouse. The young plants should be potted on as they require it until they are in 5in. pots, in which size very useful examples can be grown. It, however, likes plenty of root room, and if extra fine specimens are required, it pays to give them a final shift into 6in. pots. It lasts in flower for several months; it is also a good perennial and, if so desired, can be readily increased by division. This can be done during August after the plants have finished flowering. We have heard complaints that it is difficult to obtain seed from this plant, but by hand pollination the writer has experienced no difficulty in obtaining seed. Its flowers are of a pleasing rosy pink colour. In this respect it shows some slight variation in the colour, and although it has only been in cultivation for a few years, it has already given individuals with double flowers. In this respect it may be compared with P. malacoides, which soon gave double and different colour forms under cultivation.—J. C.

A Brilliant Greenhouse Plant.

LARGE specimens of Kalosanthes (Crassula) coccinea, surmounted with their bright coral red flowers, always attract attention, but it is not every gardener that can afford the time and space necessary to produce these large plants. The smaller specimens in 5in. pots frequently seen in florists' windows are more generally acceptable, and, where a number are grown, are certainly more useful.

Now is the time to insert cuttings, if it is desired to have these smaller plants in flower during next May or June. From old plants that have flowered, select the best of the unflowered growths. These should be well ripened and about 3ins. in length. Cut through below a joint and remove all the lower leaves. If these cuttings are left exposed to the air for a few hours before insertion, so much the better. Prepare a compost consisting of fibrous loam, three parts, one part old mortar rubble and one part sand.

Fill the required number of 5in. pots and insert the cuttings six in each pot. Stand upon a partially shaded greenhouse shelf until rooted, and then expose to full light and sunshine. Do not repot the plants, but allow them to remain until flowering time, when each plant will produce one head of bloom and these, if carefully staked out, will make very pretty specimens.



PRIMULA EFFUSA MAKES A DECORATIVE DISPLAY IN THE GREENHOUSE DURING SPRING AND SUMMER. SEED MAY BE SOWN NOW.

Be very careful not to over-water, especially during the winter months, when a temperature of 45 to 50 degrees will be the most suitable, the aim at all times being to keep plants as sturdy as possible.

The Hardy Border Carnation.

Its Value as a Pot Plant.

THE hardy border carnation, treated as a pot plant, is in many ways a more suitable subject for the amateur gardener than is the perpetual-flowering carnation. It would be difficult to find points of superiority in the latter. The border variety is, at least, equal to the perpetual-flowering carnation in size and colour, while in habit and formation of the flower it is vastly superior to its more pampered relation.

It is a common practice to accommodate the rooted layers, after lifting, in a 3½in. pot throughout the first winter. Such layers may be potted on into a 5in. pot early in the New Year, not later than March. The

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carnation is averse to feeding and it is, therefore, wise to make full provision for its needs at the time of preparing the potting compost. Fresh loam, turf passed through a half-inch riddle, a liberal quantity of sifted mortar rubble or air slaked lime and a little bone dust will make a compost that will supply the plant's soil requirements, and remain sweet for a considerable time. Carnations will not thrive under acid soil conditions, and for this reason fertilisers and leaf-mould should be omitted. A handful of crocks to ensure effective drainage, and firm potting are essentials. Such a potted plant may be allowed to remain in the open, where its requirements are few, until the bud shows signs of opening, when it should be transferred to a well ventilated greenhouse. A splendid flower will be obtained if the higher lateral buds are removed. After flowering, the plant may be removed to the open again, being afforded the protection of a frame or cold house during the winter. In the following spring it may be potted on into a 7in. pot, where it will proceed to make a very free growth, making a sturdy, compact plant with as many as six flower stems. Grown in the open and carried into the house in June, the flowers produced upon such a plant will be superior to those obtained upon any other subject. The carnation is the "divine flower" the "rose without a thorn." Glorious upon the plant when graced by its own glaucous foliage, charming in the bouquet when relieved with asparagus fern, and exquisite in the vase surrounded with gypsophila, the carnation is assuredly the perfect flower, and the hardy border carnation the perfect carnation.

FRUIT BOTTLING AT HOME

Practical Hints on Preserving Your Own Fruit

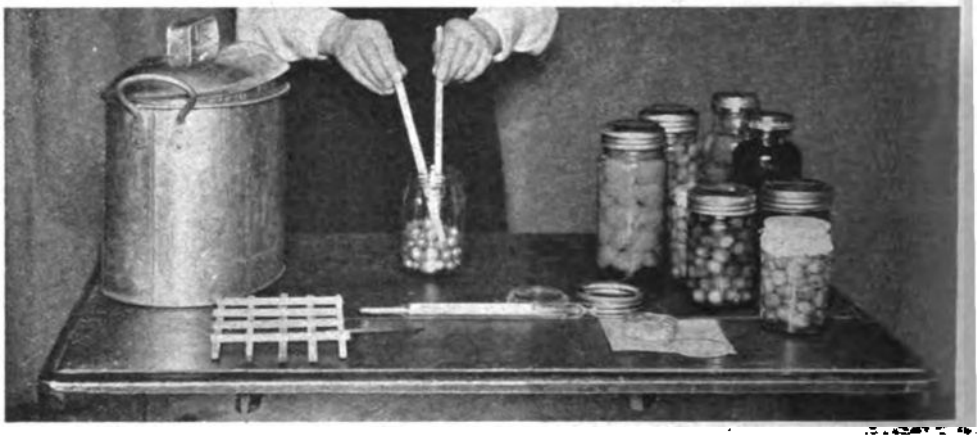
THE old housewifely art of fruit bottling has come very much to the fore in recent years, due, no doubt, to the necessity for economy and to renewed interest in preserving our own garden fruit for winter use—possibly also to the introduction of the modern "fruit sterilising apparatus."

The bottling of fruit is really quite a simple process, cleanliness and minute attention to detail being the keynotes of success. Whatever the method employed, the underlying principles are the same—(*a*) thorough sterilisation—the destruction of any germ in fruit or water, productive of mould or fermentation; (*b*) exclusion of air after sterilisation.

A Fruit Sterilising Outfit, of which there are several reliable kinds on the market, is a useful addition to the kitchen equipment, for it economises time and labour and reduces risk of failure to a minimum. The old fashioned method of bottling in ordinary jam jars and sealing with fat, parchment covers, etc., is by no means unsuccessful, but it is more laborious, and there is always just the risk of imperfect sealing.

A thermometer, which is supplied with a "fruit sterilising apparatus," is not an absolute necessity for bottling, but the use of one is an aid to success. A dairy or bath thermometer is suitable, but it is advisable to test it before use. Put it in a pan of old water with the mercury about 3ins. below the surface. When the water boils (212° Fahr.), if the thermometer registers above or below this degree, calculate accordingly when sterilising.

Substitute for Patent Steriliser.—Use an ordinary fish kettle or any pan deep enough



WHEN ONLY A LITTLE BOTTLING HAS TO BE DONE, USE CAN BE MADE OF EVERYDAY HOUSEHOLD ARTICLES.

Here a fish kettle is being used, with a home-made wooden grid to keep the bottles off the bottom of the pan. Two wooden sticks are handy for arranging the fruit in layers.

(roins.). A false bottom is indispensable. A meat rack, strips of wood tacked together lattice-fashion, or even a folded teacloth will answer the purpose. If using a thermometer, to avoid dipping it in and out, make a hole in the lid of the pan and fit into it a piece of rubber or cork with a hole pierced in the middle; this will grip the thermometer and keep it in position.

Bottles.—Bottles with glass caps, rubber bands and metal screw-down rings are largely used, and for hygienic reasons are preferable to those with a metal cap. On the cooling and contraction of the contents of the jar a partial vacuum is formed within, and this, with the outside air-pressure, fixes the lid tightly and seals it hermetically.

General Directions for Bottling.

Methods vary slightly, but general rules are applicable to all.

(1) Use perfectly clean bottles with wide necks, and pure water.

(2) Fruit must be clean, dry and sound, and should be rather under than over ripe.

(3) If graded as to size and ripeness, space in bottle is economised and fruit is equally sterilised.

(4) Prepare fruit in the usual way, wash and dry, handling and cleansing soft fruits as gently as possible to avoid crushing. Peel, core, halve or quarter apples and pears, and, to preserve colour, drop into slightly salted water as peeled.

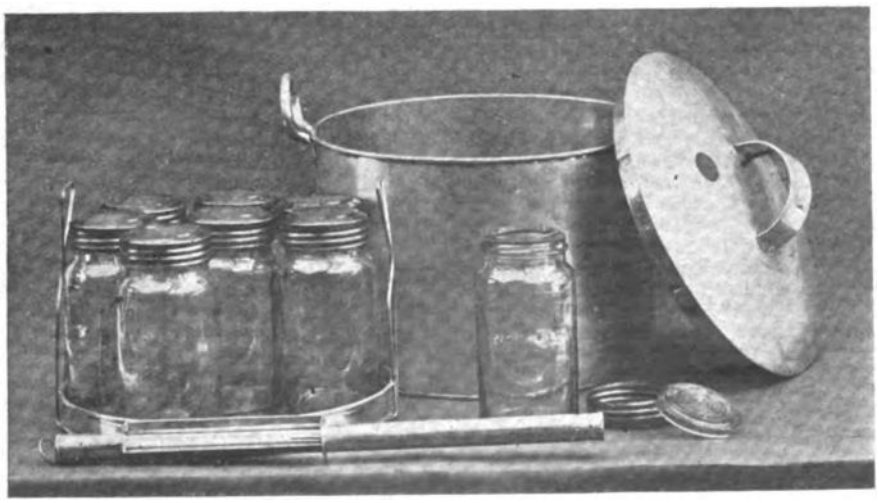
(5) *Well fill* bottles, shake the fruit down, pack tightly, but avoid crushing. Two wooden sticks (12ins. long), pointed at one end, are useful in arranging fruit in layers.

(6) Apply heat *very gradually*.

(7) Glass, being a bad conductor, heats unequally and is liable to crack upon exposure to sudden extremes of temperature; hence the use of a false bottom in the steriliser. Never put a hot bottle on a cold surface or leave it in a strong draught, nor let a cold one come into direct contact with hot metal (such as the oven shelf).

(8) *Remove one bottle at a time* from the steriliser or oven and *seal at once*, to exclude air, by which germs gain access to the fruit.

(9) Store in a cool dry place. Strong sunlight is apt to bleach the colour of fruit.



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THE GARDEN

VOL. XCI.—No. 2909. SEPTEMBER 3, 1927. PRICE TWOPENCE.

WINTER-FLOWERING SHRUBS

MORE attention should be paid to the interesting shrubs which flower during January and February. One of the best of these is winter sweet (Chimonanthus fragrans), a native of China and Japan. This, although a bush by nature, often does better when planted against a wall. Well established plants are from 6ft. to 8ft. high, and these bear pale yellow flowers, that are very fragrant, in mid-winter. A variety known as grandiflorus produces flowers of a larger size, and these are bright gold in colour. This variety is more tender than the type and should be placed against a south or a west wall. A few flowering branches of winter sweet placed in a room are attractive to look at, and, in addition, give out a pleasant fragrance. The chimonanthus does best in a loamy soil, but it is really very accommodating. When grown as a shrub little or no pruning is needed, but if against a wall, the shoots should be cut back as soon as flowering time is over. Then the Cornelian cherry (Cornus Mas) produces yellow flowers in great abundance soon after the turn of the year. This shrub will grow well in practically any soil, but it likes rather an open situation. A place should be found for the mezereon (Daphne Mezereum) which develops its fragrant reddish flowers in February. The variety known as grandiflora is better than the type, for it bears bigger and brighter flowers and blooms at an earlier date. A white variety, alba, is good, for later on in the year this will bear yellow berries in contrast to the red berries of the two first named. The mezereon likes rather a moist position and it is always especially fine in chalky districts.

The Chinese witch hazel (Hamamelis mollis) is a very beautiful winter-flowering shrub. The plant has large oval leaves which are hairy and very distinctive, while its golden, scented flowers are distinct from those of the other witch hazels, by having flat petals instead of the twisted petals of the other kinds. The Chinese witch hazel is at its best quite early in the year. Another showy species from Japan, known as H. arborea, flowers a little later. A variety called Zuccariniana is said to blossom rather more freely than the type. All the witch hazels like a light loamy soil, and do better if a little peat is placed round about the roots. The bush honeysuckles (Lonicera fragrantissima and L. Standishii) produce cream and white coloured flowers in January and February. These are often placed against walls, but the plants grow well in shrubberies if not shaded too heavily. A moist loamy soil is the best for these bush honeysuckles. An interesting semi-evergreen plant which is in flower from December to February is Rhododendron dauricum. This is a perfectly hardy shrub with an erect habit, and it produces its rose-coloured flowers with great abundance in any district where rhododendrons can be grown.

This Week's Work

For Gardens in the South and Midlands.

Finish layering Malmaison and border carnations.

Sow seeds of antirrhinums.

Thin out old wood from rambler roses and tie in new young shoots.

Take cuttings of lobelias and verbenas.

Make sowings of onions and spinach.

Lift second-early potatoes.

Wrap haybands round trunks of apple trees in order to trap female codlin moth.

Plant St. Brigid anemones.

Sow seed of schizanthus in a cold frame or greenhouse.

Clean up strawberry beds.

Guarding Against Fungus Diseases in the Autumn.

THE present year has been productive of fungus diseases in a very bad form on various kinds of plants, fruit trees and vegetables. We should not wait till another year without taking measures to protect our garden crops from its ravages next year, as the spores live in the soil and on plants and thrive amazingly again directly suitable conditions obtain. Lime is a good preventive, and not only kills fungus spores in the soil, but improves the latter considerably. Where possible, mix lime with the soil, and freely with garden refuse in cases where the latter cannot conveniently be destroyed by fire. Sulphur is also a good agent and, properly mixed to the consistency of paint, should be in due course painted on vine rods—taking care to keep it from touching the buds or eyes—and judiciously sprinkled in a dry state on the soil of the borders and under stages, even on the hot-water pipes in vineries and peach-houses, so that fumes may be given off when the pipes are gently heated to exclude frost. But the sulphur must not be applied to the pipes in plant-houses. All dead chrysanthemum leaves should be burned forthwith, as rust and mildew often infest these. Both in the garden and glass structure absolute cleanliness should rule, then the risk from infection next year will be reduced to a minimum.

The R.H.S. Daffodil Show.

THE Royal Horticultural Society's Daffodil Show will be held next year on April 17th and 18th, and the schedule, which has recently been issued, may be had on application to the Secretary, R.H.S., Vincent Square, Westminster, S.W.1. The competitions are open to all residents in Great Britain, Ireland and the Channel Islands, whether they are fellows of the society or not, and there are no entrance fees. In addition to the open classes, there are special sections for amateurs, novices who have never won a first prize at an R.H.S. daffodil show, and market growers. In the past it has sometimes been said that there was no chance of winning a prize unless one could afford to buy the expensive new varieties, and so this year it has been stipulated in a number of classes that all the varieties exhibited must have been listed in a retail catalogue in the autumn of 1927 at a price as low as a certain specified sum. It is hoped that these classes will attract exhibitors from the ranks of those who are not daffodil specialists, but who are more or less keen admirers of the queen of spring flowers.

This Week's Work

For Gardens in Scotland and the North.

Lift maincrop onions.

Pinch tops of tomato plants in cold greenhouses.

Transplant spring cabbage.

Begin planting hyacinths and daffodils in bowls of fibre.

Take cuttings of calceolarias.

Plant new beds of strawberries.

Sever and pot up carnation layers.

Cut out old fruiting canes of loganberries.

Give wallflowers a first shift.

Continue earthing up celery.

Prepare ground for new raspberries.

Cut out old wood of rambler roses that have finished flowering.

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PERENNIAL IRISES FOR PRESENT PLANTING

All Plantings of Irises should be Completed by the End of this Month.

THERE are few, if any, subjects among hardy plants which equal the iris for their possibilities in border or landscape effect or for their wonderful variations of beautiful colours. It is, indeed, a matter of great difficulty to convey a full idea of their beauty and the charm of the many varieties now in commerce. The coloured illustration on the cover of this issue is, we think, a very successful attempt to show a few of the leading varieties in their natural colouring. The hand of the hybridiser has, indeed, worked magic in the charming creations now before the public. No one did more in this respect than the late Mr. W. R. Dykes, and the wonderful results which he achieved will for ever remain exquisite evidence of his patience and skill.

Almost every shade and hue can be found beautifully blended in these gorgeous flowers, while the markings are so effective that they at once arrest attention and compel admiration. The varieties, one and all, are highly ornamental as decorative plants, and no flower improves so much on close examination. They should be extensively planted in flower and shrubbery borders and naturalised. Irises are not fastidious in their requirements, for the most part being quite as easy to grow as the familiar blue flag, which is to be found in most of the old-fashioned gardens, and flourishes so well even in the smoky atmosphere of London; but, easy of cultivation as they are, they do deserve, and fully repay, certain considerations, chief of which are:

(1) A sunny spot.
(2) Shelter from cold winds.
(3) A well drained soil.

It is important that no organic manure is used when planting; if a stimulant is wanted, bone-meal is the most effective, and quite easy to obtain. In planting, the rhizomes should be placed just underneath the soil. The flowering period of irises is from May to June, a time when their radiant effect is most appreciated. It is during the two months following flowering that the flowers for next year are formed; any disturbance during this period may have a detrimental effect on their flowering the following year. The best time for moving them is September, but planting may be carried out at any time up to the end of March with satisfactory results, although the earlier in the autumn it is carried out the better.

It is a difficult matter to describe irises sufficiently, many of the tints, reticulations and veinings being too elusive to coincide with any colours as colours are recognised; but to enable those unfamiliar with the actual flowers to design for harmony, the following list will be found most useful:

A PLEASANT ASSOCIATION OF IRISES AND LUPINS. AN ARRANGEMENT THAT SHOULD BE PRESENT IN EVERY GARDEN.

LAVENDER SHADES.

Alcazar, lavender and deep blue.
Lord of June, lavender blue and violet.
Prospero, lavender, violet purple.
Asia, silvery lavender and reddish purple.

VIOLET SHADES.

Ambassador, violet and velvety red.
Ballerine, violet blue.
Grevin, violet, shaded yellow.
Magnifica, violet blue and reddish brown.
Monsignor, violet and crimson purple.
H.M.S. Pinafore, violet blue.

VARIATIONS OF YELLOW.

Delila, yellow and plum red.
Flaming Sword, clear yellow and mahogany red.
Fro, golden bronzy crimson.
Gagus, soft yellow and crimson.

PURPLE AND LILAC SHADES.

Cluny, lilac blue.
Edward Michell, light purple.
Isolene, lilac and mauve.
Miriam, lilac.
Souvenir de Mme. Gaudichau, purple bicolor.

BLUE SHADES.

Goldcrest, light blue.
Neptune, blue shades.
Oriflamme, bright blue and purple.
Perfection, light blue and velvety black.

COMBINATIONS OF WHITE.

Jeanne d'Arc, white shaded blue.
Ma Mie, white bordered blue.
Rhein Nixe, white and mauve.

VARIOUS TINTS.

Her Majesty, rose.
Lohengrin, rosy mauve.
Prosper Laugier, cinnamon, and black satiny crimson.

All the above are in the front rank of irises and are worth a place in every garden. If space permits, it is a very good plan to have a border entirely devoted to them, for even when the flowering period has passed there remains considerable scope for the use of gladioli to prolong the attractiveness of the border.

Irises, lupins and poppies, when grouped, make a charming summer border, which remains effective for many weeks. E. M.

FORMAL BEDS OF IRISES ALWAYS LOOK ATTRACTIVE.

The crazy path and the edging of violas (Fred Williams and Maggie Mott) make for an effective display. The iris on the right is Alcazar, of a deep blue and lavender shade.

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ALPINE GARDENING UNDER GLASS

The erection of an alpine house is generally the outcome of the possession of a rock garden, and no words can describe the joy of at last, with overhead protection, meeting with success in growing many of the more difficult plants which, for years, have defied all efforts and encouragement out of doors. A start should be made now so that an early spring display is assured next year.

TO rush into the building of a house without much thought and care is but a waste of both time and money, for two-thirds of the success or failure of the future lie in the making of it. Light and air, sunshine and ventilation, without drips or draughts, are the main points to keep in mind, and the essential principle on which to work is to create a home for the plants as near to their natural conditions as can possibly be contrived. For that reason, all ideas of artificial warmth should be looked upon as poison, as destructive to the plants as the overhead moisture which spells disaster to so many of our greatest treasures.

No rule, of course, can be laid down about the dimensions of the house, for this entirely depends upon what space can be given and how much time and money are to be spent both on erection and upkeep. Neither can hard and fast rules be dictated about design, for often an ideal corner can be found by using some existing wall for a background and building a lean-to house against it. In other cases a good open space will be available, where a span-roof house will be possible. Whatever design is fixed upon, the really important thing to consider is the aspect, and a spot should be chosen, at all costs, where the maximum amount of sun is obtainable.

The house should be made so that the top, front and side lights can all open, and, under the staging, sliding shutters should be arranged, to allow of a further supply of ventilation. It is a good thing to cover the openings of these lower ventilation spaces with small-mesh wire netting, so that mice—those most tiresome enemies of all small bulbs—can be kept at bay. If it is not possible to have a cement floor, the ground on which the house is to stand must be dug out for a considerable depth and filled with good sound drainage material, and the ground level covered with the same small-mesh netting, over which should be spread a thick layer of cinders. One most important point in designing the house is to see that the glass roof is not too far from the staging, for, if this be so, the plants are very apt to draw up and, in so doing, to lose their characteristic growth.

Unless it is possible to have a potting shed absolutely adjoining, it is a great asset to fix up a bench, either to fold against the wall if there is one, or to fix between the stagings if it be a span-roof house. This latter can be adjusted when required, and will in no wise interfere with the passage-way when it is not in use.

Under the staging can be fixed shelves—for pots, water-can, and all the necessary paraphernalia that attend the upkeep of the plants, and also a couple of bins with soils ready mixed, and receptacles full of limestone chips, sand, granite chips, mortar rubble, etc. Care must be taken, however, that nothing stands so as to prevent the free circulation of air from the ventilation spaces. It is quite surprising how much can be crowded into a small space if real thought and care be expended over the planning of it.

If there should be any floor space left over, it can always be utilised for seed-pans, but it would be better still to use it for a water-butt—fed from the outside gutters—which will hold a constant supply of soft water at the correct temperature, so much better for the plants than the application of hard, cold water from the tap. As the house is more likely to be on the small, rather than on the large side, it is well always to keep in mind the comfort both of the visitor and of the worker, and for this reason everything that is likely to get in the way unnecessarily should be avoided. Pots should be packed well away so that the passer-by cannot whisk them off the shelf, and the stays of the top lights must be so arranged that they cannot hit the head of anybody who is walking underneath them. By looking ahead in these matters, a day's work in the alpine house will become a pleasure instead of a task.

Having erected the alpine house, and covered the staging (which, by the way, is best made of sheets of corrugated iron) with a thick layer of limestone chips of medium size, all is ready for the reception of the plants. For a start, this may be a moment of temporary difficulty, for, unless it is possible to order recklessly the things after which the soul hankers, without regard to expense, the shelves are apt to look very large and vacant and the stuff available very small and inadequate. But the wise man will have looked ahead, and during the previous seasons he will have taken cuttings, made divisions and raised seedlings from his own and his neighbours' gardens, which will go far enough to make a fair show for a beginning.

For the first season, perhaps, it will be permissible to include a few plants, which, later on, when space gets more and more valuable, will be ejected to take their proper place in the rock garden outside. Such things as aubrietias and mossy saxifrages will make a brave show when there is too much room available, but they will have to go when, after the first winter, more and more of the rarer plants are clamouring for admittance to the house. In fact, it is constantly necessary to harden the heart, and to continue a stern process of elimination as far as qualification for admittance is concerned.

In selecting the plants to be grown, the chief thing to remember is the time of flowering, for only the real winter bloomers will be wanted. The season of the alpine house lies roughly between November and April, and by the time May arrives there will be so much in bloom out of doors that there will not be much sense or satisfaction in producing a gay show within. Added to which, the heat, after the end of April, will generally be quite enough to destroy entirely all the characteristics of the alpines grown under glass. When that time comes all the occupants of the house should be turned out into their summer quarters—that is to say, into open frames, where the pots can be plunged up to their rims in sand, cinders or fine gravel—there to remain until they are required the following season.

About the first plants to bloom in the house will be the early bulbs, and, in order to get them as soon as possible, they should be potted up not later than August and brought on with as little delay as may be. By the time that there is no further danger of the house being too hot, as many of the plants, which have been summering outside, as there is room for can be brought in, leaving a supply in the frames which can be drawn upon to fill up gaps as the season advances. From the moment that the first of the autumn cyclamen appears, there will not be a dull moment in the house, and every week, and sometimes every day, will bring a fresh thrill as the plants come into bloom in quick succession. There is an infinite satisfaction in seeing plants growing in perfect happiness and comfort, untouched by rain and storm, and yet uncoddled and under perfectly natural conditions. Such things, to name but a very few, as crocuses; the miniature members of the narcissus and of the tulip families; soldanellas; saxifrages in their infinite variety; fritillarias; small iris; primulas. These alone make a few square yards of glass a possession of unending interest and satisfaction.

On bad days, when rain and storm make work outside an impossibility, there is always a day's work to be done in the house—weeding, top-dressing, labelling, together

THE BEAUTY OF AN ALPINE HOUSE IN EARLY SPRING.

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TWO GOOD PLANTS FOR A BEGINNER'S ALPINE HOUSE COLLECTION.

The dainty and free-flowering Primula rosea. *One of the best of rock foils for the amateur, Saxifraga apiculata.*

with the many other little attentions which add to the comfort and the well being of the plant.

When the season draws to an end and the plants have been turned out into their summer quarters, the house should have a thorough clean, and this, of course, should be repeated at the end of the summer, before the plants are brought in again. During the summer the house need never be empty, and it can be used for many purposes—from growing tomatoes to drying-off bulbs and seed-raising.

Outside, once the pots are plunged in the frames, there will not be much to do. All that is necessary is to keep them well watered and free from weeds, and an occasional top-dressing will seldom come amiss. Of course, care should be taken to have frames of the proper aspect, giving a cool position to the shade-lovers and a warm spot to those which delight in full sun.

The following plants are all suitable for growing in the alpine house, but this list is nothing like complete :

Androsace.—Chumbyi, chamæjasme, villosa.

Crocus (*both spring and autumn*).—Biflorus, Imperati, Olivieri, speciosus, sativus, Sieberi, Salzmanni, Susianus, Zonatus.

Cyclamen (*both spring and autumn*).—Coum, cilicicum, ibericum, europæum, neapolitanum.

Campanula.—Chrysantha, Steveni.

Dianthus.—Microlepis, macrocarpa rumellius.

Draba.—Pyrenaica, cuspidata, Sundermanni.

Eranthis.—Cilicica.

Erythronium.—Californicum, revolutum.

Erica.—Carnea.

Fritillaria.—Amœna, pyrenaica.

Galanthus.—Cilicicus.

Gentiana.—Acaulis, verna.

Iris.—Alata, cristata, histrioides, lacustris, reticulata, persica.

Lithospermum.—Heavenly Blue.

Muscari.—Azureum, Heavenly Blue.

Morisia.—Hypogæa.

Narcissus.—Bulbocodium, corbularia, cyclamineus, minimus, triandrus albus.

Primula.—Allionii, auricula, farinosa, frondosa, helvetica alba, involucrata, marginata, pubescens alba, rosea, Winteri.

Raoulia.—Australis.

Soldanella.—Alpina, montana, pusill.

Sisyrinchium.—Grandiflorum.

Sedum.—Pulchellum, arachnoideum, spathulifolium, kamtschaticum.

Silene.—Acaulis.

Saxifraga.—Apiculata, Burseriana, baldensis, cochlearis minor, cartaliginea, Elizabethæ, Haagii, Irvingii, longifolia, lilacina, oppositifolia, Paulinæ.

Tulipa.—Biflora, Clusiana, Kaufmanniana.

RENOVATING THE HERBACEOUS BORDER

The Importance of Labelling at the Present Time.

DURING the summer months observations regarding the reconstruction of herbaceous borders which have become much overgrown should have been made, and the basis of reconstruction will commence during September and October in the systematic labelling of all plants. Very often this important point is disregarded, and when the time comes to replant the border there is much confusion and, consequently, mistakes are the result. Even experienced gardeners have had to suffer the eyesore for a season of two different coloured plants which neither blend nor tone, being planted side by side, or of a dwarf plant being planted at the back instead of the front of the border. It is not often easy to recognise plants by their roots, so that labelling before the foliage dies down greatly assists the amateur. Not only the name of the plant should be written on the label, but the height of each plant and its colour also. This greatly helps the amateur when the time comes for remodelling the border.

To maintain a perfect border the remodelling should take place about every three years no matter how large or how small the border is. The anxious amateur who longs to see a well filled border, and who accepts every gift of cutting or plant from his neighbour and friend, soon finds his border overcrowded with the only possible solution of remedy—reconstruction.

The inexperienced gardener simply regards this task lightly, indiscriminately lifting every plant out of the border, trenching it and replanting; but he soon finds to his cost the following year that the fruit of his labours are not to be compared with those of his experienced neighbour.

Such plants as the delphinium, kniphofia, peony, Madonna lily and the iris object to being ruthlessly torn up, so that in the trenching of the border these plants ought to be left to remain and the trenching done around them, and the colour scheme being worked around them accordingly when planting.

Other herbaceous plants should be carefully lifted and "heeled in" in some corner of the garden until the soil has settled down again after trenching, when they can be replanted. All strong-growing plants such as Michaelmas daisies, heleniums and phloxes should be divided before they are replanted in the border.

Trenching is done about November or as soon after the plants have died down. The soil should be dug to the depth of 2½ft. to 3ft., and old decayed manure worked in between the lower spits, *i.e.*, the lower layers of soil. This improves the border and induces the plants to seek their nourishment lower down, which in dry seasons assists the plants in obtaining their supply of moisture. To make sure the border is level allow it to remain until it has had a good shower of rain.

In case there are some who desire a little guidance in the purchasing of new stock, the following are a list of suitable hardy border plants :

Early-flowering Hardy Plants.—Doronicums, peonies, pyrethrums, irises (some), coreopsis, Canterbury bells, aquilegias, geums and pinks.

Mid-season Hardy Plants.—Campanulas (most), delphiniums, eremuri, foxgloves, hollyhocks, verbascums, monksbood, galtonias, lilies, lupins, lythrums, irises (some), moon and ox-eye daisies, phloxes, rudbeckias, anchusas, spiræas, anthericums, carnations, evening primroses, gaillardias, day lilies, incarvilleas, lychnises, poppies and achilleas.

Late-blooming Hardy Plants.—Sunflowers, golden rods, Michaelmas daisies, heleniums, Japanese anemones, pentstemons, kniphofias and Sedum spectabile.

With these and many other kinds of plants and bulbs a discreetly planted border will add grace and beauty to the border and unlimited interest to the owner. M.H.G.

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A BORDER OF BULBOUS PLANTS

Why not have a border next year devoted entirely to bulbous plants? If care is given to the selection of subjects the border may be made to provide colour and flowers over a long period.

A BORDER planted exclusively with choice and interesting bulbous plants may become a most pleasing addition to the amenities of the garden, and it is surprising what an extensive collection of plants may be grown in a comparatively small space. The majority of bulbs require all the sunshine possible, and many of them must be subjected to a thorough ripening in order to induce satisfactory floriferousness, so that an ideal position for the establishment of a collection of bulbous plants is a border situated at the base of a south wall, and even better still is one under the southern wall of a glass structure, for in the latter position the bulbs will probably derive a little benefit from the heated greenhouse.

The soil must be of a lasting nature and should consist of good mellow loam three parts, good leaf-soil and plenty of sharp sand, and an appreciable depth of this material, 18ins. to 2ft., should be provided. If the ground is not naturally well drained, it will be advisable to remove the existing soil to a depth of 2ft. and place in the bottom of the border a layer of broken bricks or stones, the former for preference. Over this drainage place a good layer of rough turf or lumpy loam and then fill in with the compost before advised, rendering the whole firm but not unduly hard. The border may be edged with informal stones, and it is an excellent plan to use a few suitable stones on the border itself, as some of the smaller plants undoubtedly enjoy the proximity of a cool stone, and the combination is often particularly charming. Do not, however, overdo the use of stone, but rather use a few carefully selected pieces casually and artistically for the sole purpose of creating a happy environment for certain plants.

From the end of August to the middle of September forms the ideal planting season for the majority of bulbous plants, but there are certain subjects which cannot be planted until spring. The nucleus of a good collection may be formed, and later it is a great happiness to collect and plant such treasures and rarities as the depth of one's pocket and the generosity of one's friends may permit. It is difficult to name another class of plants, hardy plants at any rate, that is capable of giving so much pleasure or creating so much interest as bulbous plants, and it is possible to have something in flower almost every day in the year with the possible exception of mid-winter. Very early in the year the snowdrops will gladden with their drooping white pearls, and a good selection should include, in addition to the ordinary Galanthus nivalis, G. Elwesii, G. plicatus, G. Imperati and G. Fosteri; and contemporaries of these fine snowdrops are the winter aconites, the common Eranthis hyemalis, the little-known E. cilicica and that fine hybrid from E. Tubergeni. Not on any account must the early-flowering Cyclamen Coum be forgotten, and the enthusiast will soon get together a representative collection of early bulbous irises, such as reticulata, persica, the quaint tuberosa, Danfordiæ, Histrio, histrioides and bucharica. Such early crocus as Imperati, Korolkowi, susianus, Tomasinianus, Sieberi and chrysanthus are indispensable, and during the autumn we may again have crocus as represented by C. speciosus, C. pulchellus and C. zonatus, accompanied by the late summer and autumn cyclamen, C. neapolitanum and C. europæum. Colchicums, as C. speciosum, the incomparable C. s. album, C. Bornmulleri and our own native C. autumnale should be in every garden. The crocus-like Bulbocodium vernum, the romuleas, Cypilia Herbertii, the glorious Amaryllis Belladonna, Nerine Bowdenii, choice montbretias, crinums, the pretty little Anamotheca cruenta, such tulip species as Greigi, Eichleri, Fosteriana, clusiana, persica, dasystemon, pulchellus and linifolia, many of the muscari, chionodoxas, scillas, erythroniums and quaintly beautiful fritillarias as FF. latifolia, recurva, pudica, coccinea, Thunbergii, acmopetala and pallidiflora may easily succeed admirably in a well placed and well tended bulb border.

A DECORATIVE SPRING BORDER OF BULBS.

A bright display may be obtained by planting daffodils, scillas, crocuses and snowdrops in bold clumps, such as has been done in this instance.

The list of bulbous treasures is almost inexhaustible, from the dainty little Narcissi Bulbocodium, triandrus, juncifolius and cyclamineus to such gorgeous plants as the calochortus, tigridias, ixias, sparaxis, brodiæas and babianas, these latter somewhat tender plants best succeeding with a little protection. Some few of the smaller lilies may be introduced into the border, the larger species if the available space is sufficiently large, and alstroemerias, not strictly bulbous, always harmonise happily with the plants here treated.

I have accorded but scant justice to bulbous plants, and even as I draw these notes to a close I am assailed with alluring thoughts of such beautiful subjects as sternbergias, zephyranthes, Habranthus pratensis, Schizostylis coccinea and Dierama pulcherrimum.

A collection could be started with crocuses, both autumn and spring flowering, scillas, chionodoxas, narcissi and snowdrops. More uncommon bulbous plants could be added to this collection as time goes on. R. E. A.

CRINUMS WITH THEIR HANDSOME FOLIAGE AND ATTRACTIVE CLUSTERS OF FLOWERS ARE WELL SUITED FOR FILLING A SHELTERED AND SUNNY BORDER.

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THE BUSY MAN'S PAGE

September Reminders.

EARLY apples and pears should be gathered. Keep all runners cut from strawberry plants.

Remove mulching from any fruit trees, as it will be an advantage to allow the ground to become sun-baked when all that remains to be accomplished is the ripening of the crops.

Earth up celery and, if possible, plant a few rows for late cropping.

Plant cabbage, lettuce and endive and make a final sowing of the two last-named.

Sow prickly spinach for late crop early in the month.

Some parsley plants may, with advantage, be removed to a sheltered position, where they will continue growing during the winter.

Main-crop potatoes will mostly be ready for lifting, and the ground can then be filled up with cabbages, Brussels sprouts, kale, savoys, onions, etc., that have not yet been taken from the seed-beds.

The haulms of potatoes and also any club-rooted stems of cabbage, turnip, etc., should be collected and burned. If these are allowed to lie on the ground and rot there will be great risk of spreading disease.

After the middle of the month there is not much chance that outdoor tomatoes will ripen in the open. The sizable fruits should be picked and laid out in layers in a warm and dark place. If exposed to direct sunshine the tomatoes will almost certainly shrivel.

By the end of the month the bedding plants will be looking in poor condition. Those required for stock should be cut back and potted or put in boxes and placed in the greenhouse or in a frame for protection.

The beds and borders where the plants grew should be well dug and prepared for the planting of bulbs.

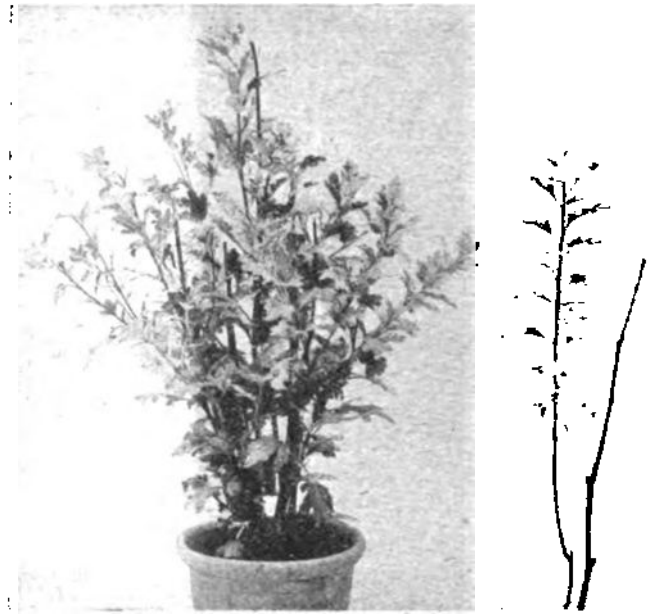
Arum lilies may now be potted up for flowering in winter and early spring.

The corms of gladioli may be lifted when the leaves have withered and, after cleaning, may be stored in dry soil or sand during the winter months.

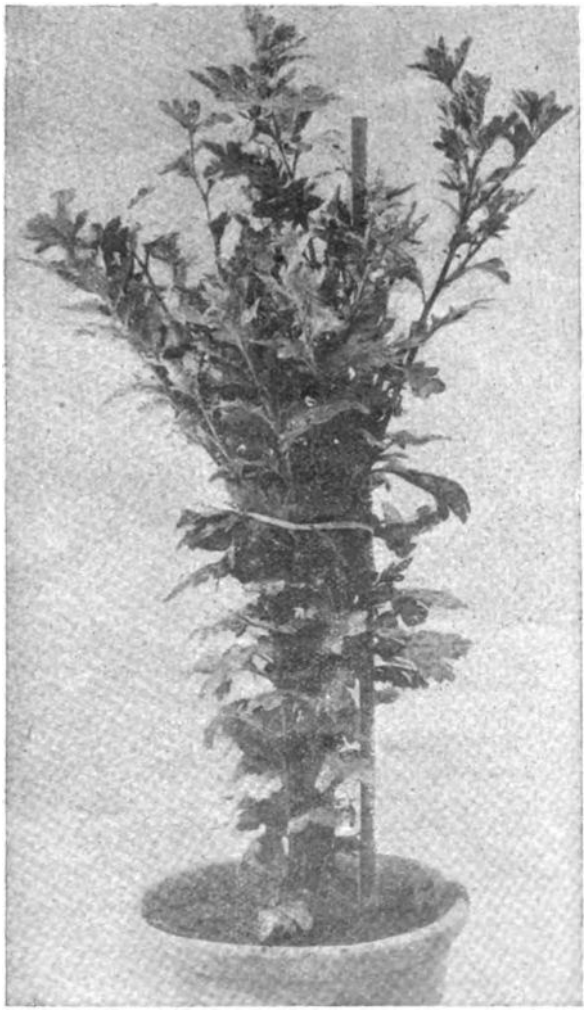
Except in the south of England, it will be time to lift dahlia tubers towards the end of the month, and the same must be done in the case of the tubers of begonias and the rhizomes of cannas.

Cuttings of shrubby calceolarias, penstemons, antirrhinums, phloxes, etc., may be inserted in cold frames at the end of the month.

In all parts of the garden continue the attack on weeds which will often grow with great vigour at this time of the year.



2.—THE CORRECT WAY OF STAKING AND TYING.
Each shoot has sufficient space in which to develop.



1.—A COMMON MISTAKE WHEN STAKING AND TYING CHRYSANTHEMUMS.
All the stems are tied in a dense bunch.

Staking and Tying up Chrysanthemums.

THE staking and tying up of chrysanthemums should be done, as and when required, from the time the plants give evidence of needing support to maintain their growths in an upright position. The object of staking and tying these plants is to afford support to the shoots just when they need this help. A keen observer will be quick to note that, as soon as a plant has reached a certain period of its history, having previously grown along freely and satisfactorily, it appears to stand still for a time until the growths are afforded the support they need, subsequent to which period they invariably go ahead again. For this reason chrysanthemum plants are staked and tied, *i.e.*, the shoots are lightly yet securely looped to the stakes that are inserted here and there among the growths. Neglect in this work is a great misfortune, for, apart from the disadvantages that follow delay in this matter, the plants get out of shape and lose that pleasing contour for which carefully grown chrysanthemums are quite famous. To meet the probable requirements of the beginner, in Fig. 1 is shown just an ordinary small bush plant that is commonly found in most gardens where chrysanthemums are grown for cut flowers or for conservatory embellishment. This illustration shows a plant that has been tied up wrongly. Bunched up as the shoots are when so treated, it is next to impossible to achieve results that are in the least degree pleasing, and it is a practice that should be most rigidly eschewed if the grower desires success to attend his efforts.

In Fig. 2 the same plant, properly staked and tied, is shown. Here it will be noticed that about half a dozen small stakes have been inserted, and in such a way as not to be very aggressive. Another fact that needs attention is that the stakes are disposed at such an angle as to keep the shoots well apart from one another, so that air may pass through them quite freely and that the sun may make its influence felt throughout the whole of the plant. It would be possible with such small bush plants to insert a bamboo cane or stout stake in the centre of the plant and to loop each of the shoots to this. To carry out this method of staking and tying satisfactorily, it would be necessary, first of all, to make a tie with raffia round the stake, and then to bring within another loop-like tie the growth it is desired to control. This must be done so that the loop allows sufficient play for the shoots in windy weather. This method of tying should be adopted in the case of all chrysanthemums, and is clearly portrayed on the right of Fig. 2. (Note the stake to which the raffia is tied, and then the loop-like tie that controls the shoot of the chrysanthemum). Before inserting the stakes in the soil of the pots or in the open border, see that they are sharpened to a point. They should then be inserted 1in. or 2ins. away from the base of the main stem of the plant.

Earthing Celery in Three Stages.

THE process of earthing up celery plants is best done in three stages. Collect the leaf stalks together, and about 8ins. from the base tie round a piece of raffia or string; leave the tops loose at first, allowing the growth to continue. At intervals of two or three weeks, repeat the operation, finishing the earthing up at the approach of frosts. It is best to earth celery when the soil is not too dry or too wet. If a dusting of lime and soot is given along the rows before earthing, insect pests will be kept away.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Taking Cuttings this Month.

ONE is usually advised to take cuttings of the majority of plants during September, but I think that the last week in August and the first in September are ideal for increasing plants, especially soft-wooded plants such as geraniums, salvias, etc. A wet season is favourable to the plant propagator. In showery weather there is no difficulty in rooting many of the common plants outdoors in the open border. It is a little early to make cuttings of hard-wooded plants, like roses and shrubs, as the wood in many cases has not finished its growth, and has not reached that degree of *ripeness* which will ensure the successful taking of cuttings. Where the wood has obviously finished its growth, even these could be inserted in sandy soil outdoors, with every prospect of success.

The following table of soft-wooded cuttings that may be taken now will be useful to owners of small gardens:

Name.	*Length of cutting.*	*Distance apart to insert*
Geranium (zonal pelargonium)	4ins.	4ins.
Salvia patens and S. splendens	3ins.	3ins.
Calceolarias	3ins.	2ins.
Violas and pansies	3ins.	2ins.
Pinks	3ins.	2ins.
Carnations	3ins.	3ins.
Pentstemons	4ins.	2½ins.
Arabis	3ins.	3ins.
Aubrietia	2ins.	2ins.

Of these, geraniums, salvias, calceolarias and pentstemons are best struck in boxes, to be lifted into the cold frame when frosts arrive.

Owing to the sappy nature of growth this year, it would be advisable not to mix any leaf-soil at all when preparing the compost for boxes. Use a mixture of 2 parts fibrous loam and 1 part sharp sand, with a layer of rough leaves at the bottom of the box for drainage. Where only a few cuttings are required, pots could be used instead of boxes.

Hillside Gardens.

THE garden which runs uphill from the house presents a difficult problem to the garden planner. In the accompanying picture, the portion of the garden nearest the house has been excavated, and levelled for about 6yds., using the bank thus formed as a site for a rock garden. The steps lead to the higher level, in which a rose garden has been made. Thus, as it were, there are three gardens in one. A formal garden near the house, with lawn and flower beds, then a rock garden, and through this steps lead to the rose garden on a higher elevation. This is made picturesque by the use of pillars of climbing roses.

A PATH OVERGROWN BY "SNOW IN SUMMER."
Plants should be cut back at this season.

An Overgrown Walk.

CERASTIUM—the grey-leaved "Snow in Summer"—makes a charming edge to the garden path, but it tends to encroach too far on to the footwalk. It can be safely trimmed back at this season, and it will make an abundance of fresh growths from the base in readiness for next season's flowers. The variety shown in the picture is Cerastium Biebersteini, and there is another closely allied species, tomentosum. Both are alike in having pure white flowers, which are borne in profusion in summer, and silver leaves which make ideal edges through the winter. They do not require a rich soil, and I have seen them flourish on a dry stone wall, on a roof garden, and in other positions where moisture is lacking. They can be increased by cuttings taken at this season, or from seeds.

A WELL PLACED SCREEN OF ROSES WILL MAKE A SMALL GARDEN SEEM LARGER.
Note the use of trailing plants over the low boulders and the steps.

Bulbs in Pots and Bowls.

Hints to Ensure Success.

WERE your bulbs a failure last year, or did they not quite come up to expectations? If so, I am going to suggest a method of culture that will ensure complete success. Of course, I am assuming that you will get the best quality of bulbs. Remember that size is not so important as weight, and a relatively small bulb of a hyacinth or daffodil, provided it is solid and *heavy*, will give a fine display of blossom. The whole secret of success with bulbs in pots or bowls lies in keeping them dark, moist but not too wet, and cool. To ensure this, the best method I know is to bury the pots and bowls of bulbs under a layer of finely sifted, moist coal ashes. Where accommodation is limited, an egg-box would be suitable, in which to make a plunging bed of moist ashes. The box could stand out of doors, and be protected from excessive rains by means of a cover. But this is important: *air must have access* to the bed of ashes under which the bowls are plunged. After about six weeks, inspect a few of the bulbs to see how the growth is progressing. They need not be moved from the ashes until an inch and a half of top growth has formed. Then they may be moved to the light gradually.

This plunging method saves a certain amount of labour in watering, as, after the initial watering when the potting is done, no further watering will be required until the pots are removed from the ashes.

Hyacinths in Water.

I WAS in a semi-basement office last spring, where I saw a pleasing display of bulbs, chiefly hyacinths, grown in water. This method of culture is exceedingly fascinating. It affords continuous interest from the time the bulbs are set into position in the special glasses now sold everywhere for this purpose, until the flower spike finally unfolds its treasures.

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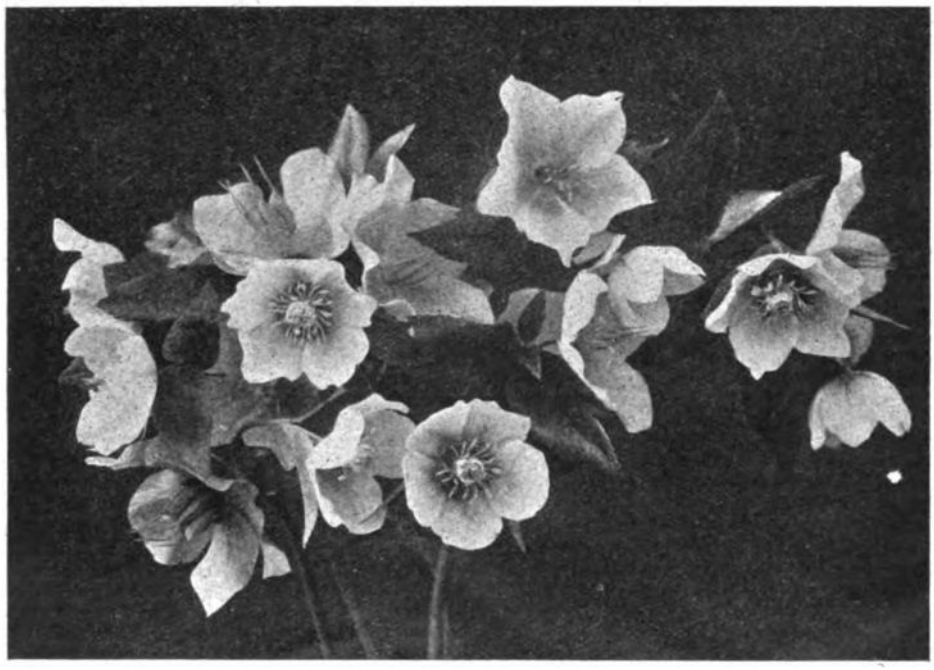
NOTES ON THE FLOWER GARDEN

Some Attractive Christmas Roses.

BESIDES our common Christmas rose, Helleborus niger, H. orientalis with its numerous varieties is a most beautiful one. Among the white-flowered varieties of orientalis the form H. olympicus is a plant of great merit for the wild garden. This spring I saw a large group of it in the famous shady drive of the Botanical Garden at Nymphenburg, near Munich, Bavaria, standing in full flower for weeks. It forms large bushes with its well known evergreen foliage and leaf-like bracts on the forked flower-stems that bear from two to six comparatively small but lovely flowers of a snowy white on the outer side of the sepals, well represented in the accompanying illustration.

H. olympicus is one of the parents of the countless forms of hybrid origin so highly praised in our gardens. A very similar species or variety is H. antiquorum, of which



HELLEBORUS ORIENTALIS, A BEAUTIFUL CHRISTMAS ROSE FOR THE WILD GARDEN.

the flowers are somewhat arger and more bell-shaped, of a pearl-pale white with a pinkish hue. The true H. caucasicus represents a green-flowered variety of H. orientalis. The sepals are suffused with purple. H. caucasicus is dwarfer than its congeners and has single very glossy leaves. Among the deeply purple-flowered sub-species of H. orientalis, H. colchicus is the best known and the finest one. Its stems, too, are spotted with purple and bear a glaucous hue.

A very interesting form is found in Hungary, called H. atrorubens. It has thinner glabrous leaves with narrower segments, and it is regarded by some botanists as a connecting link between H. orientalis and the well known European species H. viridis. Its flowers are of a deep claret outside and rather greenish purple within. I have never met with another variety called H. torquatus, which, according to Reginald Farrer, is the strangest and rarest of all, with noble flowers of a bloomy powdered-looking steely slate blue.—C. S.

A Fine Plant for the Border.

(The scarlet bergamot).

IN the scarlet bergamot (Monarda didyma), we have a robust and strong-growing plant, very suitable for creating a bold splash of colour in the herbaceous border, or in beds during late July and the following two months. Moreover, it is adapted for the semi-wild garden where the surrounding growth is not too rank, and if the soil is on the damp side so much the better. In the ordinary border it is not too rampant, and it will make a clump 1½ft. to 2ft. high and prove most effective throughout the summer. The bright red flowers are produced in whorls, being supported by a leafy bract, while the leaflets are pale green tinted with red. The variety Cambridge Scarlet is much brighter than the type, and this should be chosen in preference to all other forms or named varieties. It is, indeed, a glorious plant, and will succeed in any soil. The growths are stout and strong, and the plants do not require any staking, a fact worth noting. Propagation is effected by division during the autumn or winter months, and a group of several examples is better than a few isolated specimens.—B. T.

A Decorative Shrub for the Border or Rockery.

(Abelia Schumannii).

THE abelias are charming shrubs that flower for the most part towards the end of the summer, and in Abelia Schumannii we have a decided acquisition to the genus. It is a native of China, and received an award of merit from the Royal Horticultural Society on July 13th, 1926. The leaves are ovate and opposite, and the rosy lilac flowers are freely produced from early July till the autumn. The leaves are often tinted with bronze, and the blooms appear at the ends of arching shoots, the side growths also giving their quota of flowers, which renders the plant extremely floriferous.

The whole plant is distinct and forms a spreading shrub, rather pendulous in habit, and for this reason it should be an ideal subject for clothing a large boulder on the rock garden, or covering an isolated stone near by. In all probability it will prove hardy in most districts, but as yet it is too early to make any definite statement. It strikes easily from cuttings, so it should soon be available for every garden; moreover, it begins to flower when only a few inches high.—W.

A Useful Late Summer and Autumn Flowering Shrub.

(Eupatorium Weinmannianum).

THIS is a plant that deserves to be more largely grown, but in all probability many consider it a tender subject, and on that account pass it by. It is not, however, sufficiently hardy for every district, nevertheless, there are many places where it would thrive outside. Around Penzance I have seen some good specimens, and here at Castleford, Chepstow, it forms a fine bush in the shrubbery and near the rock garden, while, I believe, fine examples are to be found in the gardens of Sir Herbert Maxwell. For south-west counties it could safely be grown as a bush, and it would attain a height of 4ft. to 8ft.; in less favoured areas it could be utilised as a wall plant with a south or south-west aspect. It is very free-flowering, and the plant is nearly covered with clusters of white fragrant flowers, which are succeeded by fluffy seed vessels, these being most attractive for several weeks.

As an elegant greenhouse plant it has much to commend it, and for the cool house it can be relied upon to furnish a good display during the month of August. When grown in pots a rich soil is needed, and directly the receptacles are filled with roots, liquid manure or some reliable fertiliser should be given once or twice each week.

The partially ripened shoots make excellent cuttings, and they will readily form roots during August or September in a cold frame or in the spring if afforded a little heat.

This desirable eupatorium is quite distinct, and, moreover, it flowers at a period when flowering shrubs are rather scarce.—T. W. B.

A Good Ground Cover for Sun or Shade.

(The Japanese spurge).

A SPLENDID evergreen ground cover of especial value for planting beneath trees, in shady corners, on difficult banks and in similar situations so well known to every gardener and so difficult to furnish suitably, is the Japanese spurge (Pachysandra terminalis). This is quite a distinct plant from the true spurges (euphorbias), although the plants are related botanically.

My attention was first drawn to the obvious merits of Pachysandra terminalis for this purpose, in New York, where it is planted very extensively in the majority of gardens. The winters there are much more severe than in Britain, while the summers are exceedingly hot, yet the Japanese spurge comes smiling through these extremes of temperature and appears to thrive amazingly.

It has much the habit of Hypericum calycinum (St. John's wort) being semi-woody and evergreen in character, and growing to about 8ins. in height. The foliage is very attractive and the leaves are borne in a cluster-like arrangement at the end of the growths, remaining in good condition two or three seasons. The purplish-green flowers are borne in short terminal spikes in the spring.

Prior to planting the ground should be well prepared and enriched by the addition of some leaf-mould. From 9ins. to 1ft. apart is a good planting distance, and the autumn is the best season for carrying out the operations. Once established, no further attention is necessary for years, as it is one of those all too

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rare plants that are capable of taking care of themselves. Cuttings inserted during the summer months afford a ready means of propagation.—GREYSTONE.

Bulbs for the Rock Garden.

FOR brightening up the rock garden in the early months of the year one cannot equal some of the bulbous plants. Many of the bulbs will flower at an earlier date than usual on a rockery, especially if they can be given snug, sunny corners. After flowering, the bulbs can often be left where they have bloomed to come up again next season, and in no way will they interfere with the other occupants of the rock garden. In practically all cases planting in masses is to be strongly advised. A good rule is to have each bulb separated from its fellows by the distance of about two diameter measurements across the bulb. When making up the bulb order some, at any rate, of the undermentioned should be included for planting on the rock garden.

Several anemones are highly suitable, but none of the following should be omitted: blanda, hepatica, apennina, fulgens and St. Bavo. Anomatheca cruenta is a pretty little South African plant with carmine flowers. It is hardy in warm positions in most parts. Practically all the chionodoxas and crocuses are excellent subjects for the rock garden. A place should also be found for some of the dog's tooth violets (erythronium), especially grandiflorum robustum, yellow; Hendersoni, lilac shaded with maroon, with yellow centres; White Beauty, large creamy white with maroon base; Johnstoni, rosy pink. Both the feather and grape hyacinths are strongly to be recommended for positions on the rock garden. Several of the early-flowering iris are valuable subjects for the purpose under consideration, but special mention may be made of II. tuberosa and reticulata. The dwarfer kinds of narcissi should also be considered, and of these the following are worthy of note: hoop petticoat, moschatus, nanus, Queen of Spain, triandrus albus, juncifolius, minimus, and Tom Thumb. Oxalis adenophylla has proved to be quite hardy in most places and, apart from its bright pink flowers, the plant is attractive on account of its foliage. Scillas and snowdrops may be freely used. Most of the tigridias flower in the summer, but T. violacea develops its rosy purple blooms in April and May. Triteleia uniflora, with very fine lilac blossoms, flowers at about the same time. Duc van Thol tulips, in all available shades, can be relied upon to give some fine patches of colour in the rock garden at an early date.—S. L. B.

Sowing Seeds of Antirrhinums and Pentstemons.

THE antirrhinum, especially, is a very accommodating plant, and if the variety Nelrose is included in the collection, flowers may be grown nearly the whole year round. Of the sort Nelrose, I have had splendid spikes of flowers in boxes in spring, the seeds being sown in late August or early September. When the spikes of flowers were cut, the plants were planted out in the open border, where they soon produce a little forest of flower spikes again, and continued to do so throughout the winter in the south of England. I am now advocating the sowing of the seeds with a view to flowering the resultant plants in the open borders early next summer, so we shall have to treat the plants hardily throughout the winter months.

A PLACE SHOULD BE FOUND IN THE ROCKERY FOR THE DOG'S TOOTH VIOLETS.
These may be planted this month.

I have wintered them in a cold, clayey soil, but this is not an ideal rooting medium. These plants thrive best in a naturally light, dry soil, but quite in the open quarters, and they will prove ideal, too, for flowering next summer in naturally dry borders. Sow the seeds now in boxes and duly transplant the resultant seedlings 3ins. apart in a nursery bed. To succeed with the pentstemon you should select a sheltered border or a cold frame for the resultant seedlings in the northern counties. In the southern, an open border will do nicely.—CHRISTCHURCH.

PRIMULA MOOREANA WITH ITS HANDSOME HEADS OF VIOLET PURPLE FLOWERS AND WHITE POWDERED STEMS FLOURISHING IN THE ROCK GARDEN.

An Attractive Primula.

DURING the month of August, Primula Mooreana has been making a fine display on the rock garden, and, apart from its beauty, it deserves to be largely grown on account of its late-flowering qualities. With the exception of P. Littoniana, which is quite distinct, no other member of the primula family is in bloom. For ordinary purposes it may be considered a form of the well known P. capitata, but P. Mooreana may be looked upon as the best of the group. It is certainly similar to P. capitata, but its handsome heads of violet purple flowers render it a valuable subject for the rock garden. We have it growing in a cool, partially shaded spot, and well drained, the soil being a mixture of loam, leaf-mould and sand.

Like many others of the genus, I do not think individual plants are long lived, and a friend of mine at Newport tells me he has lost most of his plants immediately after flowering. This may be due to the heavy rains during the last few weeks, but readers' experience with P. Mooreana would be helpful, especially the longevity of the plants or otherwise. It sets seeds freely, so no difficulty should be experienced in keeping up a stock. With many primulas, I believe, it is necessary to raise a batch occasionally from seeds.—CHEPSTOW.

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HOW TO MAKE AND MAINTAIN A LAWN

Work to be Undertaken during the Autumn Weeks.

AFTER a strenuous season's wear and tear, every lawn should receive care and attention if it is to remain in good condition over the winter. This summer, although we hear few complaints of lawns wearing bare in droughts, many look debilitated, and all will be improved by attention. As a "refresher," nothing is better than a thin mulch, spread evenly over the lawn, not deep enough to bury the grass. Sand is most commonly used, but it is well known that porous soils produce better grass when the mulch is composed of finely sifted soil which is rich in humus, finely sifted leaf-mould, sifted fibreless manure, or a mixture of these. After application, the grass comes up wonderfully strong and, by spring, the mulch is part and parcel of the soil itself. In addition, patching may be required for lawns badly worn in places; take care that the turf used to replace a worn corner is clean and as nearly as possible uniform with the lawn. Scarifying such a bare patch, sowing seed and rolling, may serve, provided that birds, feet and other nuisances are kept away until the grass becomes established and robust; this takes a good time.

Daisies, moss and clover are pests in some lawns. First of all, clean the surface with a short-toothed rake or with a heavy harrow made of wood beams and nails; this removes a great deal, but a chemical mulch is required in addition. On a wet lawn apply ground lime (lime encourages clovers, however), but the usual dressing is sulphate of ammonia and sulphate of iron, the commercial copperas, 4 to 1, at 1½ oz. or so per square yard, or, better still a ready-made mixture bought from one of the many firms advertising in THE GARDEN. Deep-rooting weeds must be spudded out by means of an extractor first dipped in a caustic fluid, or by getting a stout kitchen fork and going down on hands and knees. Daisies and plantains can be removed with a weed grubber.

A feeding mulch of loam and manure will do good to exhausted and patchy lawns, or artificials can be used. Basic slag, 4–6 oz. per square yard, is good for fine grasses (encourages clover); kainit is required in a light soil, or potash salts (3 oz. of either) may be applied. Coarse bonemeal is first-class, although I like to apply this best in January. A sour lawn, one in which weeds begin to grow and increase, needs lime; the lime, of course, must be in fine powder form. For a bad case I recommend at least 4 oz. of ground lime per square yard; but in other cases the lime dressing may be sifted, slaked lime, or ground carbonate of chalk.

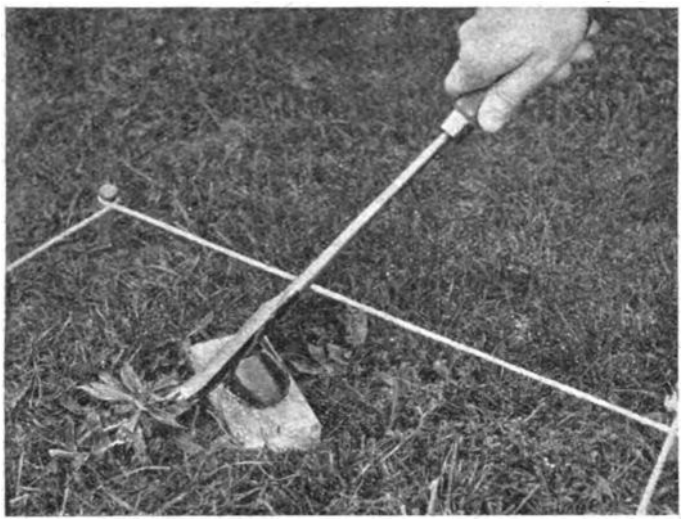
A curious souring results from over-rolling, especially when the ground is damp; this causes the surface to become hide-bound and as tough as leather, the grass being poor and the whole unsatisfactory. Holing is adopted as a cure, holes being made with a fork as closely as may be, all over the lawn; if sand is scattered after this, it enters these holes and keeps them sufficiently open to assist aeration and drainage. Mowing may cease at an early date; I always like to see the grass left to grow a little longer than usual in winter, even at the expense of neatness, because such grass seems to gain vigour thereby.

The time is at hand when new lawns may be made, and if it is decided to raise them from seed then the sooner the work is commenced the better. Except where the ground is of an open porous nature, it is essential to dig up the ground first to a fair depth. After this, however, it must be allowed to settle and become firm; a wet day or two is good for this and rolling it for that purpose should be avoided, unless dryness prevails. Needless to say, every effort must be made to secure a firm level surface in fine tilth. If turf is laid it must then be laid evenly and fine soil brushed into the seams as far as possible. Slight irregularities, as determined by means of a long board laid on edge, may be removed by beating with a wooden maul.

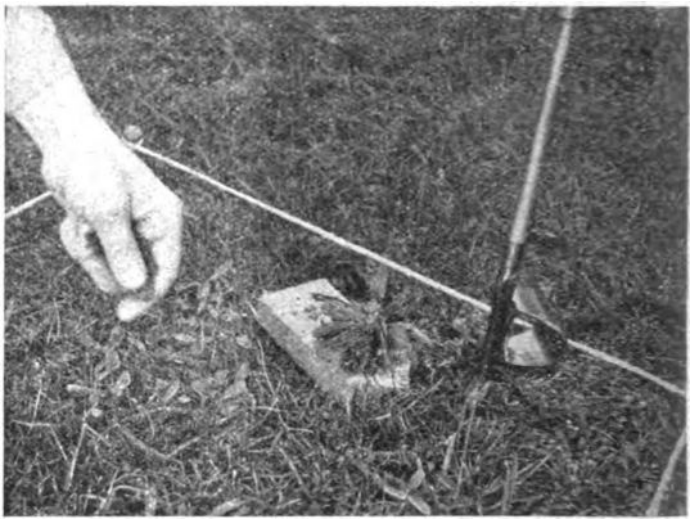
Seedsmen now supply excellent grades of lawn seed mixture, so that the gardener needs only to consult them and purchase; allow 1 oz. to every square yard. Rule off a yard breadth of the lawn with the garden line; the length of this, paced out, is square yards; allocate the exact amount of seed for this; mix with soil or sand in a pail and then scatter uniformly, and rake in. Repeat with another breadth of 1yd., use the same amount of seed, and so on. Finally, rake the whole lawn evenly and roll very lightly. Protect from birds by a net, or by means of suitable "scarers." When the grass is well up, rake off stones exposed after rain, and again roll. It may also be possible to mow once before winter. Weeds of an annual nature need not be troubled about in an autumn-sown lawn as a rule, because they die down in winter and leave the lawn weed-free next spring.

A light roller only should be used for a new lawn raised from seed, and, if possible, it should be a wooden one. The first cutting should be done by hand, or with a light side wheel mowing machine with the blades set high.

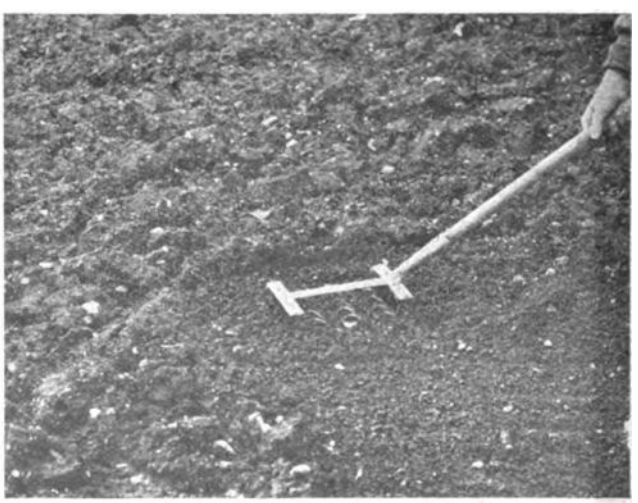
C.



REMOVING WEEDS FROM A LAWN WITH A SPECIAL WEED GRUBBER.



FILLING UP THE HOLE WITH A MIXTURE OF SIFTED SOIL AND GRASS SEED.



A USEFUL TOOL FOR BREAKING UP THE LUMPS OF SOIL AND SECURING A FINE TILTH.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE weather is said to be responsible for an outbreak of American gooseberry mildew in widely scattered districts of Scotland, and more particularly in Perthshire and the Midland counties. This fungoid disease may be identified by the white powdery patches which appear on the leaves, shoots and fruit in the earlier or summer stage, and as the season advances the mycelium becomes dingy brown in colour with little black dots visible on the surface. The first berries to be attacked are usually those on the shaded parts of the bushes, and the fruit not only becomes unsightly in appearance but is eventually destroyed. There is no known cure for American mildew, which seems to spread rapidly under the atmospheric conditions prevalent this season, and when once the flower-like patches make their appearance the only effective treatment is to cut out all the infested parts and burn them. As a preventative measure the soil immediately beneath and around the bushes should be turned over towards the end of the year for the purpose of burying the fallen winter spores. Some authorities also recommend spraying the bushes with Bordeaux mixture in January.

At their recent show the Dumbartonshire Sweet Pea Society departed from the usual custom of judging the decorated dinner-table competition by leaving the decision to the popular vote of the public. The experiment was an unqualified success. On entering the hall visitors were provided with a voting card which invited them to name the exhibits in the order of merit. A large preponderance of the voters placed the table of light-coloured roses first, lavender sweet peas second, and the arrangement of crimson roses third. Nobody could find fault with that verdict, which fairly represented the artistic value of the respective tables.

In our report of the Scottish Sweet Pea and Rose Society's show the exhibit of Messrs. Austin and McAslan, Glasgow, was made conspicuous by its absence, for it was one of the two trade displays which received a large gold medal award. The staging in front of the platform, which extended across the hall, was occupied by a massive collection of hybrid tea and polyantha roses, flanked by groups of ferns; while the background, composed of palms, completed a pretty decorative scheme. Newer introductions were represented by Princess Elizabeth of Greece, Duchess of York, Gynneth Jones, Mrs. Barraclouth, Norman Lambert and Golden Salmon, a new polyantha rose of charming colour.

The popular Coltness Gem dahlia has disappointed quite a number of its admirers this season by the absence of the free-flowering habit which, in the past, has been regarded as one of its valuable assets. In some gardens the plants are only coming into bloom, and in others, where flowering was much earlier, the colour display has been poor and intermittent, quite unlike the brilliant scarlet dwarf bedding dahlia with which amateurs have been familiar in the past. There is evidence that some of the stocks in the market are not true to character and that the profusion of foliage has been obtained at the expense of the bloom. As a contrast, the old favourite Geranium Paul Crampel are conspicuous for the size and number of the flower trusses, notwithstanding the unseasonable weather, and the opinion is freely expressed that fewer dwarf dahlias of the Coltness Gem type and more geraniums will be used for bedding purposes in future. This is, probably, an exaggerated view that is not justified by the experience of this abnormal season.

"You cannot grow roses in Glasgow." This remark was made, half in jest and half in earnest, by Mr. Thomson, Edinburgh, President of the Royal Caledonian Horticultural Society, at the luncheon given by the *Daily Record* to the ladies and gentlemen engaged in the judging of the gardens connected with the Corporation Housing Schemes. It was a courageous thing to say, and was as frankly confirmed by Miss Roberts, Glencarse, who confessed that she had not seen a decent rose in any of the gardens she had visited. To see ourselves as others see us is advantageous in many ways, and it is well that folks should be acquainted with their deficiencies as well as their efficiencies; but reliable conclusions cannot be formed regarding the culture of roses in Glasgow by the condition of the roses grown in housing scheme gardens, for the owners are severely handicapped in most cases by the situation and the nature of the soil. In the newly formed schemes the tenants who have recently entered into possession have had little time to improve the soil and bring it up to a state suitable to the requirements of roses. Moreover, the exceptional season must be taken into account, while the absence of bloom may be explained by the fact that the bushes were seen between the summer and autumn period of flowering. Undoubtedly, there are in Glasgow, as in other large industrial towns, districts that are not well adapted for successful rose culture; but, as Mr. John Bell reminded the company, there are lots of places within the city boundaries where good roses are grown. The personal element, too, is a factor that should not be overlooked, and once the amateurs, who are in possession of a garden for the first time, have gained experience, they will be able to improve on their earlier results. Another point: it is not in Glasgow alone that roses have been disappointing this season. I know of several country gardens where the partial failure of the roses might suggest a similar verdict, and the folks who own them have nothing to learn in the art of rose culture.

No fewer than ninety-four applications were received for the vacant post of Assistant Director of Glasgow Parks, and the subcommittee have selected the following six candidates as a short list: James W. Atkinson, Chief Assistant of Parks, Blackpool; W. J. Hepburn, Superintendent, Greenwich Park, London; W. Lamberton, general foreman, John Innes' Institution, Merton, London; Leslie E. Morgan, General Assistant, Parks Department, Manchester; George E. Roden, Superintendent of Parks, Folkestone; and W. A. Watson, Assistant Superintendent of Roe Lee Park, Blackburn. A motion that four additional applicants on the staff of the Glasgow Parks Department be added was defeated in committee by 10 votes to 7.

Miss Whyte, Barnhill, has presented a solid silver cup to the Dumbartonshire Sweet Pea Society for competition in the amateur classes, to take the place of the cup won outright this year by Mr. George Blackie.

ST. MUNGO.

FLOWER SHOW FIXTURES.

September 7-8.—Glasgow and West of Scotland.

September 9.—Dalry.

September 10.—Avonbridge, Barrhead, North British Locomotive, Springburn and Cowlairs, Haddington, Kilbarchan, Moffat, Singer's (Dalmuir).

September 14-15.—Royal Caledonian, Edinburgh; Scottish National Union of Allotment Holders, Edinburgh.

September 16-17.—Springburn Northwestern; Hutchesontown Chrysanthemum.

WHAT OUR READERS SAY

THE BLUE MARGUERITE.

SIR,—Agathea coelestis, popularly known as the blue marguerite, is one of those useful subjects for the cool greenhouse which, with simple treatment, may be had in flower practically throughout the year. The plant is allied to the cineraria, and succeeds with similar care, although it is even of more easy culture. A compost of loam, leaf-mould and sand should be employed, and it is rather an advantage to let the plants be somewhat pot-bound, for in this state they are much more likely to continue in bloom. Propagation is carried out by means of cuttings, which may be rooted in the spring or autumn in light soil. Those struck at the present time may be brought into flower in the early months of the year. The blue marguerite is of neat habit and forms compact little bushes thickly strewn with the sky blue daisy-like blossoms. After a specimen has been in flower for some months it may be cut back rather severely, when it will shoot again with great vigour. The plant is a perennial, although it is a good plan to raise a few new specimens from cuttings each year. —L. B.

PROTECTION OF PLANTS, ETC.

SIR,—I have used an emulsion made of paraffin and soft soap for the above and find it very useful for all kinds of vermin on chrysanthemums, etc., but I think there is too much paraffin in the recipe that you published in THE GARDEN recently, which I think will burn the foliage of the plants that are sprayed, and there is not enough of soft soap. I send you the following recipe which I have found efficacious, and which kept at bay numerous insect pests in my garden: 3 pints of rain water, 12 ozs. of soft soap, 3 quarts of paraffin. Bring all to the boil. Use at the rate of one part paraffin emulsion to twenty parts of water. —P. S., *Fife*.

A JULY-FLOWERING GENTIAN.

(*Gentiana Lagodachiana*).

SIR,—This July-flowering gentian is a particularly charming plant of its family, very easy to cultivate and can be relied upon for a prolific annual blooming. It sends out long red-brown stalks from a neat centre; the trumpet-shaped flowers, soft sky-blue in colour, are in loose clusters at the extremities.

Your readers may like to do intentionally with this satisfactory gentian what I did accidentally in my rock garden. The plant happened to be in the centre of some flat pieces of stone about 2ins. high, outside which were patches of silvery achillea. The gentian sent its recumbent stems over the stones so that its blue flowers lay upon the silver bed, enhancing their beauty and protecting them from soil-stain in wet weather.

Raoulia australis would, perhaps, make a still more beautiful grounding for the gentian. —G. H.

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CLASSIFICATION OF DAFFODILS: ERROR IN NAMING.

SIR,—I have just had the opportunity of perusing the classified list of daffodils, 1927, issued by the R.H.S., and wish, in justice to the memory of the late Mr. A. E. Lowe, to correct an error appearing in it with reference to the variety "Silver Plane," there bracketed with the name of Mr. Cranfield.

This variety was well illustrated in the Midland Daffodil Society's Annual Report for 1925, and on page 9 the information is given: "*Silver Plane*, shown by the *Donard Nursery Co.*; this is a New Zealand seedling, raised by the late *Mr. A. E. Lowe* of Otahuna."

Mr. Lowe was for many years head gardener to Sir R. Heaton Rhodes of Otahuna, Christchurch, N.Z., and one or other of these gentlemen should in the list, be given the credit for raising this plant, described in the M.D.S. report as "the most distinct flower in its class."

I may add that this past summer and autumn here have been very favourable to our parks, and hydrangeas and cannas in particular have made a wonderful outdoor display. The hydrangeas are only now finishing their second crop of bloom, though we are well into winter, and have had two or three white frosts quite unusual for us. I enclose a little photograph of a bed of cannas in Albert Park, one of our city gardens, which you may think of interest to readers of THE GARDEN.—A. E. GRINDROD, *Mount Eden, New Zealand.*

A FINE BED OF CANNAS IN A NEW ZEALAND PARK.

THE RESERVE GARDEN.

SIR,—I feel sure that many amateur gardeners do not fully appreciate the value of a reserve garden. Even in a small place there should always be some kind of reserve garden. This might be in a corner of the kitchen garden, and here seedlings and cuttings can be raised. The reserve garden may be used as a kind of nursery where young plants and rooted cuttings can be given a chance to get up their strength before being removed to permanent positions in the main garden. New plants that have been purchased can profitably be given a spell in the reserve garden where they can receive a little special attention and be brought into a more presentable condition. The most convenient form for a reserve garden will be a square or oblong which is laid out in parallel beds 5ft. or so wide, so that the plants can be easily hoed and weeded. The paths need not be more than 18ins. wide, just enough to give space to walk between the beds and attend to the plants. Such beds need never be idle, for if not actually wanted for growing on young stock, can be planted with annuals and perennials to produce flowers for cutting. Another purpose of the reserve garden is to accommodate plants that have done their work in the spring border. After division, daisies, aubrietias, forget-me-nots, etc., can be started in the beds in a new career. Then bulbs which have been lifted before the foliage dies can be put into the reserve garden before they are finally taken up to ripen off.—H.G.

THE SOVEREIGN OF ROCK GARDEN SHRUBS.

SIR,—An able critic of alpine flowers once said that "Dryas octopetala is the sovereign of all shrubs for the rock garden," and it is difficult indeed to controvert the remark without a departure from the truth, unless one is specially swayed by love for other subjects. But the sight of a small plant only would make it hard to agree with the verdict, and it is only when we see D. octopetala in a spreading sheet of its lovely oak-like leaves, thickly covered over in summer—especially in June—with cream white flowers of large size, which are borne on 2in. stalks, which eventually develop in length until they are 4ins. to 6ins. long, when the silvery seeds are produced. D. octopetala is really lovely when spreading into masses a yard or two in diameter, and I think it looks specially pleasing when hanging over a sloping bank. It is a real sun-lover, but fails to flower freely in some gardens owing to the absence of lime, and I have seen plants immensely improved by working a top-dressing of old mortar among the branches. It may be raised from seeds, but they are of slow growth, and cuttings root satisfactorily in sand in autumn. Old plants may also be layered, so that roots may be emitted from the branches and then these taken off when rooted.—S. ARNOTT.

OUR PHOTOGRAPHIC COMPETITION

Readers have little time now in which to take photographs for our competition which closes with the issue of September 17th. We hope that early September will provide better opportunities. It may be impossible to publish immediately all sent in, but we shall introduce, from time to time, into our pages all suitable pictures, and make awards on the same conditions as those gained in the competition.

This photograph shows part of my iris garden, where countless Japanese irises flourish. Many varieties have been planted, including shades of mauve, white, deep purple and blue. Here, in New Zealand, the irises begin to flower early in December and continue for over two months, and sometimes they grow to a height of 4ft. 6ins. to 5ft. They are planted at the edge of and surrounding a shallow natural pond.

The guinea photograph, sent in by MISS D. H. BROWN, *Mount Thomas, Canterbury, New Zealand.*

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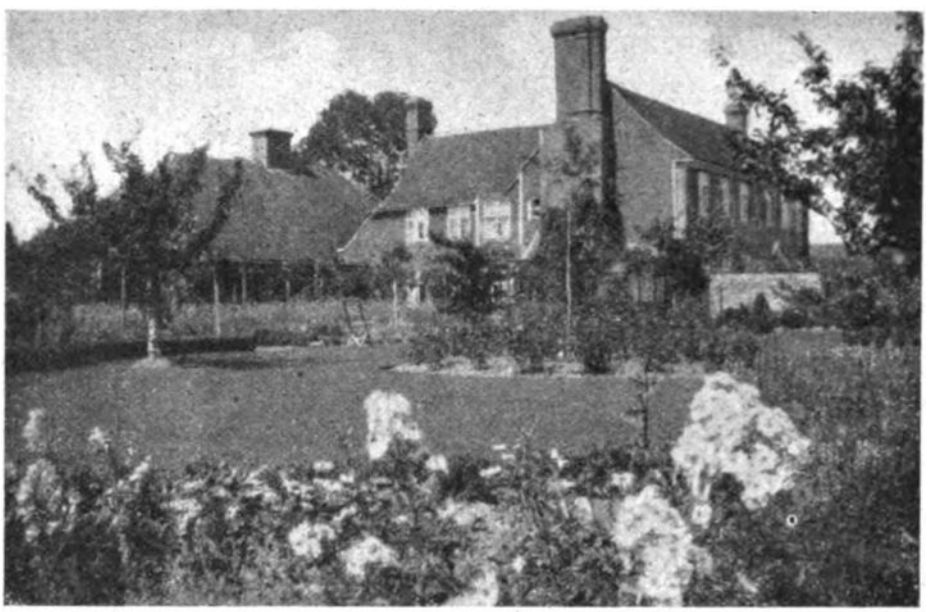
I took this photograph of a corner of my cottage garden during last May when the tree peony was in flower and had over twenty blooms on it. This peony made a very pretty picture with the old apple tree in full blossom beyond; while in February and March the garden was gay with crocuses and daffodils of every kind, all of which I plant out after flowering in my greenhouse. MISS C. M. GIBSON, *Newick, Sussex.* Award of 5s.

A well grown yucca makes a splendid subject for the centre of a carriage drive. This specimen has eight flower spikes this year, rising to a height of over 10ft. The plant measures about 8ft. in diameter and is surrounded by rockwork, planted with aubrietias, saxifragas, etc., making an extremely effective display.—B. H. BALLS, *Cambridge.* Award of 5s.



From early spring until late autumn there is always something of interest in this garden. First come the crocuses and daffodils, and then the standard fruit trees are smothered with bloom. After the tulips, the roses, in large circular rose beds, begin to come into flower, and later phloxes, pentstemons and numerous other hardy plants brighten the mixed border which can be seen in the foreground. MRS. W. WELLER, *Tenterden, Kent.* Award of 5s.

When planning this garden I found the ground sloped considerably. At the end of a level lawn this wall was built of old red bricks and large flints. Each year, aubrietias, perennial candytuft, rock roses and many other plants form a mass of colour. MISS E. ROBERTSON, *Longfield.* Award of 5s.

This little lily pool and rockery are made in a town garden. The work was started in March this year and the rock plants have done very well for the first season. Raspberries and loganberries screen the pool, and the small lawn is edged with violas. J. H. STOCKIT, *Halifax.* Award of 5s.

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FRUIT AND VEGETABLES

September in the Vegetable Garden.

THE August sowings of colewort, lettuce, etc., will be ready to plant out. This may be done after rain or during dull weather. Cabbages and cauliflowers may be pricked out for spring planting. The cauliflowers may also be put in a cold frame or in a square bed that can be covered with a frame when hard weather sets in. By all means let the plants have as much air as possible except when there is frost.

Earth up celery and leeks while it is dry, and tie up lettuces and endives. Thin out any crops where the plants are too numerous, and lift those early vegetables that are ready for storing. Onions and early carrots may be lifted and stored when they are moderately dry.

Potatoes do not keep any better in the store clamp if not lifted when they are ripe. It is always an advantage to dig the potatoes during dry weather. If tubers are wanted for seed, it is a good plan to lay them out in the sun for a day or two before storing. Only the seed-sized tubers should be exposed in this way. To "green" table potatoes is to spoil them; nay, render them poisonous as well as unpalatable. Eating potatoes should never be exposed to cold winds at lifting time, nor be stored in a draughty shed, because they turn bitter. Put them into a clamp, cover with straw and earth; or place in bags or boxes, etc., in a dark cellar or shed beyond the reach of frost.

Seed potatoes may be put into the sprouting boxes at once and stored thus. They should be picked over now and again and any unsound tubers thrown out. A decaying tuber will spoil the others in contact with it. It is important that the skin be not ruffled or broken in course of lifting or handling. Greening in the sun makes the skin of the tubers tough; but they must not be left out of doors uncovered if there is any frost by night. Mats or straw may be spread over the greening potatoes at sunset.

Plant up ground now being cleared of ripe crops with such vegetables as borecoles, cabbages, leeks, etc. Sow prickly spinach for winter use. A sowing of onions may even yet be made if there is an available space in a sunny border.

Plant out the main crop of cabbages in rows about 2ft. apart and 1½ft. between the plants. Give the ground a good soaking with very weak liquid manure if it is dry.

Gather late peas and beans when young, and give copious drenches of liquid manure to stimulate the production of fresh pods. This tip is worth a lot, and the peas may be kept green until caught by frost.

Clear off old crops of peas, cabbages, etc., and trench the ground.

Jerusalem artichokes and beets should be lifted just as required, even during the winter months, but a mulching of littery material should be spread over the rows to keep out the frost. Saladings, like radishes, mustard and cress, should now be sown under glass or in a south border where hand-lights may be put over the beds in the event of an early frost.—J. W.

Earthing-up Winter Greens.

WINTER greens have made much growth during the past few weeks owing to the dull, wet weather. It is the hard-stemmed plant that withstands the severe winter best. To help the soft-stemmed ones, and even those more matured, earthing-up is advisable. The earthing is done much the same as in the case of potatoes, and the work should not be delayed or roots will be damaged when the soil is disturbed. Furthermore, the work cannot be done as well when the whole space is covered with big leaves. Those plants not very much advanced may be assisted by one application of 1 oz. of sulphate of potash per square yard before the soil is drawn up to the stems. Sprinkle the sulphate very evenly on the soil, keeping it away from the stems of the plants. Then draw up the soil so that the stems, if possible, are buried right up to the base of the lowest leaves. Firm the soil by treading before the earthing is done, and again afterwards if the soil drawn up is naturally light. But do not tread down heavy soils, allow them to settle gradually. All blind plants should be drawn out and replaced with healthy ones. If left in they would be useless and rob the good ones, too.—HANTS.

Strawberries.

OLD strawberry plants are not profitable. Considering how freely the plants of most varieties produce nice, strong runners, it is bad policy to retain the old ones beyond three years. Some cultivators treat the strawberry plant as an annual, raising rooted runners and planting them every autumn. The plants are planted out 18ins. apart each way. Expert cultivators can succeed well and some amateurs may. It is well worth while trying a few plants in this way. But the main object of this note is to induce cultivators to scrap all three year old plants and replace them with newly rooted runners, not, however, on the same plot, but on one previously occupied by a totally different kind of plant—preferably potatoes. The plants should be 18ins. apart in rows 24ins. asunder. Deeply dig the soil first and enrich it with rotted manure if it is poor. The best time to work the soil is when it is moderately dry, as then it can be firmed again a little after the digging. Rich soil need not have any manure added to it now; a surface mulch after planting and one again in spring will be sufficient. When an autumn mulch is put on care should be taken that the crowns of the plants are not buried under it for any great length of time, or the crowns so covered up will decay and eventually rot away.—CHRISTCHURCH.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

Economising Space in a Small Garden.

In a garden where space is limited and it is desired to grow spring flowers (such as daffodils or narcissi, which can be left in the ground), I find it a good plan to plant the bulbs in clumps, marking the position with labels or sticks, so that the surrounding ground may be dug without disturbing them. In the spring, sweet peas or other tall-growing annuals, such as lavatera, can then be sown in circles outside the bulbs. If the annuals require staking before the spring flowers are over, short twigs will provide temporary support, the pea sticks being put in position later. The unsightly appearance of the dying foliage will thus be hidden—an additional advantage.—C. W.

Mignonette for Winter.

For late blooming, seed of mignonette may be sown now in the pots where the plants are to flower. Use good loam, sand and manure, adding also a little charcoal and crushed lime scraps. Sow thinly on the surface of the soil, which may previously be watered. Cover the seed lightly, and stand the pots in a frame. Shade from the sun until the seed germinates. After that, expose freely to light and air. Thin out the seedlings 1in. apart, eventually leaving five or six in a 6in. pot. Water carefully and give the coolest possible treatment all through the early stages. On the approach of sharp frosts, transfer the pots to an airy shelf in the greenhouse.—A. J.

Bulbs in Bowls.

One potent cause of failure with bulbs grown in bowls is that the fibre is not properly moistened in the first place. When dealing with small quantities, a bucket may be half filled with the fibre, then rain-water added to fill the bucket to the top. In a few hours the fibre will be found to have absorbed all the water, and though in this state it is probably too wet, it is an easy matter to squeeze out all superfluous moisture with the hand. The right condition is attained when only a few drops of water fall out when a handful is squeezed. With larger quantities, it is more convenient to soak the whole sack of fibre in a tub of water for some hours, letting it drain a day or so before using.—B. D. S.

When Making a New Lawn.

There are probably a number of gardeners who, intending to put down a new lawn and unable to afford the cost of turf, will sow seed this September. It is a good plan to obtain sufficient turf to edge the site of the lawn and then to seed the remainder, after, of course, making up the ground to the level of the top of the turf. A firm edge is thus obtained without using boards or tiles to retain the earth. I find that this is also a great aid in obtaining a level surface for sowing, particularly if the proposed lawn is fairly large.—E. C. E.

To Get Rid of Wireworms.

Wireworms are very destructive pests, especially in summer, when they attack all kinds of root crops. A favourite food of wireworms is potatoes, and you can turn this liking to good account in getting rid of them. Get some old tins, pierce the sides with holes made by a bradawl, attach a wire handle, then fill with potato bits or peelings. Bury these traps in the garden, and pull them up in a month's time. They will be found full of wireworms, which you can then destroy. This is a most efficient way of getting rid of both wireworms and millipedes, as the pests scent the food from quite a distance away, and soon find their way to the traps.—M. J.

Raising Anemone Coronaria from Seed.

Mix the seed well in moist sifted soil, put in pots and lightly press down. Directly germination takes place, sow thinly in pans or boxes of soil free from worms—the coarse soil in the bottom of the pan—place some old sacking on this, then some fine soil, sow on this and press lightly with the hand. Keep moist. Directly they come up sprinkle with fine soil lightly. The sacking makes a perfect drainage. The seed germinates in about three weeks. I have been very successful with the above method. Transplant carefully in open ground when large enough to handle.—J. H. A.

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THE GARDEN

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BULBOUS IRISES FOR GARDEN DECORATION

IT is a matter for regret that this section of the great iris family does not appear to receive the attention it deserves, considering the ease with which the various types may be grown, their inexpensiveness, and their usefulness as flowers suitable for garden decoration or as cut bloom. With these strong recommendations in their favour, the bulbous irises are very obviously flowers for every garden, be it large or small.

It is advisable to obtain supplies and plant as early as possible, although bulbs planted as late as December will give good results.

The Spanish irises are very cheap, and make a splendid show of bloom during that "between the seasons" period which occurs in June, after the spring flowers have ceased to be attractive and summer flowers have not yet attained their best. They may be planted in nursery lines, consisting of double rows 1ft. apart and allowing 3ins. or 4ins. between the bulbs if they are required for cut bloom. Plant so that the noses of the bulbs are 3ins. below the surface of the ground. For garden decoration, clumps of twenty or twenty-five bulbs, planted in the border, are most attractive; while as subjects for filling flower-beds they are equally as useful. Planted with pansies or violas as a groundwork, they make a splendid early summer show; and if gladiolus corms are planted in between the irises in the spring a succession of bloom is maintained. When grown in beds or borders, a distance of 5ins. or 6ins. may be left between the bulbs. After flowering, the foliage should be allowed to die down naturally, and the bulbs will thrive and multiply from year to year. Although not fastidious, they prefer a rich, rather light soil, and in exposed situations they should be afforded some protection from cutting east winds. When the flower stems appear, bi-weekly applications of dilute manure water are exceedingly beneficial. Every third year the bulbs should be lifted as soon as the foliage has faded, sorted according to size, and replanted after the ground has been deeply dug and enriched with applications of well rotted manure and some bone-meal. The smaller bulbs may be planted separately in nursery rows, where they will quickly attain flowering size. It is a matter of opinion whether the best effect is obtained by planting the various colours separately or mixed together. In the border, clumps of one colour only are to be preferred; but a good bed of mixed Spanish irises forms a most attractive feature during its blooming season. The bulbs may be obtained either mixed or in named varieties.

By planting some English iris a succession of these bulbous irises is maintained, for these English irises come into bloom a fortnight later than the Spanish kinds. They are more vigorous growers, but are equally as hardy and easy to cultivate. Plant them at the same depth as advised for Spanish iris, but a little more room between the bulbs may be allowed with advantage. Although more limited in range of colour, there are at least fifteen or sixteen worth-while varieties.

The Dutch iris is of more recent origin, and is somewhat more expensive to purchase than the other classes. It flowers a fortnight earlier than the Spanish iris, which it resembles except for the fact that the flowers are larger; it can be obtained in an equally fine diversity of colour. A distance of 5ins. or 6ins. should be allowed between the bulbs when planting.

Although a rather light soil has been advised as preferable for these flowers, the possession of a heavier medium should not deter one from planting bulbous irises, for with deep cultivation and the addition of any material tending to increase the porosity of the soil excellent results are obtainable. The fact that these irises are gross feeders should always be borne in mind, and an adequate supply of suitable food material incorporated with the soil prior to planting, unless the soil is naturally very rich.

Housing Greenhouse Subjects.

IT will soon be time to think of bringing into the greenhouse all those plants which have been given a holiday in summer in the open. Before the plants are removed, pick off all broken stems, dead leaves, etc., and then spray them thoroughly with soapy water, slightly warm, or with insecticide; this last essential ensures that all pests or potential pests are removed and that the plants are taken into the greenhouse in a clean condition. To the same end, clean out the greenhouse and, as a last point, scrub the pots down with an ordinary scrubbing brush and hot soapy water. All summer shading matter may now be washed from the greenhouse roof, every effort being made to give the plants ideal winter quarters. When the plants are once inside, remember that a close, stuffy atmosphere will lead to trouble. Ventilate at first to the very utmost possible, and so avoid a sudden plague of insect pests, an outbreak of disease or a most annoying leaf-dropping. Even at night admit some air. Water with care, giving less and less water as the season advances, and what has to be given should always be applied early in the day, and discard old plants unlikely to give much satisfaction, in order to make room for fresh and more robust stock.

This Week's Work

For Gardens in the South and Midlands.

Thin out shoots of dahlias and feed the plants with liquid manure.

Prick out cabbages and cauliflowers sown last month.

Earth up celery and leeks and lift early onions.

Continue potting up hyacinths and narcissi.

Sow onions and winter spinach in drills.

Gather apples and pears when ripe.

Disbud early-flowering chrysanthemums.

Propagate bedding plants of all kinds.

Sow hardy annuals in the open.

Finish planting out strawberry runners.

This Week's Work

For Gardens in Scotland and the North.

Sow sweet peas in pots or boxes.

Pot rooted cuttings of pelargoniums.

Remove late-flowering chrysanthemums to the greenhouse.

Prepare cold frame for cuttings of calceolarias, penstemons and antirrhinums.

Continue to plant up strawberry beds.

Take cuttings of fuchsias.

Transfer a few parsley plants to a frame for winter supply.

Begin planting daffodils and hyacinths in beds and borders.

Lift and divide herbaceous plants that are out of bloom.

Pot up a few chrysanthemums from the open ground.

Propagate catmint by cuttings.

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HOW TO GROW FINE PÆONIES

Herbaceous pæonies are among the most beautiful of our hardy flowers; their requirements are simple, and there are few gardens in which they may not be successfully cultivated.

FEW of our hardy flowers are as beautiful as herbaceous pæonies, combining as they do handsome foliage and beautiful flowers with a wide range of form and colour, varying from pure white, through varying shades of cream and creamy yellow, through rose, pink and red to deep crimson. Their culture presents no difficulties, and in addition, many of them are deliciously fragrant.

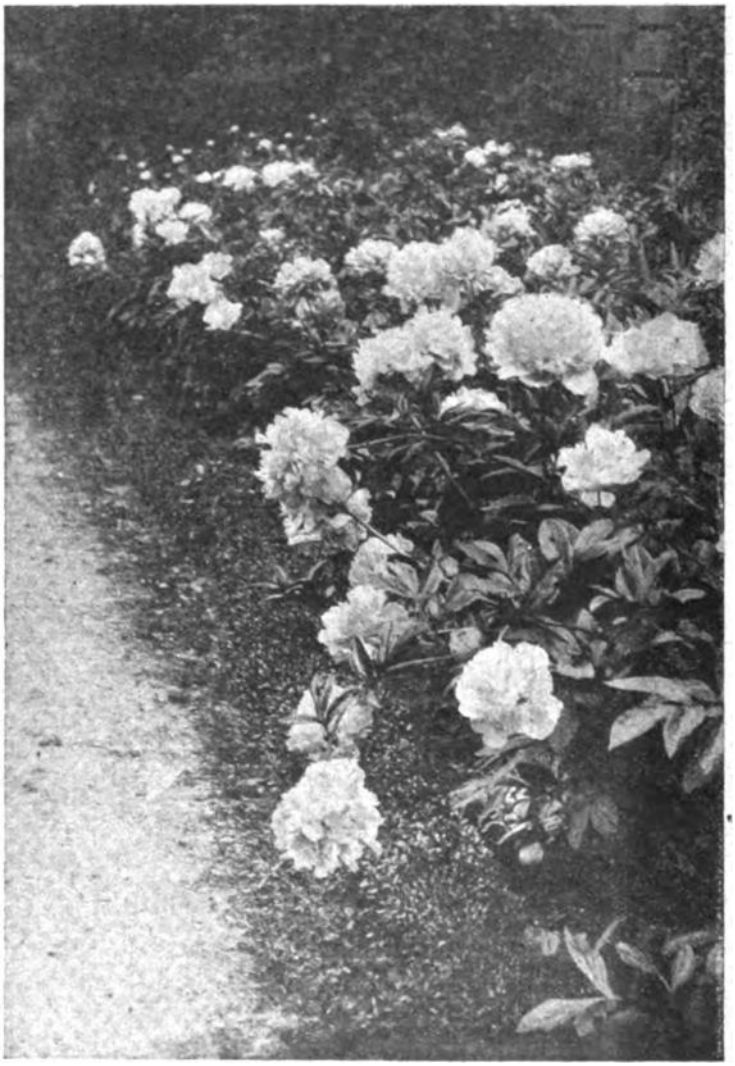
Position.

In this respect they are very accommodating, as they may be grown in beds or borders by themselves, and where large collections are cultivated they are usually done in this way. This system has its disadvantages, as their flowering period is rather short, and one is left with a long, flowerless period in that particular part of the garden. This difficulty can, however, be got over, as I shall presently indicate. Apart from large special collections, pæonies can be used to advantage in various parts of the garden, either for grouping in the mixed border or for planting in clumps or masses along the margin of shrubberies; or they may in many cases be used with excellent effect in the semi-wild parts of the garden or in the hardy fernery. They are specially useful for such positions, as they do not mind partial shade. It is, however, wise to choose the stronger growing varieties for such positions. In such situations the brighter-hued varieties are most effective, especially when one is planting for distant effect. For such positions the old-fashioned double red pæony of cottage gardens is perhaps as effective as any, as it is a strong, robust grower and succeeds perfectly in partially shaded situations. The brilliant-coloured young growths of pæonies are also an attraction in the earlier stages of their growth, and when associated with daffodils the effect is very beautiful. This brings one to the consideration of plants that may be grown with pæonies to furnish a display when the latter are out of flower.

Plants to Associate with Pæonies.

In addition to some of the strong-growing varieties of daffodils, such as Sir Watkin, Empress and Emperor, which may be interplanted with pæonies to furnish a display during the early part of the season, there are several other bulbous and tuberous-rooted subjects that may be successfully used for this purpose. Gladioli in their many beautiful varieties are most useful, and they may be grown quite well in this way, especially if the pæonies are not planted too closely together, although it is surprising how well they do even when they have to push their way up through the foliage. Strong-growing varieties are, of course, to be preferred for this purpose. Hyacinthus candicans is a fine bulbous plant which is useful. Where there is large planting of pæonies and a second display is required, there is no reason why they should not be interplanted with groups of some of the free-flowering varieties of kniphofias; they would also give a furnished appearance to the beds and borders during the winter.

In the herbaceous border it could be arranged to plant alongside of them some slender-growing herbaceous plants, the shoots of which could be trained partly over the clumps of pæonies. Some of the slender-growing varieties of Michaelmas daisies might be used.



PLANT YOUR PÆONIES NOW.

Cultivation.

As already indicated, the successful cultivation of this class of pæonies presents no difficulty, as they grow well in a variety of soils and positions. They, however, prefer a good, rich, moist loam. When preparing the sites for them it is important that the ground be thoroughly cultivated, as they dislike frequent disturbances, and usually take about two years to recover from transplanting. The ground should be trenched two spits deep, at the same time working in plenty of well decayed farmyard manure: this is important, and at no time should green manure be used, especially for surface dressings, as this is undoubtedly a fertile source of infection for pæony disease. Heavy wet soils may be improved by the addition of opening, gritty material. The planting sites should also be given a dressing of lime or basic slag, applying the latter at the rate of 6 oz. to 8 oz. per square yard. A dressing of bone-meal may also be applied at the same rate.

When planting, they should be given plenty of room, remembering that in time they make large clumps, also having in mind the fact that you may wish to interplant them with some bulbous subject. Generally, 4ft. apart may be regarded as a good distance to plant. When well established they enjoy yearly dressings of well rotted manure, and when the flower buds show they may with advantage be watered with dilute liquid manure. When the clumps get large and give signs of losing vigour it will be necessary to lift, divide and replant them, if possible on a new site. Failing new ground, the old sites must be thoroughly trenched and manured.

Pæonies for Cut Flowers.

They are in many ways ideal for furnishing a supply of cut flowers, their range of good colours and delicate perfume rendering them specially useful for this purpose. They also pack and travel well, and for this purpose can be cut in bud. Cut in the bud and tightly wrapped in grease-proof paper, they travel well in cold storage. The single varieties are very beautiful for decorative work, but do not last so well as the double varieties. Where they are required for a supply of cut flowers they are best grown in the kitchen garden, or in beds or borders in the reserve garden.

Diseases.

Pæonies are subject to attacks of a species of botrytis, which has been called B. pæonia, and often proves very troublesome in collections. The young growths become black and gradually shrivel. If they escape at this stage the flower buds are often attacked later on. There is no doubt but what green manure, especially when used as surface dressings, is a fertile source of infection, and for this reason should not be used. All affected shoots should at once be removed and burned. The surface soil may also be removed and replaced with fresh loam. If the plants are sprayed with a solution of liver of sulphur at the rate of 1 oz. to 3 gallons of water it should act as a preventive.

Varieties.

There are so many varieties that it is very difficult to give a selection, and it is best to see a collection in flower and then make a

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selection of the desired varieties. The following short list, however, includes varieties that the beginner may safely plant, *viz.*, Asa Gray, pale lilac; Boule de Neige, white; Couronne d'Or, white, inner petals tinted carmine; Duchesse de Nemours, white, primrose centre; Duchess of Teck, creamy white; Felix Crousse, flame red; Mme. Jules Elie, pink; Mme. Moreau, pink, blush white centre, fragrant; Marie Lemoine, white, creamy centre; Mons. Ch. Leveque, rosy salmon; officinalis rosea; officinalis rubra, old double scarlet; Rubens, dark crimson; Sidonie, pink blush centre; Philomene, rose pink; and albiflora grandiflora, single white, scented: this is a very beautiful variety and should certainly be in every collection.

Other fine varieties include Sarah Bernhardt, a late-flowering pink variety; Lady Alexandra Duff, a beautiful white pæony which is tinted in the young stage with delicate pink; François Rousseau, a brilliant velvety red; Kelway's Betty, a sweetly scented cherry red, a lovely colour; Marconi, which has large pure pink flowers with yellow anthers; and Baroness Schröder, with its enormous flowers of blush white.

There are a number of beautiful single Chinese pæonies, all varieties of P. albiflora, and among these are Sir Visto, a large flower shell-pink pæony, opening to a delicate blush, which is one of the best for cutting; the Bride, a profusely blooming snow-white variety; and the tall-growing Victoria, which bears handsome brilliant crimson flowers.

Some of the hardy double European May-flowering pæonies are particularly suitable for shady situations and north borders; they are varieties of P. officinalis.

K. E.

A WELL-ESTABLISHED CLUMP OF A GOOD DOUBLE VARIETY.

SMALL BULBS FOR POT CULTURE

Snowdrops, crocuses, scillas, chionodoxas and many other small growing bulbous plants can be grown in pots and are excellent for decorating a room or greenhouse.

FEW gardeners realise the value of some of the smaller kinds of bulbs for pot culture. Many of these are quite inexpensive and, in their way, will give as fine a show as the more widely grown hyacinths, tulips and narcissi. Pots of crocuses, for instance, are without rival for the decoration of room and greenhouse, especially if care is taken to select varieties specially recommended for indoor culture. The bulbs will grow well in any light common soil. Pans or bowls may be employed instead of pots and, where there is no drainage, fibre should be employed instead of soil. Give the bulbs a chance to root well in some dark place, or, better still, bury the pots in dead leaves, fibre, sand or similar material. The crocuses can be taken out in batches as required, and in this way a fine succession of blossom is secured.

Of course, nothing in the way of forcing is required. Chionodoxas and scillas may be treated in much the same way, five to seven bulbs being grown in a 48-sized pot. With early planting and a good rooting period, these bulbs may easily be brought into full beauty about Christmas-time, when they will be very much appreciated. Both these bulbs can be grown in fibre but better results are usually secured when they are grown in pots of soil with a free drainage. Snowdrops are easily brought into flower in time for Christmas if care is taken to select the right kinds. The common sorts, most often seen in gardens, are not good pot subjects, but splendid results are secured with the giant snowdrop (Galanthus Elwesii) and what is, perhaps, the best variety of all, Sutton's Winter-flowering. Give the snowdrops a chance to root well before encouraging the growth of the shoots by exposure to light.

In mentioning the foregoing one does not by any means exhaust the list of small bulbs suitable for pot culture. In looking over the bulb catalogues it is worth while considering the purchase of some, at any rate, of the following. A charming little anemone for flowering just after the turn of the year is A. blanda Ingramii. Here the flowers, which are of a bright blue colour, are produced in great abundance. Pot up in any light soil and keep in some sheltered place out of doors until the late fall, and then bring indoors. Some of the little irises suitable for winter culture are rather expensive, but it may be pointed out that I. pavonia and I. tingitana are quite a reasonable figure. With early potting the latter can easily be had in bloom by Christmas.

Not many people think about growing fritillarias in bowls of fibre, but, with simple treatment, these do extremely well and produce their quaint flowers in profusion very early in the New Year.

THE BLUE-FLOWERED GLORY OF THE SNOW (CHIONODOXA LUCILLIÆ).

Lachenalias also deserve to be more widely grown, and of these L. pendula is especially to be recommended. This plant has large, bright red flowers which are extremely showy.

By potting up these bulbs at once it is quite easy to have the plants at their best in time for Christmas. Several species of oxalis may, with protection and, if possible, a little heat, be induced to flower at a very early date.

Special mention must be made of O. adenophylla, which has rosy pink flowers and finely cut foliage; O. Bowiei, with crimson flowers; and O. rosea. Sutton's Golden Cup is a glorious yellow variety which, with the simplest treatment, flowers on a most lavish scale.

L.B.

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A SIMPLE MORAINE AND HOW TO MAKE IT

This part of the rock garden can be easily made, and many of the choicer rock plants prefer it.

THOUSANDS of choice rock plants are killed by mistaken kindness annually, simply because they are treated too generously, being planted in deep rich soils, which do not give them the acute drainage that is an absolute necessity. All the little mountain gems flourish in very rocky places, sometimes making a congenial home in the merest fissure in the rock, and at other times being found quite happy on a natural moraine or a heap of scree containing no true soil but just some rooting material here and there made up of finely powdered rock and the peaty remains of dead plants. A tiny subject only a few inches in height will send its roots to a depth of 2ft. or 3ft. among the rocks seeking moisture and food.

The production of somewhat similar conditions is quite necessary as an aid to success in growing many of the plants that come from lofty altitudes. The term "moraine" may seem to suggest an elaborate and expensive construction, but one can be made quite easily and cheaply.

It may be well to say in passing that a little moraine is a delightful feature in a garden where there is no room for a large rockery. The moraine should, if possible, be arranged so as to look like a natural part of the rock garden. The best place for it is just below a high bed or bank of rock, from which it falls away like a slope of scree at the foot of a precipice. It can also be arranged as if it were a dry river bed sloping down between two rocky ridges; and, when it is necessary to make it as an independent feature, large rocks may be laid down to form the retaining sides, and these would also accommodate some interesting plants. It is possible to make a moraine on the general level of the soil, but for my own part I prefer to have it well above the level for the sake of perfect drainage, and to have it gently sloping towards the south.

A CLUMP OF SILENE ACAULIS FLOURISHING IN A WELL-DRAINED SITUATION.

ARMERIA CÆSPITOSA, A DAINTY THRIFT FOR THE MORAINE.

Working on the simple plan of what is usually termed "dry moraine," it is desirable to have 10ins. or 12ins. of rough hard material at the bottom to form perfect drainage. This may be composed of fairly large pieces of rock, broken bricks, flints, or even large stones dug out of the garden will serve the purpose, and on the top of this rough material should be laid 2ins. of finer stone or gravel to prevent the soil from filtering down among the drainage.

Then comes the question of "soil," and on this leading authorities will never agree. For my own part, I like the upper 10ins. or 12ins. to be formed of at least half-broken rock and half soil, the soil being made up of good loam with a moderate addition of leaf-mould and sand. For the sake of economy fine gravel or any ordinary stones can be used in this part. If gravel is used, it must be quite free from clay.

If any number of plants are to be grown that are fond of limestone, it is helpful to fill in part of the moraine with broken limestone, but a few handfuls of old mortar rubble will usually supply all that these plants need.

Then the work should be finished with a 2in. layer of fine rock chippings, and it is well, for the sake of harmony, that these should be similar in colour to the rock used in the surroundings.

Another important point is to have a few rather bold pieces of rock rising out of the moraine, for they relieve its flatness and some little plants will ramble over them.

A tiny moraine can easily be made by simply laying down four large rocks, having the lowest one towards the south and filling up the space between as recommended above. An ordinary pocket on the rockery can also be treated in the same way, for with 6ins. of drainage and 9ins. of "soil" it will make a good home for some difficult things. Later experience has taught me that nearly all our rock plants do better if given more stone and less soil, for I secured for my own rock garden some alluvial soil that had about an equal quantity of small stones mixed in it, and the result has been most satisfactory.

The "wet moraine," a somewhat complicated structure, cemented at the bottom and sides and always having water at its disposal, is a luxury that has its uses, but gives few advantages over its dry rival. Choice plants are always supplied in pots, and the balls of soil can be safely put among the scree, or a little soil such as the plant loves can be mixed in around it to give it a good start.

Plants for the Moraine.

It is not desirable to fill the moraine excessively full of plants, for a portion of the rock chippings showing up here and there will prove a dainty relief to the foliage and flowers. Nor is it desirable to plant in a muddled way with just one plant of a

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species. With some new or rare plants it may be only possible to obtain a solitary specimen, but others that are easily obtainable may well be planted in groups. It is well to avoid any plants that grow too strongly, especially the coarser linarias, for these, spreading by underground stems, will soon take complete possession of the whole moraine to the destruction of the choicer subjects for which it was made.

All the saxifrages of the Kabschia section are very much at home in the moraine, and its perfect drainage helps to keep the flowers in perfection for a longer period. The quickly spreading S. apiculata and S. a. alba also will do well enough in an ordinary pocket if well drained, and it is best to save the moraine space for such gems as S. Burseriana major, S. Elizabethæ, S. Faldonside, S. Irvingii and many others. The oppositifolia section are all useful for the moraine, and the Wetterhorn variety is a gem whose large flowers are a perpetual surprise, coming as they do on such minute growths.

If Gentiana verna or any of the smaller gentians prove difficult elsewhere, it is well to try them in the moraine, putting them in the lower part, where they will not be likely to get too hot and dry.

Other good subjects are all the smaller androsaces, Armeria cæspitosa, Asperula suberosa, Campanula arvatica, C. excisa, C. Waldensteiniana, C. Zoysii, Dianthus alpina, D. neglectus, the drabas, Gypsophila cerastioides, Leontopodium alpinum, Linaria alpinum, L. a. rosea, Myosotis rupicola, Omphalodes Lucilliæ, Papaver alpinum, the smaller pentstemons and potentillas, Raoulia australis, Silene acaulis and its varieties.

This is by no means an exhaustive list, and it merely indicates some of the most useful and interesting subjects. Any plant that has proved difficult or a failure on other parts of the rock garden should be given a trial in the moraine.

In spite of its acute drainage, this simple style of moraine does not dry up very quickly, for moisture will be retained among the stone even in the driest weather, and a bulk of stone is much cooler than soil. Watering may be freely done in the evening or early morning, and if any little things in bloom are likely to become draggled by watering it is easily possible, given a fair surface of rock chippings, to pour water between the plants without wetting their flowers and foliage. T. H. W.

SOME CHOICE NEW ZEALAND DAISY BUSHES

OF the many handsome New Zealand olearias grown in the British Isles, there are two or three of outstanding merit which deserve to be in every collection of choice shrubs in the milder districts of Britain.

Olearia insignis is a most striking low-spreading bush. It has large, thick, leathery leaves, as a rule 5ins. to 6ins. long and 3ins. wide, both sides of which, when young, are white, but the older leaves retain the white tomentum on their undersides.

The flower-heads (borne in early summer on stiff whitish stems which may be anything from 6ins. to 12ins. long) are hemispherical, and when fully open are 2ins. across, the rays being white and the disc florets yellow.

This plant, known in England for half a century, is far more hardy than it is credited to be, and where the better known Veronica Hulkeana thrives out of doors there also should this compositæ flourish. For it is the hardier of the two. Both grow together up to a height of 3,000ft. above sea level in the South Island; while this olearia is still at home at considerably higher elevation, growing on poor dry banks, which fact may

A DAISY BUSH OF STRIKING APPEARANCE, O. INSIGNIS.

point to the nature of the hospitality it needs in this country; but the site should be sheltered.

Good drainage is most essential to this plant, which is reported hardy in many places inland, even the Midlands.

Recently the botanists have removed it into a new genus, and their decree is that henceforth it shall be known under the name of "Pachystegia insignis." Nevertheless, no matter its name, it is a plant of easy culture, and, to quote from Cheeseman's "Manual of New Zealand Flora," "a very remarkable and handsome plant, quite unlike any other."

Olearia semi-dentata, of more recent introduction, is a much taller bush. A native of the Chatham Islands, this has lanceolate toothed leaves with grey undersides, 2ins. to 3ins. long and about ¼in. wide.

In early summer it bears in profusion beautiful mauve-rayed, purple-centred daisies 2ins. across on long, slender arching stems, and continues to flower spasmodically throughout the summer.

An additional feature of this shrub is that the flower is slightly fragrant, which fragrance two out of three people will resemble to "scented soap."

Olearia chathamica, introduced about twenty years ago, is possibly the handsomest. In leaf and flower it bears resemblance to O. semi-dentata, but it is altogether a more audacious plant. Its leathery dentated leaves (almost white on the undersides) are about 5ins. long and 2ins. wide; while its flowers, almost 3ins. across, with purple discs and rays paling with expansion to white, are, in June and early July, things of exquisite beauty.

The two last-mentioned olearias are essentially plants for mild seaboard districts, and the three now figure in more than one catalogue of choice shrubs. All the daisy bushes are of great value for garden decoration. They are beautiful in habit and bear a profusion of bloom. The hardy Olearia Haastii, which smothers itself with clouds of white blossom, and the ornamental O. macrodonta, are known to most gardeners, and are extensively grown; but it is the more uncommon daisy bushes, particularly the three that are described here, which deserve to be more widely cultivated, and there must be many gardens in the British Isles where conditions are favourable for them to succeed. W. R. J., *Anglesey*.

A HANDSOME AND ORNAMENTAL SPECIES, O. CHATHAMICA.

A FINE BUSH OF O. SEMI-DENTATA GROWING IN AN IRISH GARDEN.

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THE BUSY MAN'S PAGE

The Garden in September.

Work to be Done Now.

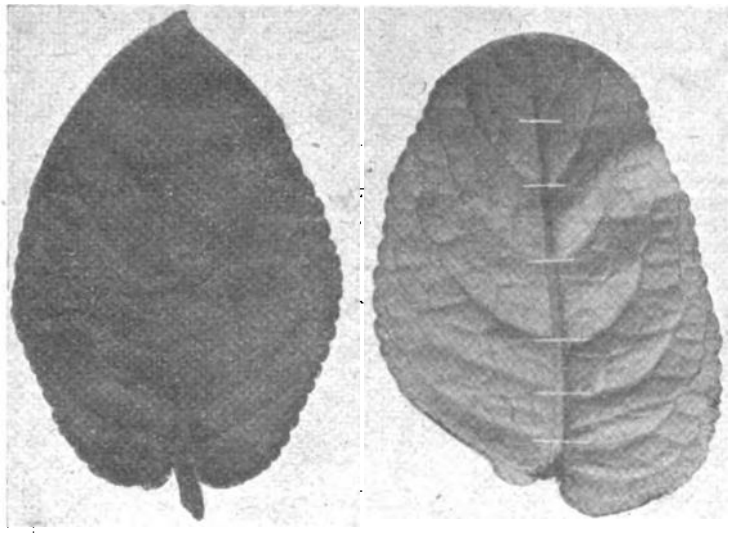
DURING September clear up, regularly, falling leaves from off lawns and flower beds. Tie dahlias and cut away all the side shoots. Later on in the month put out bulbs for spring display, hyacinths and narcissi being placed simultaneously in pots and glasses for window decoration. Earthing-up celery may be proceeded with, potatoes dug and arrangements for the winter and spring cropping of the vegetable ground carefully completed. Lift onions, drying them well in the sun, and gather tomatoes; transplant lettuces into frames for winter cutting, and thin spinach. Allow apples for keeping to hang as long as possible, and, after picking, lay them carefully away in a dry storing place. Borders may now be made ready for planting young trees, and strawberry beds for the forthcoming crop should be filled with healthy young plants. Damp must be avoided in the vinery where late grapes are ripening, and firing attended to. Cucumbers still bearing in the frames need air by day more than moisture now, and mildew is a danger to be overcome by caution in this respect and by the timely sprinkling of sulphur over the leaves. Before the greenhouse is filled for the winter is a good time for repainting, which should be quickly and efficiently done on dry days. The propagation of half hardy plants by cuttings should be completed, frames as well as the warmest spots in the underpart of the greenhouse or conservatory being fully utilised for the purpose. Watering in the greenhouse must be moderate, and ventilation free so long as frost is never allowed access to the houses.

Propagating Gloxinias by Leaves.

THE gloxinia, like many other beautiful plants with fleshy leaves, may be increased quite readily from leaf-cuttings. For many years the gloxinia was regarded by some as a subject that could only be well grown by those who possessed a stove-house; but such an erroneous idea has been exploded, and enthusiastic devotees of this plant find that it can be grown very successfully in just an ordinary greenhouse where a comfortable temperature can be maintained. The work of propagation by leaf-cuttings is usually done in the early autumn; the present period affords a most excellent opportunity for beginning this interesting work. This may be commenced as soon as the leaves are fully matured, and the older leaves are almost invariably selected for the purpose. Either pans or boxes should be utilised, as it is customary to deal with the whole leaf. Preference is usually given to the use of a compost of sandy peat and leaf-mould.

2.—THE LEAVES SPREAD ON A FLAT SOIL SURFACE AND HELD IN POSITION BY SMALL STONES PLACED ON TOP.

The whole leaf of the gloxinia is laid with the under side downwards, so that this rests on the surface soil. Before adjusting the leaf in position, incisions should be made at regular intervals along the mid-rib. The incisions should be made with a sharp knife, the mid-rib being cut through, or half through, at intervals of about 1in., more or less, either at the junction of each pair of ribs or alternately right along the whole leaf, as shown on the right leaf of Fig. 1. In consequence of this treatment of the leaf, little bulbs should form at each incision; in other words, a callus will evolve, and in due course tiny plants will develop, which, when well rooted, should be potted up individually into small pots. These little bulbs, or corms, will evolve before the leaf decays. The temperature in which the propagation of gloxinias by leaf-cuttings is carried out should be any figure between 60 degrees and 75 degrees. This is a wide margin, but it only goes to prove how very accommodating this subject is. No foliage will be developed on the little bulbs reared in this way; it is not until they are potted up in the spring, and grown on in the ordinary way, that they will be represented as young growing plants.



1.—GLOXINIA LEAVES SUITABLE FOR PROPAGATION.
The leaf on the right has been cut several times along the mid-rib. Roots form at these incisions.

Another method is that of cutting a gloxinia leaf in halves and inserting the leaf-stalk of the lower half in prepared soil in pots. Such pieces root readily enough if the pots are stood on a moist bottom on the bench of a warm greenhouse. Instead of pegging down the leaves, the same object may be achieved by placing two or three small pebbles thereon to keep them in position, as shown in Fig. 2. The soil should be made moist throughout in the first instance, and the surface of sand maintained in a moist condition by damping the ashes, etc., on which the pans and boxes should stand during the rooting process. Shade the leaves from the direct rays of the sun.

How to Treat Vacant Ground in the Kitchen Garden.

ROWS of peas, runner and dwarf beans and onions will be cleared off the ground during the early part of September. Now, it frequently happens that the surface of such soils is soon green with the seedlings of weeds which, if left, will grow rapidly and soon be beyond the Dutch hoe. Many kitchen gardens are neglected in this way during September and October, and some weeds are left untouched until spring, when they quickly flower and seed again, especially those of the groundsel. It is a great mistake to neglect this vacant ground. It could be profitably used in the following manner: When the summer crops are lifted, the weed seedlings are usually quite small, and the ground should then be hoed at once, and the majority of weeds are then totally destroyed in a very short time. Follow this hoeing immediately with raking, then the seedlings are destroyed quickly if the day is a sunny one.

There need not be any digging work or special preparation of the ground; simply clean the surface and sow, at once, and broadcast a few seeds of Green-top Six-weeks Turnip or a similar early variety. Sow the seeds thinly and rake them in well. Sow some French Breakfast and turnip-shaped radishes in the same way. Plant out endive and lettuce plants quite 9ins. apart, and they will come in very useful during the winter months. All The Year Round Lettuce or a similar hard variety should be selected. The soil is warm, and seeds in it germinate quickly; new roots form and grow rapidly on transplanted subjects. If, however, such catch crops are out of the question, the soil should be deeply dug or trenched forthwith and left in a rough condition throughout the winter. This course is much better than digging or trenching while the soil is sodden later on.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

After the Holidays.

IT is surprising how plants, when left alone for a couple of weeks, will run riot. A friend who has a small garden that is her great pride and care has just returned from a holiday in Switzerland, where she has been studying the alpine flowers. A few innocent, tall nasturtiums against a fence, acting on the principle that when the cat's away the mice will play, have literally overrun the tiny garden. To a lesser extent this is true of many plants this season. Owing to the continuous rain and warm weather, herbaceous plants also have produced an abundance of leaves, and in many cases only a few flowers. It does show how difficult it is to apply manure and fertilisers to the garden to avoid excessive foliage in a wet season.

Plants grown in poor soils naturally tend to make less foliage in a wet season than rich ones.

It would be worth while, at this late season, to go through the flower border and ruthlessly thin out overcrowded growths. Despite the paucity of blossom, a wet season is, on the whole, a good garden season. The Ministry of Agriculture's crop reports are encouraging to read, and from all parts of the country crops are reported to be good. Perhaps the amateur will be most concerned with keeping weeds down, owing to the difficulty, if not impossibility, of keeping the surface soil hoed. Giant weeds arise in two or three weeks, and these must be pulled out by hand. I am often asked if one should burn weeds of this character, and my advice is, unless they have already seeded themselves, to bury them in the part of the garden which is being dug, or to put them in the compost pit and scatter a little soil over them as well as a handful or two of lime to assist the decomposition. Weeds that are bearing seeds should, of course, be burnt; but if they are only in flower and no seed-pods are ripened, it can be safely assumed that, from the compost pit, no dissemination of the enemy will result.

SEPTEMBER IN THE TOWN GARDEN.

WHAT TO DO THIS MONTH.

1. *Lift and divide perennial plants that have finished flowering.*
2. *Clean up the garden. Rubbish and dying weeds quickly accumulate at this season.*
3. *Sow sweet peas intended for exhibition.*
4. *Plant all kinds of hardy spring flowering bulbs—hyacinths, narcissus, muscari, scillas, iris, snowdrops, crocus, chionodoxas, crown imperials, etc.*
5. *Plant tuberous-rooted anemones.*
6. *Plant winter aconites in bold patches at the edge of the shrubbery.*
7. *Lift tuberous-rooted begonias from the open ground, and commence to withhold water preparatory to drying them off for the winter.*
8. *Under the shade of trees plant hardy cyclamen.*
9. *Plant out cabbages on the vegetable plot. Allow 2ft. between plants.*
10. *Lift and store potatoes as they are ready. If any are attacked by blight be specially careful to sort them before storing.*
11. *Earth up celery.*
12. *Plant out cauliflower and endive.*
13. *Cut leaves from outdoor tomatoes to allow the sun to reach the fruits. Small green fruits can be used for pickling.*
14. *Keep the lawns well rolled and cut. Sow new lawns.*
15. *Renovate the rock garden. In towns it is usually necessary to rebuild this feature each three years.*
16. *Plant new strawberry beds.*
17. *Thin out canes of raspberries and loganberries.*

Raising Plants from Cuttings.

AS will be seen from the accompanying photograph, many town gardens grow plants that have to be kept through the winter, and a few hints on making cuttings will be helpful to most town gardeners.

For those who have no cold frame or greenhouse, early September is the best time for striking cuttings. In the garden there are many such plants, such as geraniums (zonal pelargoniums), fuchsias, salvias, heliotropes, etc., from which cuttings can be taken and rooted. Cuttings root more easily in warm weather, and while the commercial grower can use artificial heat, the amateur has to rely on the sun's warmth. Light sandy soil, with some leaf-mould intermixed, ordinary flower pots and a sharp knife are all that are required for preparing and planting cuttings. Choose sturdy side shoots, without flowers, about 4ins. or 5ins. long. Remove the two lower pairs of leaves and cut the stem below a joint, as roots develop best from the joints of a stem. The clematis and willow are two of the few exceptions to this rule. Place broken crocks in the bottom of the flower pots for drainage, and cover this with the flaky leaves and rougher bits of soil before filling the pots. Make holes for the cuttings (six in a 5in. pot) with a sharp pointed stick, and each hole should be just deep enough to take the cutting. You can easily tell if the cutting is touching the bottom of the hole, and if a space is left beneath it may result in "damping off," the common disease among unrooted cuttings. The pots can be stood out of doors and watered thoroughly, after which they should only be given water sparingly. Damp the foliage each evening, using a fine rose can, and shade from bright sunshine. Of course, if a cold frame is available, the pots can be put in this until the cuttings have rooted, but on no account coddle the plants, but give them plenty of air. The sturdier and hardier they are, the better will they be able to withstand the damp and frost of winter months.

AN ATTRACTIVE DISPLAY OF BEDDING PLANTS.
To raise a stock for next year, cuttings should be taken now.

How to Get Big Chrysanthemum Blooms.

EARLY sorts, like Horace Martin, still one of the best yellows, are in full bloom, but others that are only just showing their buds can be disbudded if you wish to have a few special blooms. Take hold of the shoot and carefully rub off all the side buds, leaving only the one at the top. This causes all the sap to go into the one flower, making the blossom larger than if all the buds were allowed to grow. One of the best of fertilisers is soot water. This makes the foliage a healthy green and gives added colour to the flowers. Owing to the weight of the flowers many varieties need the support of stakes. If left untied the shoots become twisted and untidy, and the flowers are spoiled by rain which splashes soil on to them. Those who grow these flowers in pots will need to water them more frequently now that the soil is full of roots. A top-dressing of rich soil increases the size and colour of the flowers.

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THIS WEEK IN THE FLOWER GARDEN

A Decorative Lilac—Syringa Palibiniana.

DURING the last twenty years western and northern China have sent to us quite a number of highly decorative species of the genus syringa. Like other genera, as, for instance, berberis and cotoneaster, the lilacs show an astonishing development in this paradise of hardy ornamental garden plants. Among the true lilacs we have two distinct groups, S. villosa and S. vulgaris, of which each contains some very fine species.

Of the second group, S. vulgaris is the type. While S. villosa and its relatives flower from the terminal bud and develop their panicles just before the end of May, lasting until almost July, S. vulgaris, S. pubescens and S. oblata var. affinis often commence to flower rather early in April. Among the species related to S. pubescens there are some more from northern China of great garden merit on account of their hardiness and rich and ornamental blossoms. They are still very little known even in English gardens. I had the good fortune to study them in the Arnold Arboretum. One is S. Meyeri, a rather compact shrub with dense inflorescences of deep violet flowers. It had been detected by the late Dutch collector, Meyer, in a garden near Peking. According to a specimen collected by A. Bunge and preserved at the Museum at Paris, it seems to be wild in the north-eastern parts of China, where S. pubescens is at home. A second species forming a small shrub from north-western China is S. microphylla, a fine plant for a small garden. The last introduction from Korea is S. Palibiniana, of which I took this photograph in Mr. Lemoine's famous nursery at Nancy, France, at the end of May. It forms a slender, upright shrub of about 9ft. to 10ft. high. The leaves are densely pubescent on the mid-rib and the veins beneath. The panicles, the form of which is clearly shown in the picture, reach a length of about 7ins. There is an apparently even more ornamental variety, Kamibaysshii, which was also introduced in 1917 to the Arnold Arboretum.—C. S.

SYRINGA PALIBINIANA, AN ATTRACTIVE LILAC FROM CHINA.

Some Rockery Violas.

POPULAR as the pansy and garden viola have always been, it cannot be wondered at that the small-flowered violas are considered indispensable in the rock garden. Certain species might almost be called ubiquitous; and, in addition, there are rare little gems to gladden the heart of the connoisseur. Among the common kinds which merely require mention in passing are Viola gracilis, V. cornuta and the sweet violet, odorata. Speaking particularly of the first two, I would point out that named varieties are becoming plentiful and, in the main, are eminently desirable. Let me mention, in particular, the white Clarence Elliott, the black Black Knight, Perry's Yellow, Royal Blue, Purple Robe, blue Lady Crisp and Bambour, an improved type. As a variation to cornuta itself, we have the old alba, blue papilio and the deep purpurea; newer, perhaps, are Mauve Queen, G. Wermige (white) and a deep blue, Colorado. Coming to other species, I must enumerate lutea, a fine yellow, which also can be had as a soft purple, The King; Munbyana, an early-flowering violet-coloured kind; pedata, the "peat" violet—best, perhaps, in its variety bicolor, violet and blue; bosniaca has red magenta flowers; Fondrasi-lactea, smallest of all the violas, has white, dainty flowers; and, to close the list, I add adunca (purple), arenaria (rose red), glabella (yellow), palustris for wet places, and biflorus for shade.—LANARKSHIRE.

Plant the Madonna Lily Now.

THE present time is undoubtedly the best in which to plant the old Madonna lily, Lilium candidum. By this time the flower-stem has almost died down and the bulb is inactive. Before winter, the bulb will manage to make a basal tuft of leaves, and it is then certain to flower again next season. Planting at any other time means the sacrifice of a year's flowers. Plant this lily at least twice the depth of the bulb and place a handful of clean sand below and another above the bulb to prevent decay in a wet soil. Correct preliminary preparation of the soil is an additional guarantee of success. Dig the site deeply and enrich the soil by adding well rotted leaf-mould, rotted but not excessively rich manure or sifted mould from decayed rubbish; a soil rich in humus is best for them. Amateurs who cannot get either of these will find that hop manure or coarse bone-meal is the best substitute. A final word to those who must buy new bulbs—buy them as soon as you can get them and plant at once; also mix a dessertspoonful of sulphur with the sand used at planting time when the bulbs come from an unknown source, as a preventive against disease.—H. H. A.

How to Grow Nigella and Cornflowers from an Autumn Sowing.

THE nigella is a lovely flower, delicate in appearance but quite hardy, but it is stronger in both plant and flower from an autumn sowing than from a spring one. The present time is a suitable one for sowing the seeds, and the resultant plants will bloom early next June and continue to do so throughout that month and until the middle of July. In order to extend the flowering period cut down the plants to within 3ins. of the ground level directly the main flower stems are denuded of their flowers. In the course of a fortnight new shoots will be growing freely, and these should be assisted by weak doses of liquid manure applied twice weekly and very frequent applications of clear water during dry weather. The second crop of flowers will be available throughout August and the first half of September. From two spring sowings flowers will be plentiful from early in June until the end of September without a break. These remarks apply, also, to the cornflowers.

The situation must be an open one, as drawn-up young plants will not be satisfactory. The soil for the nigella should be rather richer than that for the cornflowers. In medium good loam the nigella plants attain a height of 18ins.; in poorer soil the cornflower plants grow 4ft. high. Each individual nigella plant will measure, approximately, 18ins. across, and each cornflower 3ft. across. The quantity of bloom that the plants bear is really wonderful. Sow the seeds in shallow drills in very clean ground, and duly cover lightly with fine soil. The drills for the nigella being 2ft. apart, and those for the cornflowers 4ft., leaves ample room for the resultant plants to attain to their maximum size. Thin out the young seedlings in both cases to a distance of 16ins. at least in the drills; then the plants will meet and overlap but yield a great quantity of high-class bloom.—HANTS.

Chrysanthemums and Dahlias.

Feeding and Staking.

BOTH dahlias and chrysanthemums have grown rapidly during the past few weeks. The first named, possessing rather heavy foliage, suffers severely from strong winds if they are not well supported by stakes. Where they are grown in new shrubberies a few branching sticks will afford the necessary support as the shrubs act as a screen to a great extent. In the more open quarters stronger stakes will be necessary to supplement those fixed earlier in the season. If ordinary care be taken, all, or nearly all, the stakes may be hidden from view by the foliage, and at the same time afford the necessary support. In the case of chrysanthemums growing in herbaceous borders, the branching sticks will support the plants sufficiently and in such a way as to retain the natural bushy form of each. The sticks should be fixed firmly in the ground near the outside portion of each specimen. Those plants, grown in the open ground now and intended for the supply of cut blooms when the plants are lifted and re-planted under glass later in the month, need only one stake to each.

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This stake should be inserted firmly in the soil on the south-west side of the plant and a strong piece of soft raffia fixed to it and then passed round the main branches, entirely enclosing them at about two-thirds of their height. With regard to the feeding of both kinds of plants discretion must be used, for indiscriminate feeding would do more harm than good in some cases.

Where judicious feeding will be beneficial, use weak doses of liquid manure and cool artificials where liquid manure cannot be obtained. If the plants are growing in a rich soil, do not feed at all; but where they are planted in a poor one, feeding twice a week will greatly strengthen them and also the flower stems.—G. G.

A Beautiful Rock Rose.

(*Cistus Loreti.*)

AMONG the dwarfer rock roses there is none more charming than Cistus Loreti, also known as C. lusitanicus. This is a hybrid between the true gum cistus (C. ladaniferus) and C. monspeliensis. It makes rather a spreading bush, not often above 3ft. high. The foliage is an attractive fresh green which affords a delightful setting for the flowers. These latter, which are nearly 3ins. across, are singularly beautiful, the pure white petals each having a blotch of vivid carmine-crimson at its base, while the prominent wreath of stamens is golden yellow. C. Loreti excels also in a natural elegance of growth. It is one of the hardiest of its race and, unlike most others, its flowers are retained until evening, or, in dull weather, even to the following day. C. Loreti is a most prolific bloomer, and all it asks is a root-run in the poorest of dry, stony soil (with or without lime) and full sun. Propagation is carried out by means of cuttings. Any unflowered shoot of half-ripened wood about 4ins. long will readily strike if potted in sandy soil during the later summer and placed in a closed frame. Such cuttings will often commence flowering the following year, but it is usually wisest to pinch them back once to encourage a more bushy growth.—J.

A FREE-FLOWERING ROCK ROSE, C. LORETI.
It makes an admirable plant for clothing a dry wall.

A Good White Oxalis.

IT is not often that an albino variety excels in vigour and prolificacy over the typical plant, but the white form of the beautiful Oxalis floribunda is an exception. This is one of the best of its race in its own colour where a rock plant is wanted that will bloom continuously and abundantly from spring to autumn. In my garden, at any rate, this cheerful little plant comes into flower before O. floribunda itself has opened an eye, and it is full of flower for months after the latter has gone over. Moreover, O. f. alba is willing to grow and do well in the poorest of soil.

THE DECORATIVE WHITE FORM OF OXALIS FLORIBUNDA.

I have it in shade and sun and in the drip of trees, and it is invariably bright and happy. While it is easily propagated by breaking up the knobbly roots during autumn or winter, it never spreads of itself or becomes in any way a nuisance. In the rock garden, or front of the border, it can be placed with one's choicest plants without fear of undue trespass. It does not grow quite so large as the best forms of the type, my plants averaging about 8ins. in height and covering a space 1ft. across at the most.—A. T. J.

The Cleft Gentian.

A Decorative Late-flowering Species.

SOMETIMES known as the crested gentian, G. septemfida is at once one of the most beautiful and easily grown of its race. Indeed, it is so amenable to cultivation that half a dozen plants (some of which come into my photograph) put into ordinary light kitchen garden soil

AN ATTRACTIVE LATE FLOWERING GENTIAN, G. SEPTEMFIDA.
It is well adapted for the rockery or for edging a path.

have prospered abundantly for several years. Moreover, they have always afforded an unusually long blooming season, the first flowers appearing early in July and the last not being over until the end of September. The colour of the large bell-shaped beautifully fringed blossoms is a particularly good, clean blue, and the habit of the plant all that could be desired. G. septemfida is especially useful in the rock garden, since it is at its best during a period when there is comparatively little colour, and among gentians it bridges the space between the earlier ones and the ornate and willow gentians which follow it. It is, of course, a true alpine and perfectly hardy. The plants referred to never get any attention beyond a cutting back when flowering is over, but under drier conditions they are the better for a good top-dressing of leaf-mould, sand and loam in spring. There are several varieties of this gentian. Lagodechiana is a rather smaller but very attractive form, and G. s. cordifolia and G. s. latifolia are distinct and good. Division in autumn or spring is the best means of propagation, but the cleft gentian may also be raised from seed.—A. T.

A Strong-Growing Border Perennial.

(*Inula glandulosa.*)

A VERY useful plant for the herbaceous border or for the semi-wild garden is Inula glandulosa. This plant, which is a native of the Caucasus, produces solitary flower heads of a very fine shade of yellow. As a rule the height of the species is about 2ft., but in good soil this is much exceeded. The flowering time is in the late summer, when a fine specimen of I. glandulosa is really very effective. The plant is easily increased by root division either in the spring or autumn.—L. B.

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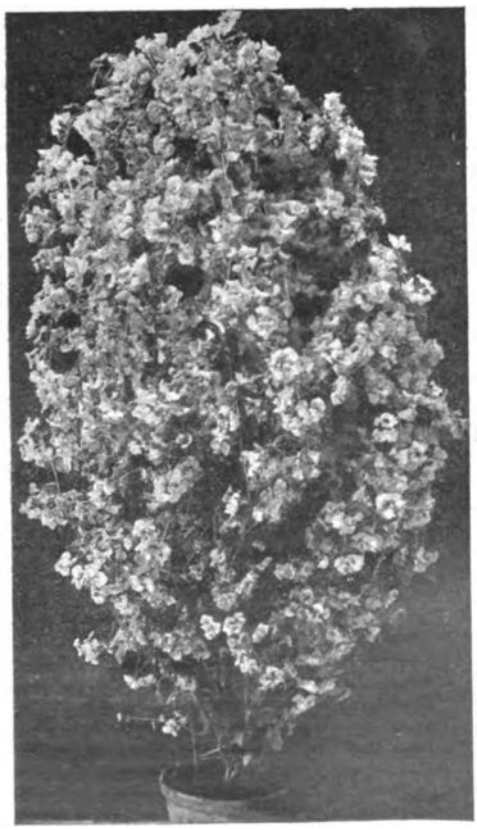
SEED SOWING & BULB PLANTING IN THE GREENHOUSE

Nemesias and Clarkias in Pots for Early Flowering.

THESE two kinds of flowering plants are remarkable for the freedom with which they flower and for their long period of flowering. The nemesia is half-hardy and must be grown under glass during the winter and spring, and the clarkia is quite hardy and may be grown in a cold frame; but as the object of this note is to show how the plants may be had in bloom early in the year, they must be grown in pots and afforded greenhouse treatment.

Old soil in which there may be fungus should not be used. Do not use old potting soils nor soils from old boxes, nor any from heaps that have remained for a long time under trees. Rather use new sweet loam and half-rotted leaf-soil with old mortar rubble. The seeds should be sown from now on until mid-September. Select 3½in. pots, place one hollow crock in each pot, then a tuft of fibrous loam to secure good drainage. Three parts fill the pots with the compost, press and level it; then water through a fine-rosed watering-can. One hour later, sow the seeds in a circle a little more than half an inch from the sides of the pots. Sow the clarkia seeds thinly and those of the nemesia rather thickly, as they do not germinate as freely. Cover with fine soil, but do not water the covering soil. In due course the seedlings will appear and they must be grown on very hardily, subjected to plenty of air and thinned out, the clarkias to three and the nemesias to four or five in each pot. The object of the cultivator should be to obtain strong root action. If the pots are well filled with roots by December, the plants will make splendid progress in January, February and March, after being, early in the year, transferred to 6in. pots. Clarkias may be grown 18ins. across and nearly 4ft. high, well clothed two-thirds the length of their stems with flowers. At the final potting use a small quantity of bone meal in the potting soil and be very careful not to apply any strong manures in liquid form afterwards. There are now many brilliant colours, but Salmon Queen, White Queen, Orange Queen and Ruby King will be sufficient. If some plants are grown in boxes 6ins. deep, the spikes of flowers will be charming used in a cut state in vases for decorative purposes.



CLARKIA IS ONE OF THE MOST DECORATIVE AND EASILY GROWN ANNUALS FOR THE COOL GREENHOUSE.

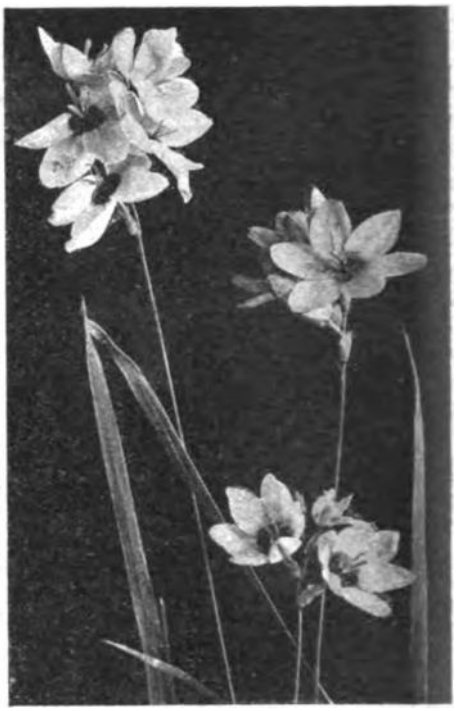
Ixias: Dainty Bulbs for the Cool Greenhouse.

THE arrival of a bulb catalogue to-day reminds me that I must order a fresh supply of these pretty, half-hardy South African lilies, both for the cool house and for outside planting. The bulbs are potted up in succession from now onwards until December, rather firmly, and in a compost not definitely enriched with manure but containing good-hearted loam as a basis. Six or more bulbs fill a 5in. pot, and they may be completely covered with sifted compost to a depth of 1in. Plunge the pots to the rim in ashes outside, or stand them in a cold frame, the treatment being much the same as that given to freesias. Water very sparingly at first; but, as growth advances, give more and expose fully to light and air. Later on, when taken inside the greenhouse, stand them on a shelf near the glass. After flowering, dry off gradually to plump up the bulbs for another year. The flowers are borne in clusters on stiff wiry stems; they open widely and look very pretty, and in a cool house last long. In the open, ixias succeed in a sheltered, sunny corner where the soil is well drained. Plant 3ins. deep in clumps and cover the soil with some kind of protective mulch. The old varieties, Galatea, Snowflake, Excelsior, Village Maid, Golden Eye, Bridesmaid and Vulcan, are first-class, while a mixture produces flowers of rich and vivid colouring.—A.

Raising Fine Cyclamen from Seed.

THIS is the only satisfactory way of raising new batches of these plants. The corms may be divided when new growths are about 1in. long, but it is not a method that one can advise. The corm is solid and only an expert cultivator can deal with it in this way. Seeds may be sown in September or in February, and it is not difficult to raise good batches of seedlings from seeds sown at either of these dates. The most suitable compost is one of light turfy loam, a little sandy peat and a small proportion of half-rotted leaf-soil. Pans or pots are better than boxes for sowing the seeds in. Provide very sound drainage, cover the latter with half-rotted leaves, then place in the compost, firm and water it. One hour or so afterwards sow the seeds 1in. apart and cover them nearly half an inch deep with the finer part of the compost.

Place the pan on a stage in a cool part of the greenhouse or in a cold frame, and cover with glass and paper. Do not water on the surface, but three parts immerse the pans in a vessel of water when the latter is needed. The seeds may not germinate regularly, but as the resultant seedlings are free of each other, the more forward ones can be transplanted in pots or pans at 2ins. apart quite near to the edge, then they will winter well on a greenhouse shelf if the structure is heated a little. This method means express culture of these plants and is superior to the old one of sowing thinly and allowing the resultant seedlings to remain undisturbed in the seed vessel for a year. The soil becomes sour and many young roots perish in it. The young plants should be potted singly directly new leaves and roots begin to grow in the spring.



GRACEFUL FLOWER SPIKES OF THE AFRICAN CORN LILY (IXIA).

Stocks for the Greenhouse.

Make Sowings at the Present Time.

FEW plants are more easy to manage and better worth growing in the greenhouse than the East Lothian, intermediate and Brompton Stocks. These naturally flower in the winter and early spring, and in some localities do quite well out of doors. With protection, much better results are secured, and the modern varieties with their wonderful range of colours are worthy of special cultural care. Excellent results are secured by growing the plants in an unheated greenhouse or frame and, as a matter of fact, the sturdy specimens produced without artificial heat often flower more freely than those which are coddled. The best time to sow the seed is now. Sow in boxes or pans of fine soil and place these in a frame. Thin sowing is important and, if by any chance the seedlings do come up thickly, remove a proportion of them to prevent overcrowding. When the plants are big enough to handle easily place them in small pots and then move on as required. In the end it is a good plan to have two, or possibly three, plants in a 6in. pot. Light soil may be used up to the last potting, and here it is well to employ something a little more substantial. The double varieties are the most decorative and, as a rule, the single-flowered specimens (of which there is sure to be a certain number) may be discarded or placed in some odd corner of the garden in the open. The double forms show an altogether more stocky development. During the dark days of winter water should be given sparingly and, except in very bitter weather, the ventilation should be as free as possible.—S. L. B.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE official report of the Scottish Sweet Pea Trials in 1927, which has been compiled by Mr. John Smellie, makes instructive reading. A total of eighty-eight varieties were received from eighteen raisers, of whom Messrs. Robert Bolton and Sons were the chief contributors, their efforts in the production of new sorts being represented by sixteen varieties. Mr. J. Stevenson, Wimborne, and Messrs. C. Morse and Co., California, came next in order with fourteen and thirteen entries respectively. The information contained in the detailed record testifies to the difficulty experienced by trade growers in their endeavour to produce true stocks. No fewer than twenty-seven varieties were unfixed, a number which works out approximately at 30 per cent.; and as showing the degree of impurity distinction is made between mixed lots and those containing rogues. As the latter vary in number from one to three, it is obvious that the mixtures exceeded the latter figure. The seedlings sent by seven firms are certified as pure, but their contributions were proportionately small and in no case did the varieties exceed five in number. There was a time, and that not so long ago, when American seed obtained a bad reputation in this country because a number of the stocks were unreliable in respect of fixity; but the Helensburgh trials prove that the leading American firms are no worse than the English raisers in that respect, and, compared with certain home growers, they occupy a more favourable position. Messrs. Burpees' trio are all true; while Mr. Damerun's three are all lacking in purity; and of Dr. Hinton's little lot only one variety came true. Then, if a similar test is applied to the larger individual collections, the results favour Messrs. Morse, who are credited with eleven true and two unfixed seedlings, which compares with Messrs. Bolton's group of eleven fixed and five unfixed introductions, and Mr. Stevenson's record of eleven fixed and three unfixed sorts. Messrs. King and Co.'s position was worse than either of these English firms, for only three of their eight varieties are declared to be true: all of which goes to prove that the sporting character of sweet peas is an ever present source of worry and disappointment to breeders of our popular annual.

Scottish exhibitors were well represented at the Southport Show and are to be congratulated on the measure of their success as reflected in the prize list. Competition was exceptionally keen in the pansy and viola classes, and, while the northern contingent excelled in those classes which recognised the Scottish system of showing the flowers on boards, they have much to learn in the art of staging the blooms in vases, a practice of long standing at English shows and one that has recently been introduced at the more important exhibitions in Scotland. The entries in a number of classes exceeded twenty, and in proportion to their numbers the Scots did remarkably well. It was expected that the first prize for twelve bunches of grapes in four varieties would go to Glamis Castle, and when it became known that Mr. Donald McInnes had been defeated by a very few points there was a general feeling of disappointment among his countrymen. Mr. David Airdrie, Dunlop House, had also to be content with second place in the class for four bunches of grapes; and, singular to relate, Mr. S. Gordon, Monreith Gardens, was assigned a similar position by the judges in the other three grape classes; while Mr. McInnes added two additional second prizes to his list of honours. And what is to be said of Mr. Grigor's triumph in the sweet pea section? Located as I was in the secretary's tent, it became an almost monotonous repetition as each successive sheet was received from the judges. Twelve first prizes gained in the single vase section practically exhausted all the colour classes, and as the northern grower also excelled against fourteen opponents in the trophy contest for twelve vases one welcomed his defeat in the Eckford and Bolton competitions, on the principle that the honours should go round. It was a remarkable record, and an inspection of the well grown blooms suggested that Banff had been favoured with better weather than had been experienced in other parts of Scotland, an inference that was confirmed by the fact that Messrs. Dobbie and Co. had to give up the idea of showing flowers and confine their exhibit to a collection of potatoes which, in its own way, was an object lesson in the cultivation of clean tubers of uniform size and quality. Messrs. Smith and Son, Stranraer, represented the Scottish rose nurseries in the prize list; an amateur, in the person of Mr. D. Whitelaw, Station House, Lawrencekirk, was responsible for the best six vases of gladioli; and the first prize collection of twenty-four living British wild flowers staged by Mr. Robert Hogg, Greystone Cottage, Castle Douglas, was a most creditable effort. The Glasgow and West of Scotland Horticultural Society sent a deputation, consisting of Messrs. Charles Young (Kinnishead), Joseph Dobson (Glasgow), David Torrance (Busby) and John Smellie (Helensburgh), the latter of whom also officiated as a judge.

August will be long remembered in Scotland for its unseasonable weather. The rainfall was abnormal, cloud-bursts and thunderstorms were common, and during the few brief dry spells several degrees of frost were registered in different parts of the country. Occasionally the wind was high, especially on the west coast, and snow was the only kind of weather that was not sampled. Such extreme conditions have had an injurious effect on garden bloom, which is usually at its best in August, and this, again, is reflected in the decreased entries and inferior quality of the exhibits at the various flower shows. The trade has also been badly hit, and as a consequence the firms have cancelled space booked at various exhibitions. ST. MUNGO.

Flower Show Fixtures.

September 10th.—Barrhead, Springburn and Cowlairs Chrysanthemum; Haddington, Kilbarchan, Moffat.

September 14th-15th.—Royal Caledonian, Edinburgh.

September 16th-17th.—Springburn Northwestern.

September 17th.—Hutchisontoun Chrysanthemum.

September 24th.—Renfrew Plotholders, Walkerburn, Caledonia (Glasgow) Chrysanthemum.

WHAT OUR READERS SAY

A NEW HYBRID FRUIT.

SIR,—This is a corner of my new hybrid fruit plantation. We call the fruit "Jamberry," because one can make the most delicious jam from it, by merely adding a correct proportion of sugar to the fresh picked berries, no cooking whatever being required to preserve it. Its flower is large and white, something like a clematis.—MISS J. R. MCCORMICK, *Williamstown, Kells, Co. Meath.*

A PLANTATION OF THE "JAMBERRY"
This fruit requires no cooking to preserve it.

MY IRIS GARDEN.

SIR,—These notes on a small iris garden may be of interest to some of your readers. I am planting the irises at the present time, and as the season is such a wet one I can go straight ahead with the work and the roots will have time to go down into the earth and get a good grip of it before the winter comes. The main part of my iris garden is a long border facing due south, with a thick hedge of laurels and flowering shrubs to ward off the north wind, and, what is more necessary, a 6ft. grey stone wall to break the west wind which sweeps across the country from the Bristol Channel in devastating strength.

Some little distance from the shrubs I have an irregular hedge of tall and dwarf lavender, and among it in groups of the tall-growing Pallida dalmatica, whose opalescent, sword-like leaves look so beautiful among the lavender. I have three sorts of pallida—Princess Beatrice, Albert Victor and Mist, the latter being extraordinarily vigorous. I bought a couple of plants of it eighteen months ago, and it was a glory in the garden for two

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months this last spring and has spread into huge clumps.

Many of the new irises are most beautiful, but I am keeping mostly to old and tried friends which I am gathering together from various parts of my very mixed garden. There is a big clump of the golden-banded I. Ochroleuca in the coolest corner under the old grey wall, which has been there some time now and gives us many beautiful flowers in the early summer. Then, there are clumps of my much-loved (true) Fleur-de-Lis with its lovely pearl-tinted flowers, and Flavescens with its soft yellow blooms; and Mrs. H. Darwin, where you can cut and come again; and Thorbecke and Elizabeth and Canarie, another very floriferous iris; and Queen of May, such a lovely pinky lilac flower; and gracchus and Isolene, Mme. Chereau and Madonna—but the latter has not yet flowered, for I think I planted it too deeply, as I used to do many of my irises.

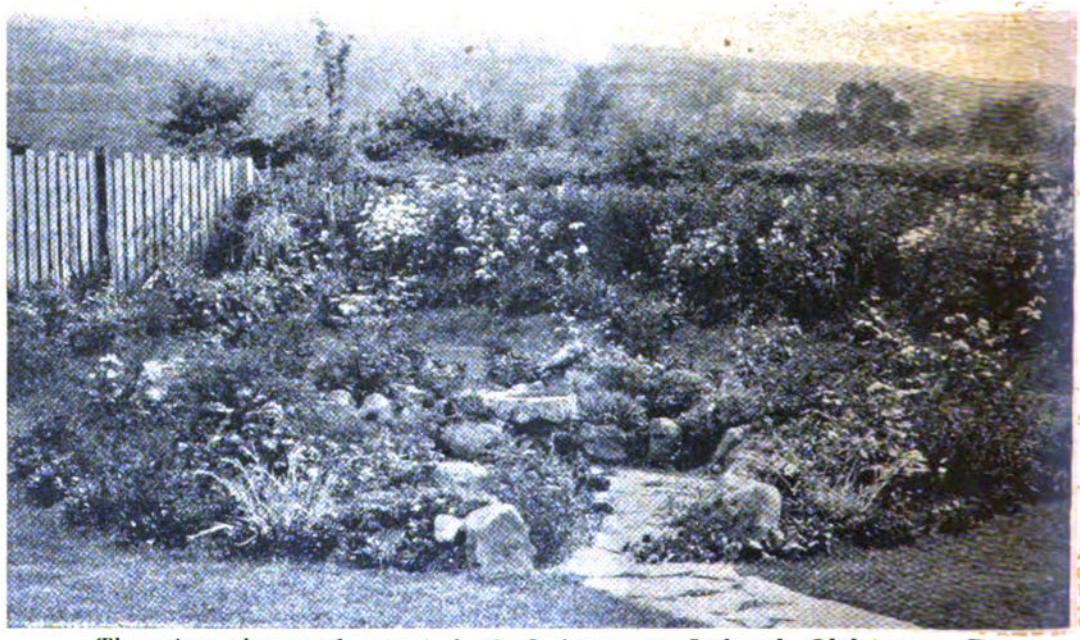
Rather alone, for she brooks no rival, is Longipetala, most exquisite of blooms. Princess of Wales is a grand white iris. Kharput I have just put in and shall plant dwarf thyme and rosemary and early crocus about her feet, to remind her of her home in sunnier climes than this; and only so late as yesterday I planted sambucina, the plum-scented iris, and she came to me with some of her seed-pods on, and I shall sow some of the seed if I can ripen it. I am not quite clear as to sambucina being plum-scented, as described in the catalogue issued by the firm I got her from, for I am told that graminea has the scent of ripe greengages However, we shall see.

Then, I have sibirica orientalis and Perry's Blue, a lovely thing, and Snow Queen, and, running in and out towards the front of the border, I have the dwarf pumila and chamæiris hybrids Cyanea (which is in flower at the present moment, August 16th), also lutescens and Aphylla Ditton Purple, with Snowcap and atropurpurea and other unnamed pumilas. This ends the list of the present occupants of my iris patch, but I hope to go on collecting—I like to feel that there are always more to come. As Robert Louis Stevenson aptly remarks, "It is better to travel hopefully than to arrive." — M. W. BOTHAMLEY, *Yatton, Somerset.*

OUR PHOTOGRAPHIC COMPETITION

The announcement made last week that our Photographic Competition would close with next week's issue and that readers should use their cameras during the finer days that promised, has produced a large number of photographs. It may not be out of place to repeat that fellow readers will benefit in due course when, from time to time, we publish examples of the delightful and constructive pictures which have been received and will continue to be received if opportunities are seized during the remainder of the gardeners' harvest time.

This small sunk rock garden my wife and I made in March last. The paved inner circle—which is approached by two shallow stone steps—is bordered by a rockery of Dartmoor stone and is surrounded by an outer bed planted with choice roses, carnations, mignonette, etc. In the rock garden we have had a succession of plants in bloom since early spring, such as several varieties of saxifrage, alpine phlox, veronicas, linaria, arenaria, etc., and now the red linum makes a blaze of colour, as also does the beautiful orange mimulus. The bird bath in the centre is an attractive feature, and the varied colour of the crazy paving, which is of local stone, gives a warm and pleasing effect to the whole scheme.



The guinea photograph, sent in by G. J. ATKINSON, *Inglenook, Okehampton, Devon.*

In the foreground of my border on the left are flowers of mauve and violet colour, including viola (Juliet), viscaria, Campanula (carpatica), Campanula (persicifolia, Telham Beauty), scabious, agapanthus, platicodon, veronicas backed by delphiniums; then come scarlets and crimsons, verbena, phlox, antirrhinums, backed by gladioli and dahlias, galtonias merging into pinks, including phloxes, pentstemons, linums, polygonums (Affine), Shirley poppies and sidalcias. On right are yellows, then orange, orange scarlet, scarlet Shirley poppies and montbretia; then yellows again, anthemis (in variety), heleniums, violas, achillea (eupatorium), œnothera (missouriensis), genista (tinctoria), sedums; then whites, and lavenders at intervals throughout the border. J. FRANK WHITE, *Redlands, Longstanton, Cambridgeshire.*

Award of 5s.

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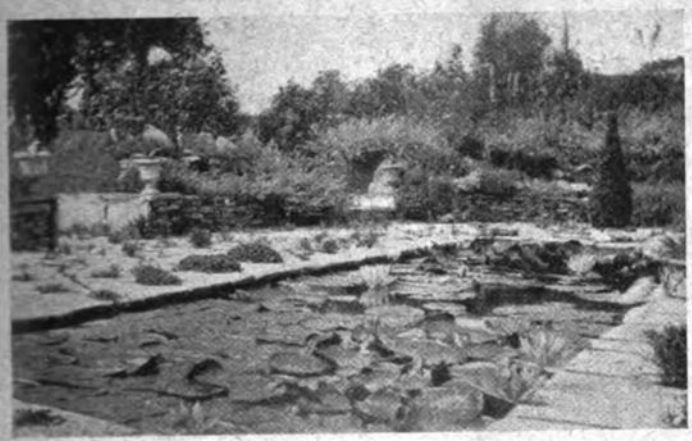
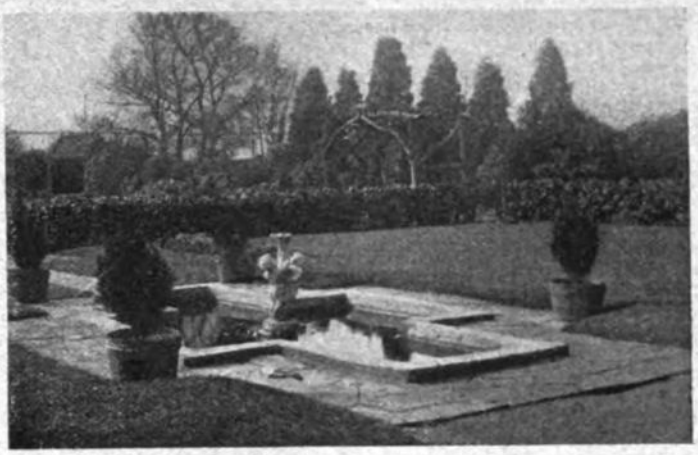


I took this photograph of my lily pool and rock garden last July. Only eighteen months ago it was just an ordinary flat lawn, but now it is the most delightful part of the garden. Between the crazy paving stones and in the crevices of rock work numerous rock plants are growing, such as saxifrages, rock roses and dianthus, and in the background are brooms, azaleas and other flowering shrubs. J. B. NEWMAN, *Lansdown House, Harlington, Middx.* Award of 5s.



This small formal lily pool, which I constructed entirely by myself, has greatly added to the charm of my garden. The pool is made of concrete and has a cement lining. The water is supplied by the town water supply, and the overflow drains away into a sump pit. The water-lilies are now doing well, and the four plants of Cupressus Lawsoniana erecta viridis in the tubs are extremely ornamental. P. BLUNDELL, *The Grange, Leagrave, Luton.* Award of 5s.

This part of my garden is quite secluded. Crazy paving surrounds the old sundial, and in the cracks between the stone I have sown love-in-a-mist and poppies. J. B. KING, *Foxley Lane, Purley.* Award of 5s.

The raised beds on either side of this winding, paved path give a pleasing effect. An arrangement of this kind seems particularly useful where the space is limited, and in avoiding straight lines a larger variety of planting schemes can be adopted, while the flowers have a much prettier setting. H. G. SHORT, *Oxgate Gardens, Cricklewood, N.W.2.* Award of 5s.

This photograph shows part of what was once an unsatisfactory herbaceous border. Nothing grew well, as part of the border is very dry and sunny and part is very damp and sunless. We took it up bit by bit, and by introducing large stones and making different levels it is now a most satisfactory addition to the rock garden. MISS A. CAMERON, *Duns, Berwickshire.* Award of 5s.

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NOTES ON FRUIT AND VEGETABLES

Staging Vegetable Exhibits.

HAS it ever struck you what a difference is made to a vegetable exhibit by the way in which it is staged? A judge is, of course, expected to examine each exhibit and judge it according to the quality of the produce; but he would be scarcely human if he were not to some extent influenced by the superficial impression which he receives first. It is extraordinary, too, how easily the novice is led into the fatal error of disobeying rules, how he confuses "kinds" and "varieties," adds trimmings where these are forbidden, or puts seven where six fruits or flower spikes are demanded. Vegetables do not need any adornment. Onions should be neatly cut off, turned over and tied; the root crops clean, trimmed of surplus leaves, and not too coarse; the beet of even size; cauliflowers trimmed of only the toughest of the outside leaves, and the cabbages, though large, should not be overgrown and coarse.

I have known amateurs take their vegetables to shows just as they came from the allotment or garden. Think what this means. In the first place, the roots cannot be properly cleaned without scrubbing. To try to do this at the show itself is to make yourself a nuisance to your fellow-exhibitors, and to the stewards. As far as possible, the exhibit should be ready to place on the allotted space before you start for the show tent. If outer leaves, stems and other odd trimmings are removed at the last moment, it should be the care of each exhibitor to see that his rubbish is cleared from the show room or tent, and not left for others to remove. In small flower shows such small points as these mean a great deal to the organisers. Flower shows are essentially co-operative affairs, and I would plead with all intending exhibitors to help and not hinder those who are in charge.—R. S.

Gathering and Storing Potatoes.

THE in-gathering of the potato crops usually extends over a wide period, beginning with the first earlies, which this year are proving more or less disappointing on account of the dry spell. Fortunately, the later planted varieties seem more promising.

The first consideration is the selection of seed from the varieties to be planted next year, the best results being naturally got from well developed and fully matured plants. Use, if possible, a five-pronged fork, care being taken not to insert it too near the stalk, otherwise many tubers get pierced. The fork should be passed through the soil again in order to bring any stray tubers to the surface. If the weather is favourable they are benefited by being left on the surface for a day and turned over, but not exposed long enough to start greening. At the same time, a diligent watch should be made for any diseased tubers; such should be consigned to the fire with the haulm. Sorting is best done as each plant is dug out. The seed potatoes may be left on the surface for several days in order to get thoroughly greened, as they not only keep better through the winter, but become distasteful to animal raiders. The small potatoes, which are generally cooked and given to pigs and fowls, should all be removed, otherwise they will give trouble the following year.

There are different methods of storing potatoes according to circumstances, the most convenient being a cellar or building where they can be protected from frost and light. Many people place them in heaps or clamps in a convenient spot in or near the garden, covering them with straw and a good spit of soil, care being taken to leave a vent at the top for the escape of heat. On the approach of severe frost extra covering should be added. When the weather warms up on the approach of spring, sprouting begins, to retard which it is a good plan to let in more air by removing some of the earth from the top.—G. S. T.

Established Strawberry Beds.

THESE should be put in order as soon as the layers for making fresh plantations have been removed. The old, useless leaves should be cut off, as, if left, they may be a source of danger by spreading disease—strawberry mildew, for instance, the spores of which they frequently harbour. Care, however, must be taken not to damage the young leaves in the centres of the plants, as every healthy, fresh-looking leaf adds to the strength of the crowns, and this enhances the prospect of a good crop of fruit the following season. All runners should be removed, and, with this object in view, the bed should be inspected frequently during the remainder of the growing season. All rubbish—leaves, runners, mulching material and weeds—is best disposed of by being burnt, and the residue scattered around the plants near the crowns will be made good use of. Healthy plants which are backward in growth will benefit from a sprinkling of a good, quick-acting fertiliser; debilitated specimens are not worth consideration. To complete the work, break up the surface soil with a draw hoe, or lightly prick it over with the fork, but during the process the greatest care must be taken not to damage the feeding roots. A careless worker, by cutting deeply into the soil, may easily do more harm than good. Surface cultivation may be continued, to accelerate growth and promote cleanliness, whenever the ground is in fit condition to work on and the need for such attention is apparent.—J. C.

Treatment of Greenhouse Peaches After Fruiting.

WHEN all the fruits have been gathered from peach trees under glass, the earliest opportunity should be taken to do what is necessary to facilitate the ripening of the new wood, for on this largely depends the success of next year's crop. Every shoot retained should be fully exposed to sun and air, and though, where the trees have been properly cared for, there will not be much superfluous growth to cut out, a final inspection at this time will be almost sure to reveal the presence of some shoots of the current season for which sufficient space is not available. The old bearing wood should be removed generally; it should be retained only to the extent of preserving any desirable young growths supported by it. Admit plenty of air by night and day, both doors and ventilators being left open, and keep the border moist. Perhaps the latter point needs emphasising, as every spring there are many anxious enquiries concerning the cause of the fruit buds dropping just as growth is recommencing. Without sufficient moisture at the roots after the fruit has been gathered, the leaves drop prematurely, and the development of the buds is thereby arrested, the result being apparent by bud-dropping when the sap begins to rise. Plump, well matured buds produce strong blossoms, and by watering the borders when necessary and regularly syringing the leaves to keep them healthy till they drop naturally, the desired end is most likely to be achieved. A dressing of a suitable artificial fertiliser will be beneficial to established trees whose growth is below normal.—C.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

Propagating Lemon-Scented Verbena.

Many people find this difficult to strike from cuttings. It can easily be done in spring, the main object being to keep the cuttings from flagging. Another way which, perhaps, is easier for the amateur, is by layering in early autumn. Select half-ripened shoots, make a tongue by cutting through a joint in the same way as you would a carnation, using some leaf soil and sand to keep the tongue open. Lift in spring when growth commences.—F. D.

Sending Flowers by Post.

At this time of year many gardeners will be thinking of sending boxes of flowers to their friends. Here are a few simple rules to ensure them arriving in good condition and lasting as long as possible. First and foremost, never send flowers directly they are picked. Always put them in water for several hours first. Pick in the early morning or the cool of the evening. Don't pick during or immediately after heavy rain. Choose a box that will only just hold them and pack as closely as possible. If possible, secure the stems to the bottom of the box by means of string. Line the box with tissue paper and put another sheet on top of the flowers. They should now arrive in perfect condition, but in case of lengthy postal delay, tell your friends to plunge the stems into very hot water if they arrive looking limp, and they will revive remarkably well.—K. B.

Taking Cuttings.

Now is the best time of the year for taking cuttings of various soft-wooded plants and in doing so one of the things to avoid is the bruising of the stem of the cutting by making it with a blunt knife.

For making a good, clean cut I have found nothing to equal a disused safety razor blade. Being thinner and sharper than the ordinary pocket knife it does not require as much pressure in making the cutting, and consequently minimises the risk of bruising the stem.

With a little ingenuity a handle can be made to take the blade, or with some types of razor the ordinary razor handle could be adapted to answer the purpose quite well.—H. A. H.

Removing Tomato Stains.

Gardeners growing tomatoes in any quantity are always faced with the unpleasantness of stained hands after they have been attending to the plants. It is not generally known that a few loganberries or raspberries, crushed in the hands, and used as "soap," will entirely remove the stain, if the hands are afterwards washed in the ordinary way with clean water.—L. A. R.

A New Life for Old Poles.

Old poles, which have been in the ground some time, may be given a new lease of life by digging out a small hole a few inches deep round each and then filling it up with concrete, bringing it well above the ground level. When the concrete has set, it can be painted with flat brown paint.—N. B.

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SOME MODERN DELPHINIUMS WORTH GROWING (see page 602).

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THE GARDEN

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CLIMBERS FOR NORTH WALLS

AT one time in quite a number of gardens it was no uncommon thing to see north walls and fences neglected, if not altogether bare of climbing plants. If you were curious enough to ask the cause of this, you would probably receive the reply that it was too cold and shady for plants to grow, but in many instances no attempt had been made.

To-day this is no longer the case, and we see in all parts of the country, walls, even in exposed positions, covered with foliage and flowering plants that in their season are a source of interest and attraction. It is true we are limited in our scope, yet there is enough variety, and the difficulty is to select what we like best. In a few weeks hence we shall be in the planting season, when one may with safety set about transferring things to their final quarters. Before removing any plant, however, there must be preparation of the soil. A good rooting medium for climbers is essential. This is rarely found close to walls, as it seems a common practice everywhere for builders to deposit the remains of rubbish there. It will be obvious to the most inexperienced that a climber intended to remain in one place must in the first instance have something better than the flotsam and jetsam of a builder's dump, and while some of it may be useful 3ft. or so below the surface, above that line there must be provided proper soil in which roots may thrive. In these circumstances it is well to examine the ground, and if the soil is poor or sparse to bring in loam and rotted manure, or leaves.

What to Plant.

We will take plants valued for their foliage first. For quite a number of years the small-leaved forms of the Virginia creeper were always employed, like Ampelopsis Veitchii and A. muralis, until they almost became monotonous, but even these "self clingers" are preferable to bare walls, as for most of the summer at least they clothe with their greenery, while in the autumn the leaves are suffused with deep rich tints, as to make the most unpretentious wall beautiful. There are other things that one may use as a covering for a cold, exposed wall that all the year round give a furnished and pleasing appearance so long as they are attended to.

A consideration of ivies noted for the beauty of their foliage is suggested. If an all the year round furnisher for hiding brickwork and masonry is required, ivies are very suitable. A brief list is given below:

Palmata aurea, yellow.
Atropurpurea, purplish green.
Argentea marginata, green, margined white.
Variegata elegantissima, green and gold.
Cænwoodiana, finely divided foliage.
Chrysophylla, green with yellow blotches.
Lee's Silver, green, with broad margin of silver.

To get the most from ivies, and to have them in their freshest condition, it is needful that they should be clipped annually in March, divesting the plants of all old leaves, shortening the shoots as may be necessary, and doing what nailing up is wanted. Only by this method is one able to keep them in good form and avoid that dingy, drab appearance which must follow when they are allowed to go from year to year untouched.

There is one wall plant that deserves to be seen oftener because of the early beauty of its flowers that come in advance of its leaves. It is well known. It is the winter jasmine, J. nudiflorum, which brightens a wall from December for several weeks with its starry, golden flowers. And we also include the white sweet scented form J. officinalis, the blossoms of which come with the summer days, and though we see it oftener possibly on warm walls and on arches, it is quite hardy, and on a north wall may be a little later flowering. In the large family of the berberis there are those which are evergreen, amenable to training on a wall, and are hardy. They are beautiful in autumn both from a foliage point of view and for their fruit—Darwinii, acuminata and Fortunei may be cited. The hardiness of that very popular Clematis Jackmanni is well known. It will succeed on a north wall once established, though the blossoms may be a little late in appearing. Comparatively few look upon the forsythias from the point of view of a subject for wall covering, yet it has to be said if the shoots are trained out the flowers will come, as is the case with F. suspensa. Who is there who has not at one time or another been attracted by the bunches of fruits of the fire thorns (pyracanthas), those useful evergreen climbing shrubs that are at home on a cold wall and reveal the clusters of berries amid foliage of dark green? Lalandei, with orange scarlet fruit, is one of the most useful. One could add to this list, but enough have been given to show that walls which may be exposed need not because of this be entirely devoid of beauty or left unclothed. Autumn is a convenient time to make plans and to plant any of these climbers.

This Week's Work

For Gardens in the South and Midlands.

Make an autumn sowing of annuals.

Continue to pot up bulbs for greenhouse and room decoration.

Take cuttings of geraniums, pentstemons, antirrhinums and other bedding plants.

Plant bulbs in the rock garden.

Cut out old fruiting wood from loganberries and raspberries.

Earth up celery, plant out spring cabbage, and sow cauliflower seed.

Lift and store potatoes.

Plant peonies, bearded irises and delphiniums.

Top dress and feed lawns.

This Week's Work

For Gardens in Scotland and the North.

Sow seed on bare patches of grass.

Plant bulbs in window boxes.

Earth up leeks.

Continue housing late-flowering chrysanthemums.

Divide old pyrethrums and plant new varieties

Prepare ground for making or replanting herbaceous borders.

Pot up bulbs for succession.

Begin the making of new lawns or greens.

Cut back straggling lateral shoots of wistaria.

Lift and store carrots and beetroot.

Prune honeysuckle directly after flowering if needed.

Select and prepare sites for new rose beds.

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SOME MODERN DELPHINIUMS

A Description of the Varieties Constituting the Wrexham Strain.

IN reviewing the evolution of most hardy plants, there is usually some sort or strain which evokes more enthusiasm and creates fresh interest and demand for that particular plant. In such a category may be placed the now famous Wrexham delphiniums. Much has been claimed for these newcomers since their introduction a few years ago, but much also remains to be done by the hybridist before they reach perfection. Out of the many that have appeared of this new strain about a dozen stand out as superior to the others, and these are undoubtedly an advance on anything yet raised. The spikes of these select few possess the true spiral tapering habit, the length of spikes and gorgeous colouring which originally brought the Wrexham delphiniums into favour. The individual flowers are most artistically spaced, just sufficiently to avoid heaviness or thinness, and possess a charm that is not known with the heavy, closely packed hyacinth spike of the older types.

A BORDER OF DELPHINIUMS OF EVERY SHADE.

MRS. TOWNLEY PARKER, A TRUE BLUE VARIETY OF THE OLDER TYPE.

Although an ardent admirer of the Wrexhams, I am by no means desirous of adopting a habit too common with many of our plant raisers, of styling my geese as swans! It would be foolish to claim that all the members of this new type are improvements in every way on the older sorts; for, as yet, I have not seen a hybrid from Wrexham with that perfect form and beauty in the individual flowers possessed by Millicent Blackmore, which variety, although by no means a huge spike, has superiority of form over any other delphinium that I know of which is in commerce. These new hybrids, however, have opened a new field for delphinium raisers by showing to what lengths a spike may reach, and the possibility at once arises of blending the best of the Wrexhams with the best of the older type and thus producing, in time, varieties with the combined virtues of both. From my experience I have found that the finest variety sent out from Wrexham for breeding purposes is Advancement, a variety possessing the true spiral habit with the artistic placement of each individual flower, making, with remarkable regularity, a flower spike of well over 4ft., tapering from a base of 10ins.

Another all important virtue held by this variety is its habit of opening nearly all its flowers simultaneously—a habit happily inherited by the greater proportion of its progeny. It is a delightful shade of pale mauve, in fact, as near pink as I should imagine a delphinium could be. One of the most remarkable seedlings it has produced appears this season under the name of Norah Phillips—a lovely counterpart of its parent, but of a gorgeous shade of gentian blue with scarcely any mauve at all. This brings us in contact with another point for discussion in the modern delphinium. When one speaks of delphiniums one usually visualises a blue flower; yet, how many of our modern varieties may be described as true blue? Of recent introductions, Mrs. Townley Parker, is the most gorgeous true blue of all and if only its flowers were semi-double and of decent form, it would indeed be an advance in the improvement of colours in delphiniums. Take all the giants of recent years—Sir Douglas Haig, Purple Splendour, Wales, Jenny Jones, Countess Cowley Mrs. Foster Cunliffe and even Millicent Blackmore—where is a true real blue self? One has to resort to such sorts as Blue Bird, Blue Boy and Lord Lansdowne to find real blues and each of these varieties are pure singles. I would not for a moment suggest that mauve should be eliminated, for it is undoubtedly a fine shade if grown in contrast with pure blue sorts and preferably light shades. One has only to possess a little of the artist and attempt to stage a group of modern delphiniums in order to realise the great need for true blues of good quality, for without them a mass of mauve delphiniums in the shade of the floral tent gives a somewhat dowdy appearance. At a recent meeting at Vincent Square I was greatly attracted by a group which stood out from the others (and there were at least four well known delphinium firms exhibiting), on account of the delightfully refreshing cleanliness of the colours—granted the spikes may not have been up to exhibition standard, but they were real blues

COQUETTE, A WREXHAM DELPHINIUM WITH TAPERING SPIKES OF VIOLET AND BLUE.

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and stood out very brightly in contrast to the somewhat monotonous tones of mauve which overburdened the groups of the others. It needed but little imagination to visualise the effect of a similar group with larger spikes and flowers of better form.

Turning to the matter of varieties, I would not care to say which are the best of the Wrexham sorts, for what pleases one taste may not please another. Of the varieties I have myself grown, the following may be given as worthy of comparison with the best of the strain and all have vigour and constitution and are as easy to propagate as any of the older sorts.

Cambria (pale blue and mauve), Coquette (violet and blue), Joy Bells (rosy mauve and blue), Jenny Jones (violet and gentian blue), Monarch of Wales (deep blue and reddish mauve), Queen Mauve (pale blue and pinkish mauve), The Bishop (deep blue with white eye), and Violet Queen. Although the individual flowers are not of ideal form, Violet Queen possesses a shade of colour which appeals to nearly all who have seen the beauty of its long tapering spike evenly furnished with florets of pure violet tinged with ruddy mauve. It is, indeed, a thing of beauty when seen towering above its neighbours in the July border.

When reading these few remarks on the Wrexham and other delphiniums, it should be remembered that my aim has been purposely to criticise and select a few sorts of the newer ones for the guidance of those who have not yet grown them; also, I have tried to show where they both lack virtues, the attainment of which must bring to them a still greater popularity. G. A. P.

SINGLE ROSES: THEIR GRACE & BEAUTY

A charm of their own is possessed by single roses. There are single hybrid teas suitable for bedding, single climbers for arch or pillar, as well as varieties which will soon clothe a pergola.

THE introduction of single roses years ago gave us a new class. It cannot be said that they were received with open arms, as at that time single blossoms were looked upon as unorthodox, and not a little prejudice stood in the way of their popularity. But this only obtained for a while, as they won their way into many a garden and captivated gardeners who at first had been indifferent to them.

One has only to pay a visit to a few shows where roses are exhibited to be convinced of the fact that they have now reached a high standard of excellence, and have certainly come to stay. Particularly is this to be seen among table decoration exhibits, their light, graceful blossoms earning for them commendations from the public thronging the place where they are displayed.

Roses for the Home.

Just as they attract by the simplicity of their blossoms, so do they appeal to that wider circle of growers who love to have their rooms and tables made bright and tasteful by roses that ask but simple culture and are not judged by size of individual flowers. Some of them, as we know, are to be admired for the beauty of blooms growing on dwarf plants; others give us lavishly of charming clusters nestling amid green leaves on pergola or arch; while one may, if it is desired, have porches or window frames garlanded with flowers that are a joy to behold.

Earlier and Later Introductions.

Unlike some other flowering plants—the chrysanthemum, for example—roses do not rise and fall in popularity in a few years, and it speaks much for single roses when it is remembered that some of the varieties first introduced are with us still, and enjoy a good measure of popularity. In this category mention may be made of Carmine Pillar introduced by Paul and Sons more than thirty years ago, still one of the best free-growing and free-blooming roses for arch, wall or pillar, giving immense quantities of blossoms of a rich carmine. It is one of the first to flower.

Single Roses for Various Positions.

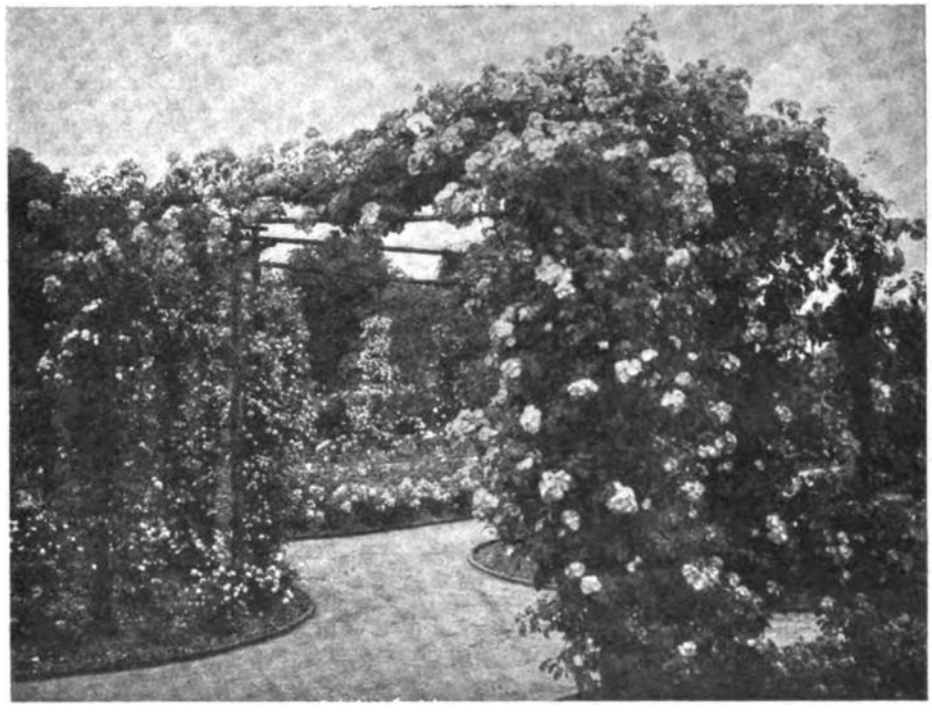
A consideration of single roses, and their value for different positions in a garden, is suggested, and to those who are favourable to growing dwarf sorts in beds of one colour, the singles cannot fail to appeal, as they are noted for their lavish output and diversity of colours.

For beds and borders we have, among singles, some that are very charming, and, in thinking of sorts in my own garden, one cannot but remember how much we owe to Irish firms like Messrs. Dickson and Sons and Messrs. McGredy and Son for their introductions. Some half-dozen are to be found in:

Hybrid Teas.

Irish Elegance, orange scarlet.
Irish Beauty, pure white.
Irish Brightness, crimson, shaded pink.
Irish Glory, rose pink.
Irish Fireflame, orange, flushed crimson.
Irish Afterglow, tangerine in the bud, opening to a tint best described as crushed strawberry.

Two others from Messrs. McGredy and Son are worthy of note—Isobel, a dwarf



AMERICAN PILLAR, ONE OF THE BEST ROSES FOR ARCHES.

of vigorous growth, with long tapering carmine buds which develop into large flowers of great beauty; and Ethel James, of more recent introduction, dwarfer than the preceding, the flowers larger, embracing tints of orange and flame and carmine, an altogether beautiful variety. Among other sorts of single hybrid teas are Mrs. Oakley Fisher, of a rich orange yellow and sweetly scented; Innocence, a pure white yielding many large individual flowers; and Princess Mary, a deep crimson scarlet with yellow anthers. My experience, however, with the last-named sort is that the blooms lack stamina, and, unless shaded from the sun, are of little service for cutting, as I have not found it to be possessed of the staying power so necessary for table decoration. Of course, it is generally understood that roses for cutting should be selected and gathered first thing in the morning, while the dew is upon them if possible, and this applies particularly to the singles.

Single Roses as Climbers and for Pillars.

Attractive as single roses are when grown in beds and borders, they are even more so when used for covering walls, fences, pergolas and the like in and about a garden. In this connection one's mind reverts to sorts like Blush Rambler, that for nearly a quarter of a century has never failed, summer by summer, to yield masses of its apple blossom-like clusters in the greatest profusion. Mention has already been made of Carmine Pillar, and American Pillar, with flowers of a rose pink borne in clusters, blooming at midsummer and lasting for weeks, is never more at home than when clothing a pillar or arch. The evergreen Mermaid is a sulphur yellow with amber stamens, and is a continuous bloomer from early summer to late autumn, and the flowers are enhanced by a wealth of deep bronzy green foliage. These four are useful in almost any position in a garden, often doing as well on an exposed wall as in a more sheltered position. It is upwards of twenty-five years since Hiawatha first made its appearance, a valuable climber among the singles. On purchasing it from a local nurseryman, he expressed his opinion that it lasted in bloom longer than any other variety. It has lived up to its reputation, as it is not unusual for

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the trusses to remain in a good condition for three or four weeks. In colour it is a deep crimson, with yellow anthers. When the anthers drop it leaves a white centre. At the time this note was written, one in my garden was showing its clusters for the twenty-fifth year in succession, and every season one has to cut away the old rods to enable the new ones to grow, and to keep it within reasonable limits. A garden where roses are grown cannot in these days be regarded as complete without some of the singles. Their colours are varied and their form charming; single roses look most effective either for house decoration or for clothing a pergola or arch. CLAREMONT.

HOW TO TAKE GERANIUM CUTTINGS

In order to have a good supply of bedding geraniums (pelargoniums) for next year, cuttings should be taken now. Full details on how to increase your stocks are given here.

THE amateur who has at his disposal a greenhouse from which frost can be excluded can easily raise enough geraniums to satisfy his own requirements, providing he sets about the task of propagation

A SUITABLE SHOOT FOR MAKING A CUTTING.

in the correct manner. Mid-September is without a doubt the best time to insert cuttings of these plants, although it may appear to be something akin to sacrilege to spoil flower-beds by taking cuttings at this time. Nevertheless, such a sacrifice must of necessity be made if the best results are to be obtained, unless the alternative course of planting out a special batch of plants to provide cuttings has been followed. This latter is an excellent plan and one that should commend itself to all who raise their own stock of bedding geraniums. Plants intended for this purpose should be planted out in firm and not over-rich ground in an open, sunny position, these conditions favouring the production of the best kind of propagating material.

Select firm, short-jointed growths from 3ins. to 5ins. in length and cut them cleanly across with a sharp knife immediately below a joint, taking care that the tissues are not unnecessarily bruised. The lower leaves should then be trimmed cleanly away.

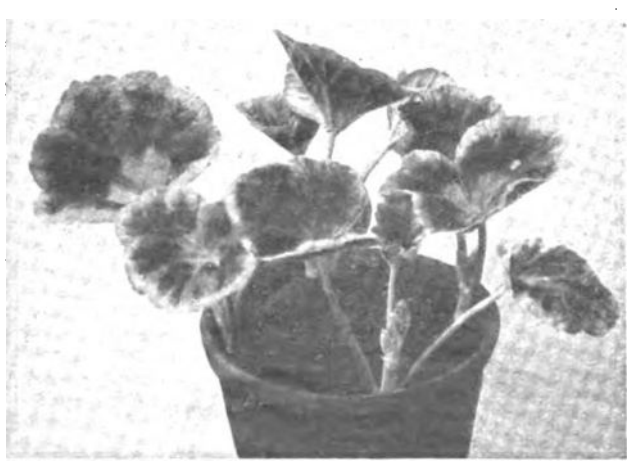
Many growers advocate leaving geranium cuttings lying in the sun for twenty-four hours prior to insertion, until they become quite limp and flaccid—a procedure which they claim removes the superfluous moisture from the tissues and thus lessens the risk of damping off. Personally, I quite fail to see that this can make any difference, for immediately the cuttings are placed in damp soil they commence to absorb water, until the cells of the plant have regained their former turgidity and the water content is as before. I am inclined to think that the only possible benefit which can result from the drying off of the cuttings is accounted for by the fact that they shrink somewhat in the process, and immediately they absorb the moisture from the soil they swell again, and this tends to tighten them in the soil—a most important detail if a good strike is to be ensured.

The compost in which to place the cuttings should consist of sifted loam, leaf-mould and sand, with a preponderance of the latter ingredient. Where possible it is advisable to insert each cutting separately in a small thumb pot, but where this is not convenient five cuttings may be placed around the side of a 4in. pot or six around a 5in. pot. Cuttings placed close to the sides of a pot root much more readily than if placed in the centre of the body of soil. A good sprinkling of sharp sand should be placed on the top of the compost in the pot, so that when the holes are made with the dibber a little falls into each for the base of the cutting to rest upon. See that the compost is pleasantly moist and moderately firm. Use a blunt-ended dibber and make the holes just deep enough for the base of the cutting to touch when inserted to the requisite depth, and then firm the soil well around the cutting so that it will not easily pull out, but take care that the cutting is not "hung" with an air space below it. When the pots are filled water them well with a can fitted with a fine rose. This settles the soil. Stand the pots on a bed of ashes in a cold frame—no shade from

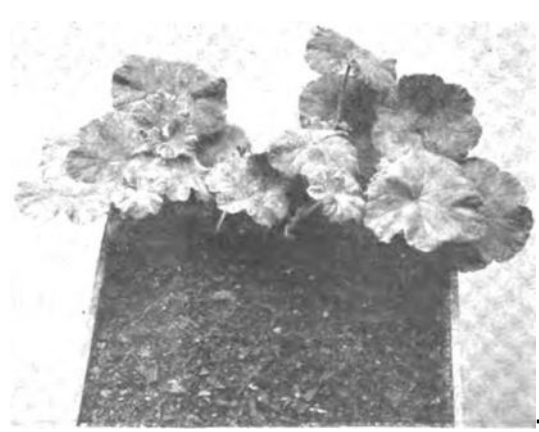
THE CUTTING PREPARED FOR INSERTION.

sunshine will be necessary. At intervals carefully look over every pot and water those which are very dry; but they must never be allowed to become dust dry, while overwatering is fatal. Dead leaves should also be removed. If a frame light is not available, they will root quite well in the open, the only adverse condition being heavy rains and thunder storms.

At the end of September or early October remove to a position in the greenhouse where they are near to the glass. During the winter only water when absolutely necessary, and in February they will commence to grow and require repotting and growing on in readiness for the approaching season. T. H.



CUTTINGS INSERTED ROUND THE EDGE OF A POT FILLED WITH SANDY SOIL.



WHEN A LARGE NUMBER OF PLANTS ARE REQUIRED THE CUTTINGS MAY BE PLACED IN BOXES.

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BULBS FOR BOWLS

Successful Culture in Fibre. Little Difficulties which Trouble Amateurs.

BULB-GROWING in bowls of fibre is probably the most democratic branch of horticulture in existence at the present day, for this fascinating hobby appeals to all classes of the community. Its pleasures may be shared by the cottager in the country and the gardenless tenement dweller whose lot is cast in the drab places associated with large towns and industrial centres of activity. Each and all are inspired by the desire to brighten their homes during the days that are short and sunless, and cut flowers are scarce and selling at prices beyond the resources of many a purse. Being comparatively cheap, bulbs are a good investment. Four shillings spent on cut flowers at Christmas or the New Year does not go far, but an equal outlay would purchase sufficient bulbs of daffodils, miniature hyacinths or tulips to furnish three or four bowls and the period of bloom would extend over two or three weeks. Here is the way in which that proportion would work out:

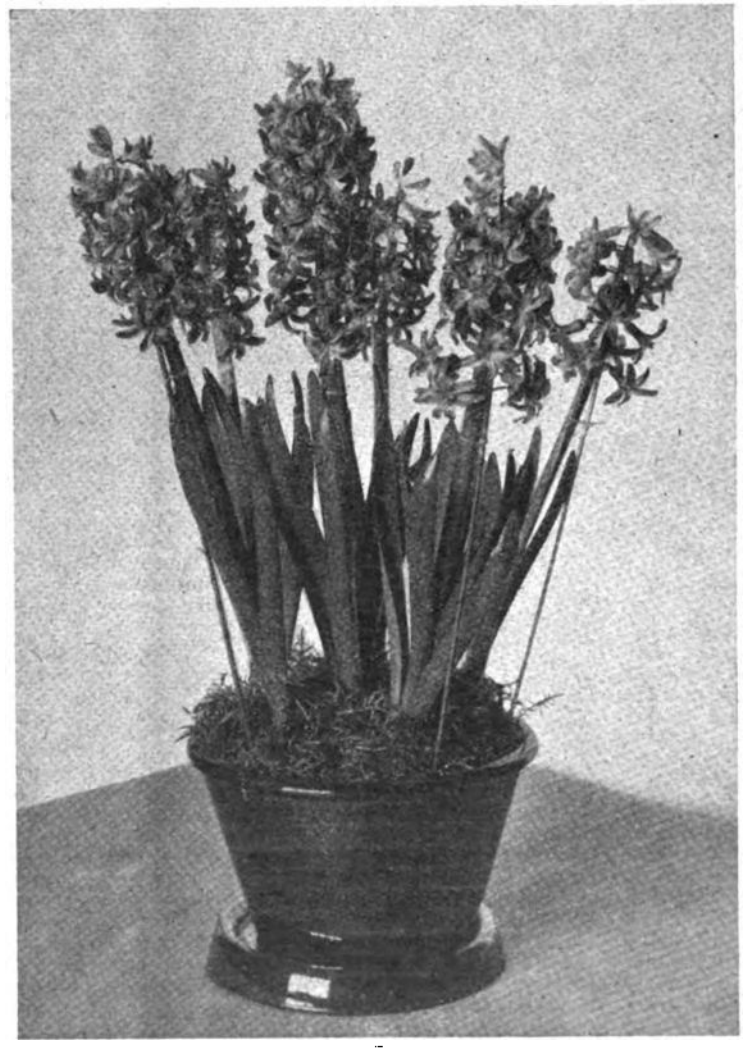
	s.	d.
No. 1 bowl 6 daffodils Golden Spur ..	1	0
No. 2 bowl 9 daffodils Barrii Conspicuus ..	0	9
No. 3 bowl 6 miniature hyacinths	1	6
No. 4 bowl 6 Duc Van Thol tulips ..	0	9
TOTAL ..	4	0

Prices vary, of course, and in some cases larger sized bulbs may cost a little more than is indicated above. If the bowls were planted in pairs at an interval of two or three weeks, the extent of the flowering period would be greatly increased.

Another point in favour of growing bulbs in bowls of fibre is simplicity of culture. Tulips are a little more difficult to produce successfully than daffodils or hyacinths, but the process in either case only involves a little care and attention, particularly during the few weeks [the bulbs are kept in the dark while the root system is in course of formation. First class flowers are only obtained when the roots are properly devolved and in nine cases out of ten failure may be traced to the absence of moisture during the earlier stages of growth. Once the roots are allowed to become dry they receive a check from which they never properly recover. The presence of stagnant water is also injurious and if these extreme conditions are to be avoided, the bowls should be inspected at regular intervals and water applied about once a week. A good plan is to soak the fibre thoroughly and after allowing the bowl to stand for a few minutes, run off the surplus water by tilting the bowl with the left hand and place the right hand over the surface to keep the material in position.

A not uncommon cause of complaint is the tendency to dwarf flowering on the part of hyacinths and tulips. This is generally caused by the premature removal of the bulbs from the dark to full exposure to the light in a heated room. To obviate such a defect the plants must be kept heavily shaded from the time they are brought into the warmer atmosphere of the living room until the buds begin to show colour. By that time the bowls can be placed at a window and a little more water can be given with safety. Always use tepid water, as the flowers will appear earlier by that method of treatment.

When planting bulbs it is essential that the fibre should be thoroughly moistened. That object may be simply accomplished by placing the material in a pail or deep basin and kneading it well as the water is added gradually. In this way it becomes uniformly moist throughout and when transferring the fibre to the bowl a gentle pressure of the hand will squeeze out any surplus water. The depth of the bottom layer will depend on the size of the bulbs, but in any case a space of half an inch should be left at the top to allow for watering. Press the fibre round the bulbs, but do not leave the surface too firm as the bulbs are apt to be forced upwards when the roots begin to develop.



MINIATURE HYACINTHS MAKE AN ATTRACTIVE COLOUR DISPLAY.

Varieties to Grow.

The catalogues of seedsmen who specialise in bulbs contains a wide choice that will satisfy every taste. Prepared hyacinths are generally used for early bloom and planting should be done as early in September as possible. The miniature forms are more satisfactory then the white Roman hyacinths which cost double the price and when grown under favourable conditions the former produce lovely spikes with a variety of colours almost as early in the season as the latter.

Large flowered hyacinths maintain their popularity and the following are representative of the best varieties: Edith Cavell, pure white, combines all the good qualities of L'Innocence and La Grandesse; Czar Nicholas, pretty porcelain blue; Grand Maitre, deep lavender with large handsome spikes; City of Haarlem, one of the finest of the yellows; Pink Delight, lovely shade of soft pink; La Victoire, brilliant scarlet; and Jacques, pale rose with large pyramidal flower spikes that sometimes measure 12ins. in length.

The ten divisions into which daffodils are classified provide great variation in the form and size of the flowers and to provide a succession of bloom on till spring the bowls should be planted at intervals from now until the middle of November. For bowl culture readers are recommended to make a selection from the undernoted sorts:

LARGE TRUMPET. — Horsfieldi and Victoria of the cheaper priced bi-colours; Weardale Perfection and Olympia, more expensive and refined; Emperor, Golden Spur, Glory of Leiden and Cervantes, low priced yellow forms; and King Alfred, a noble yellow of great size and substance; Mme. de Graaff and Mimi, white trumpet varieties.

INCOMPARABILIS. — Lucifer, Sir Watkin, Gloria Mundi, and Orange Sulphur or Primrose Phœnix.

BARRII. — Conspicuus, Albatross and Seagull.

POETICUS. — Glory of Lisse, Ornatus.

POETAZ HYBRIDS. — Laurens Koster, Helios, Admiration.

The Duc Van Thol tulips of dwarf habit are easily forced in the living-room with only gentle heat, but for later bloom any of the following varieties may be planted during the ensuing two months:

SINGLE.—Cottage Maid, rose pink shaded white; Kaiser Kroon, crimson scarlet with yellow margin; De Wet, golden yellow flushed orange scarlet, a sport from Prince of Austria; Proserpine, carmine rose; Thomas Moore, terra cotta; Pink Beauty; Red Admiral; Vermilion Brilliant; White Hawk; and Prince of Austria, orange scarlet.

DOUBLE.—Couronne d'Or, golden yellow flushed orange; Toreador, chestnut red edged orange; Vuurbaak, scarlet: Peach Blossom and Tea Rose, primrose yellow flushed scarlet.

J. Y.

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THE BUSY MAN'S PAGE

Work to be Done Now.

IN THE FLOWER GARDEN.

WITH the summer bedding almost over, it is advisable not to delay with the replanting of spring bedding subjects. Bulbs, such as hyacinths, snowdrops and narcissi should be planted as early in September as possible. They make very effective schemes, either in beds by themselves or interplanted with forget-me-nots, polyanthus and pansies. A charming combination is one where pansies form the outside edging of the bed, polyanthuses in the centre of the bed and narcissi spaced equally between them. Wallflowers in many beautiful shades and in early and late varieties can now be purchased. Cheiranthus Allionii, a species of the wallflower, of a brilliant golden yellow colour, will prove invaluable and will give much pleasure and satisfaction when once grown. It is suitable for a bed where it will not interfere with the arrangement of summer bedding schemes, as it is later coming into flower in the spring than the wallflower. Beds should be dug over as deeply as possible, and enriched with old decayed manure where the bulbs are to be planted, and only lime added to the soil where the wallflowers are to be planted. Plant tulips and hyacinths 6ins. deep, but narcissi 7ins. or 8ins. deep.

IN THE FRUIT GARDEN.

Raspberries and Loganberries.—As soon as the fruits of these are gathered, pruning can be done by completing cutting out the old fruiting canes, leaving two or three of the new canes to each "stool" or plant of raspberries and six or seven new shoots to a plant of loganberries. Each cane should be spaced out 6ins. apart and tied up securely to a 5ft. high wire support. Loganberries can with advantage be trained fan-shape, as it enables the fruit to be most easily picked, and also sun gets access to the berries, producing earlier ripening.

Currants.—By cutting out as much of the old wood as possible after the fruit is gathered, more light and air is given to the production and ripening of the new shoots. Pruning should be done with a sharp knife, and as clean a cut as possible made to prevent diseases setting in. The old fruiting wood is easily recognised by its dark colour in comparison with the light colour of the new wood.

IN THE KITCHEN GARDEN.

Spring Cabbage may continue to be planted out during the month of September, 18ins. between the plants and 2ft. between the rows.

Leeks that are showing signs of growth may be fed with liquid manure water twice a week.

Lettuce.—A good sowing of the cabbage variety Early Snowball and such-like early varieties should be made during September in shallow drills 6ins. apart, to provide an early spring supply.

Early planted *celery* should now receive its second earthing-up, late planted varieties their first earthing-up. The leaves of the plants are bunched in close together and firmly tied in one or two places with raffia. To obtain a perfectly blanched plant, each plant is then surrounded by a sheet of paper and tied again, and then the soil on either side of the celery trench mounded up round the plants, leaving only 4ins. of the plant above the mound in the early varieties and about 9ins. in the later varieties.

Spinach.—A sowing of the prickly spinach may yet be made during September, in shallow drills made by the hoe 1in. deep and 1ft. apart.

Strawberry planting should be completed this month.

Raising Pentstemons and Antirrhinums from Cuttings.

THESE should be taken when the plants are finishing their flowering season from the sturdy side growths. A wet year like this does not suit many flowers, but the hybrid large-flowered pentstemons, as well as the smaller bedding kinds, seem to have done well everywhere.

While pentstemons may easily be raised from seeds, there is no difficulty in raising them from cuttings. This is the method to follow where it is desired to increase the stock of a particular variety. Sturdy side shoots some 4ins. long may be taken this autumn and inserted in boxes of sandy loam placed in frames. Do not crowd the cuttings too closely together. After a few days with the sash of the frame shut, give full ventilation with some cover protection all winter; at all costs avoid damp. Several varieties which are of outstanding merit are noted. First of all, the bedders, Newbury Gem, N. White and N. Pink are really grand; Southgate Gem is equally good, Middleton Gem even better than Newbury Pink, its nearest type. In the hybrid, large-flowered kinds I name as first-class Castle Forbes, Blushing Bride, Countess of Minto, Alex. McRae, Crimson Gem, Lady Northcliffe, Earl Haig, D. McKinnon and William Smith. Very good also are Fairy Queen (from seed), Paul Cambon, Thos. Simpson, Lord Kitchener, Charles Street, Duchess of Atholl, Tullibardine, Mrs. R. Fleming, Mrs. A. Forbes, John Forbes and Lady Hamilton.

CUTTINGS OF PENTSTEMON AND ANTIRRHINUM.

Although most growers raise antirrhinums from seed in autumn or in spring, the older plan of striking cuttings must never be overlooked. Cuttings root easily, and should be treated in the same way as pentstemon cuttings. The plants obtained, also, are hardy and can be planted out at the earliest opportunity in spring, while it must never be forgotten that they flower in advance of ordinary seedlings. Not only does this plan save labour and greenhouse space, in the case of spring-raised plants, but it will readily be admitted that it is a sure plan when colours are required true and uniform plants desired. From the middle to the end of September is probably the best time to take the cuttings. Ordinary garden soil, with, perhaps, the addition of a little sand and leaf mould, is quite satisfactory. Cuttings are plentiful in the form of flowerless side shoots, some 3ins. or 4ins. long, and these may be dibbled in, not too closely, in the boxes. Rooting is speedy and, after the plants have been kept close for a week, full ventilation may be given; indeed, the frame sash during the greater part of the winter may be kept tilted, fore and aft. One or two waterings during the winter generally suffice, and overdampness must be avoided.—H. A.

Replenishing the Salad Bowl.

OPPORTUNITY should now be taken to sow quick-growing crops suitable for salads, such as lettuce, radish, mustard and cress. Of the two latter frequent sowings are preferable and, if possible, under glass, as the quicker grown the better, warmth and moisture being the main conditions. For lettuce and radish the soil should be in good condition in order to produce quick results and succulent growth. If the ground is free from twitch and such-like root weeds, the seed may be sown broadcast, the larger plants being used first. Two or three applications of nitrate of soda greatly encourage growth. It should be applied in showery weather or watered in. Lettuce for early spring use should be sown in a frame or sheltered position. Tom Thumb is very suitable for this purpose. Endive and chicory, although not so popular, need to be protected from frost and snow. Late summer salads comprise the additional advantage of variety, as such good things as tomatoes, cucumbers and beetroot are available.

Rooted Carnation Layers.

WHERE the garden soil is of a sandy nature, the layers may be left attached to the parent plants throughout the winter months, or they may be transplanted forthwith into their flowering quarters. But in gardens where the soil is cold and retentive of moisture, the best plan is to sever the rooted layers in due course and transplant them into a cold frame or into a prepared nursery bed where some temporary protection can be afforded when severe frosts come. At the end of March or during the first half of April the final planting may be done. Autumn planting is best where everything seems favourable to it. Carnations succeed better in good than in poor soils. They are, however, very impatient of fresh manure if their roots come into direct contact with it. When engaged in digging and manuring the soil, be sure that rotted manure is used and so buried in the soil that it will be at least 4ins. below the surface. The roots of the young plants will not come into contact with it before they become active the following spring, when they will be much benefited. Do not tread on the soil of the border after the rooted layers are planted. Keep the surface soil hoed.

A BOX OF PENTSTEMON CUTTINGS.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Outdoor Bulbs.

THE spring garden may be either a vista of loveliness, or merely a dreary waste, according to whether there is a good display of early bulbs or not. No other plants give quite the same splash of colour, or are quite so certain to bloom. The bulbs should be given a fairly prominent position, and be in view of the windows, for they flower at a time when the garden is largely viewed from indoors. Colour schemes can be attempted by the ambitious gardener, but unless one can be certain of the date of flowering, it is best to confine one's choice to a few varieties, as better effects will probably be obtained.

How to Build a Rockery.

MOST rock plants are resting just now, and this is the time to build or remake the rockery. In or near towns the soil of rockeries tends to become sour, and it is advisable to rebuild a rockery every three or four years. The idea of a rockery is to grow the floral gems from the mountain tops in our gardens. Of course, not all the plants that inhabit the high regions will thrive in the valleys, but a good many will, if suitable soil and situation are provided.

Soil for a Rockery.

Naturally, the soil in the rock pockets and on the ledges of mountains is gritty and well drained. This, then, is the first consideration in building a rockery. Good drainage and plenty of sharp sand or grit in the soil. The type of stone used will depend on the district. Weatherworn limestone is considered best, and those who live near a plentiful supply should use it; but sandstone, flints, and even bricks, cement blocks or clinker can be turned to account. The form of rockery will depend upon the site, size and nature of stone available. Perhaps you can remember a little bit of rock scenery worthy of reproduction. I saw a marvellous model last summer of a Basque valley. Each knoll was planted with rock plants, and even water was introduced, with dwarf aquatic plants to complete the picture. A few points to remember in making a rockery are—to break up the subsoil to ensure good drainage; to make pockets of various sizes to receive plants; to place each stone so that the water drains into the rockery and not off it; and to fill the pockets with prepared soil before planting. A mixture of decayed leaves, soil, sand and lime rubble in equal parts makes an ideal soil for most rock plants.

A WELL FILLED AND CAREFULLY PLANNED ROCK GARDEN.

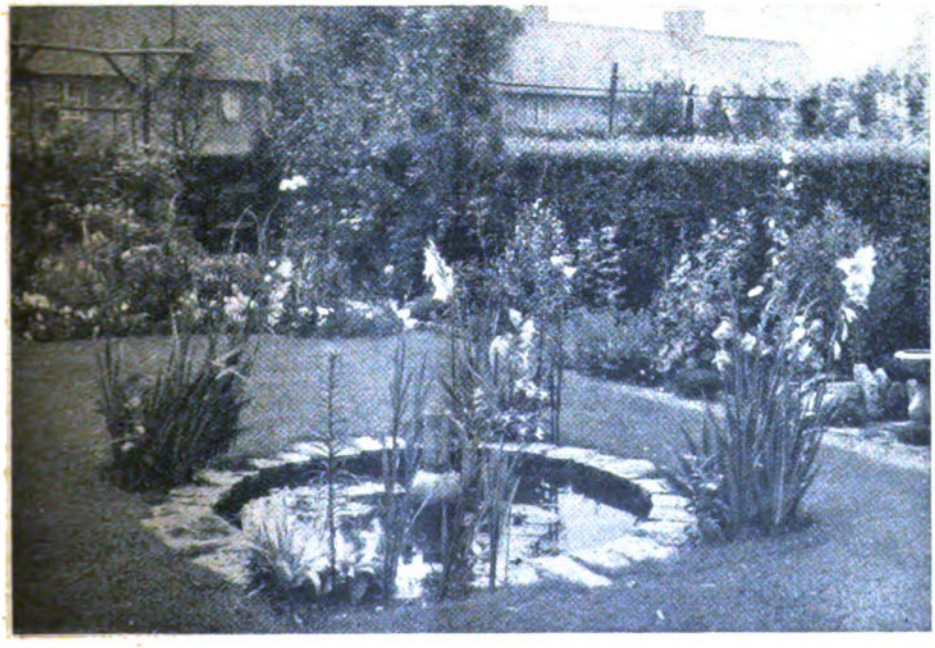
Suitable Plants.

Arenaria balearica creeps over the rocks; aubrietia will hang over the stones; mossy saxifrages, Dianthus alpinus, evergreen candytuft, oxalis and Primula Juliæ are all of value.

An Effective Water Garden.

AS soon as the eye catches sight of a pool of water in a garden one is led instinctively to its side. The reflection of flowers such as are illustrated in the accompanying picture adds to the beauty.

Water gardens are more popular, of course, in warmer countries, such as Italy. They add coolness to the garden. Two of the many new varieties of water lilies that are suitable for the tiniest pools are Nymphæa pygmæa alba and N. p. Helvola. It would be well to plant a few small bulbs of bright colours, *e.g.*, dwarf daffodils like Triandus albus (Angels' Tears), jonquils and grape hyacinths, which show up well against a water background. Of course, polyanthus and primulas are in keeping with the water garden.



A LILY POOL OF SUITABLE DESIGN AND SIZE FOR A SMALL TOWN GARDEN

Greenhouse Flowers in Winter.

THOSE who grow young plants on during the summer so that they shall come into bloom during the winter in the greenhouse must see to it that the greenhouse is made ready to receive them. As early as the middle of September it may be necessary to bring in these plants, for the vagaries of the British climate are such that one cannot be sure that early frosts will not occur by that time. If you have grown plants in frames—such as primulas, cinerarias, genistas, geraniums (zonal pelargoniums), etc.—they have probably been standing in their pots on a bed of moist ashes. When they come into the greenhouse, a similar bed should be made to receive them. By covering the stages with ashes, the plants keep moist, and are less likely to lose vitality as a result of their removal indoors. Ventilate very freely whenever possible, but keep out all frosts, and a fine show of bloom will result.

Daffodils.

THE colour of sunshine in the garden can be achieved even in the dull days, if daffodils are grown. These can be planted in groups in the border, and may be intermixed with other spring plants, such as wallflowers. Lay out the daffodil bulbs on the soil surface, and as you plant put in a wallflower between each bulb. The effect of this is charming. Other spring flowering plants, dwarf arabis, forget-me-nots, or polyanthus, can be used in the same way with bulbs of all kinds.

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NOTES ON THE FLOWER GARDEN

Grape Hyacinths for Present Planting.

THE muscari are lovely spring flowers that require no particular culture or soil, and are, therefore, suited to every garden. Known chiefly by the familiar name of "grape" or "starch" hyacinths, they are one of the most beautiful blue flowers we have, if we note the great effect produced by so small a plant.

There are three distinct uses for these lovely little gems. First and foremost, a place on the rockery, well away from any other rambling or overshadowing plant. Here, in little colonies which become more attractive every year, the grape hyacinths provide a very ornamental and colourful effect for a considerable period. Second, as an edging to the flower border in the spring, they can hardly be surpassed, especially if the border is edged with rocks, or bricks on end, which the mass of blue flowers will cover and make beautiful. The third site for the flowers is a piece of short grass, perhaps at the foot of the rock garden, a grassy bank, in little patches here and there on the lawn. As the height of these flowers rarely exceeds 6ins., these three localities are ideal for them, and the grass should be very short in order to exhibit their beauty.

Where many of these flowers are grown, one can often distinguish more than one shade of blue, showing that the bulbs are often sold in mixture; but there are distinct species and varieties that may be worth noting, and even grouping on the rockery.

The best of all is that grape hyacinth most used in gardens—Heavenly Blue, a very apt and true name, for the little globe-shaped bells are of the deepest and clearest blue imaginable. These, produced on long stems, are very fragrant, and can be used as cut flowers; they remain fresh in water for a long time. They bloom from March to May. Hyacinthus azureus (syn. M. azureum) has Cambridge blue flowers and is very valuable for early flowering—at the beginning of February the blossoms will appear, which proves its hardiness. The Italian grape hyacinth (M. botryoides cœruleum) not only possesses blue flowers, but also produces a *white* variety. Two others not often seen but making very interesting variations for the rock garden, are M. neglectum majus, having quite black-blue flowers; and M. plumosus, bearing flowers in feathery plumes of a deep violet hue.—N. E.

GRAPE HYACINTHS ARE MOST EFFECTIVE FOR EDGINGS.

A Decorative Trailing Plant.

Convolvulus mauritanicus.

THIS plant belongs to the bindweed family and hails from the Mediterranean regions, therefore it cannot be considered hardy in all districts. It is such a beautiful subject, however, that it is worthy of a little protection in a hard winter, while it is often an easy matter to retain a few pot plants in a frostproof frame till the spring. Here at Castleford, Chepstow, Mon., it is planted on an elevated part of the rock garden, where the soil is light and more or less stony and well drained. In such a position it survives the winter without any protection, so it may be hardier than we sometimes think. C. mauritanicus is a modest trailer, not by any means rampant, and is, therefore, well suited for the rock garden, especially in warm, sunny positions where the soil is light. The lovely clear pale azure blue flowers are freely produced throughout the summer months, and during August the plants are about at their best. It is increased by cuttings and seeds, the latter being produced in plenty, therefore no difficulty is experienced in retaining a good stock. This plant is also useful for hanging baskets in the cool greenhouse, where its cascades of blossom prove an attractive feature for several months.—B.

C. MAURITANICUS DELIGHTS IN A WARM PLACE ON THE ROCKERY.

Preparing for Roses.

ROSE planting time will soon be with us again. The sites the trees are destined to occupy need careful preparation, so that it is not too early to think of the matter and to start preliminaries. One point needing emphasis is the supreme value of deep digging. The deeper that the soil is dug the farther will the roots travel, to build, as a consequence, sturdy, robust trees, which will yield fine blooms. Dig not less than two spits deep, and if the subsoil can be broken, break it. Rotted farmyard manure should, if possible, be incorporated with the turned soil. Should the ground be of a chalky or sandy nature, it should also receive clay, in which roses revel. With the top soil mix basic slag at the rate of 4 oz. to the square yard. If the ground to receive the roses can be prepared thus in advance of planting by a few weeks, the trees can be expected to do well without needing nourishment other than contained in the prepared soil for a year or more.—A. J.

Scarborough Lilies for the Border.

ONE is so accustomed to seeing the Scarborough lily (Vallota purpurea) grown as a pot subject that few realise the possibilities of the plant for the open border. As a matter of fact, the plant is only seen at its best in this country when growing in a suitable position out of doors. Then the flowers are produced with a profusion which marks the vallota as one of the most splendid plants in cultivation. Of course, as a native of the Cape, the Scarborough lily will not grow well in very cold parts of the country and, in any case, it should be given a warm situation in a light soil, such as at the foot of a south wall. Where such a position is available it would be really worth while planting out any potted specimens. Press the soil firmly round the bulbs and arrange to have the upper part only a little below the surface. A very good time to plant vallotas out is in the early autumn, as they will then have some chance to settle down before the winter. If the bulbs are of good size, there is every prospect that there will be a fair amount of flower in the following summer. Once established the vallotas may be allowed to stay in the same place, as they do not like root disturbance. Every year the clump will become finer and the number of flower spikes produced is often surprising and far in advance of anything that is usually seen when the specimens are in pots. In

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cold weather, when there is a chance of severe frost, it is an advantage to protect the plants with bracken or light dry litter. Even if the leaves get a little damaged, this rarely affects the bulbs, which at the approach of warmer weather start to grow with great vigour.—S. LEONARD BASTIN.

A Handsome Himalayan Shrub.

Buddleia Colvilei.

THE various forms of B. variabilis are represented in many gardens, but the distinct species quoted above is not met with so frequently, probably on account of its reputation of being tender. It has, however, succeeded for a number of years at Chepstow as a shrub without any protection beyond that furnished by a clump of pine trees, which shield it from the strong west winds. It is a native of the Sikkim Himalayas, and Sir J. Hooker said it was "the handsomest of all Himalayan shrubs"; certainly it is the best buddleia, and quite distinct from all other species or varieties. The plant referred to is about 8ft. high, and in early June it carried a liberal crop of flowers. These are produced in a terminal pendulous panicle 6ins. or more in length, and the large individual blooms are rose-coloured and nearly an inch in diameter. The foliage is silvery-grey, but eventually becomes green, and the flowers have been likened to a rosy pentstemon. In favoured localities it should be planted and treated as a shrub in the border, but in many places it would succeed best as a specimen for a wall with a south or south-west aspect. With regard to pruning, it also differs from the variabilis section, and the non-production of flowers can often be traced to pruning. Many buddleias are cut hard back each spring, but B. Colvilei requires but little pruning, and this should be carried out in strict moderation after flowering. A slight thinning of the growths would, no doubt, prove beneficial, thus allowing plenty of light and air to reach the plant, and thereby bring about a thorough ripening of the wood, which appears to be essential for the production of flower spikes.

This buddleia is a vigorous grower, and will attain a height of 20ft. or more; but for the first year or two it seldom blooms; it evidently needs to become well established before flowers appear.—T. W. B.

THE DISTINCT AND BEAUTIFUL BUDDLEIA COLVILEI.

THE WHITE FORM OF THE ITALIAN SCILLA, S. ITALICA ALBA.

A May-Flowering Scilla.

Scilla italica alba.

THIS pretty little scilla is not so much cultivated as its undeniable beauty deserves. It has charming white blooms, and the plant grows 6 to 8ins. in height. It is perfectly hardy, but prefers a light warm soil. A corner in the rockery should be found for it, and then the bulbs should be left untouched for three or four years, after which time it is desirable to divide and replant them.—C.

The Treatment of Liliums After Flowering.

OFTEN these bulbs are forgotten at the dying of the blooms, the keen interest being maintained only during the growing and flowering stages. This is wrong. We should take great care of the bulbs. All liliums are much benefited by having a good supply of fibrous loam, in which the grass has perished several months, packed round their roots after the flowering stage, where the bulbs are left in. This new loam, applied soon after the flowers have faded, and rotted manure applied in the form of a surface mulch, help to strengthen and protect the bulbs during adverse weather. Liliums grown and flowered in pots should be transferred to the cold frame from the greenhouse or conservatory, where water supplies can be properly regulated as the bulbs need careful treatment at this stage. The lights should be kept on, but tilted to admit air freely.—CHRISTCHURCH.

A Plant Worth Reviving.

Salvia Sclarea.

CLARY is a very old plant of English gardens, where it was formerly esteemed from having some mild medicinal virtues, but its general cultivation is well worth reviving for its fine effect in the flower border. The flower-stem rises to a height of 5ft. or more, and branches out a good 2ft., and all is laden with bract and bloom of a charming colour quality. The large bracts are reddish mauve and the flowers pale blue, or, as Parkinson has it, "a bleake blew colour." The effect in the mass is that of clouds of tender broken colour, both delightful and interesting. The colour of both bract and bloom is apt to degenerate into a whitish tint, therefore I am careful to save seed from the best coloured plants; this is the easier to secure if the lighter-coloured ones are pulled up as soon as the best of the flower is over. This is no loss, as the plant is a biennial; but as they take some space, I keep pots of hydrangea to drop in where any clary comes out. It is apt to sow itself if it is left till the seed ripens naturally, or, as the old Herbal author says, in prettier language than we now use, "Sometimes it will rise of its own sowing." Parkinson also tells us that in his time it was made into fritters: "The leaves taken dry and dipped into a batter made of the yolkes of egges, flower, a little milke, and then fryed with butter until they be crispe, serve for a dish of meat accepted with manie, uppleasant to none."—G. J.

THE OLD-FASHIONED SALVIA SCLAREA (CLARY).

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THE CULTURE OF VIOLETS IN FRAMES

HOW very often during the winter months so many garden frames are to be seen idle, and yet with such little cost every inch of space could be utilised to the most profitable account by the cultivating of violets. Although they can be very successfully and profitably grown out in the open, yet with the extra shelter and warmth of a frame, larger stalked and cleaner flowers can be obtained.

About the third or fourth week in September the growth of the plants in the open should be checked by chopping round them with a spade and about the same time the frames should be prepared and made ready to receive the plants. At the bottom of the frame place a layer of clinkers and on top 1ft. of good fibrous loam and leaf-mould in equal proportions.

Lift the plants from the open ground early in October and plant out 9ins. apart in the frame. Keep the frame closed for a few days after planting to allow the plants to get used to their new quarters, then gradually admit air according to atmospheric conditions. The great mistake of keeping the frame too close is often made in the culture of violets, with the result that the leaves and flower stalks damp off. Admit air on all possible occasions throughout the autumn and winter. Excessive watering of the plants should be avoided, but the plants should not suffer from drought, as red spider will at once attack them. Watering should be done, if possible, on bright mornings.

The two great enemies to be combated in the cultivation of violets in frames are: the disease commonly called rust or spot and the pest mentioned above, red spider. The former is recognised by round, brownish spots which appear on the leaves and which wither as the attack increases. As a preventive against this disease, ample space should be allowed between the plants, air admitted during fine weather, the soil kept moist, but not sodden, and after the plants have been flowering for some time, the soil between the plants should be loosened and fresh compost added. Yellowing leaves should be promptly removed.

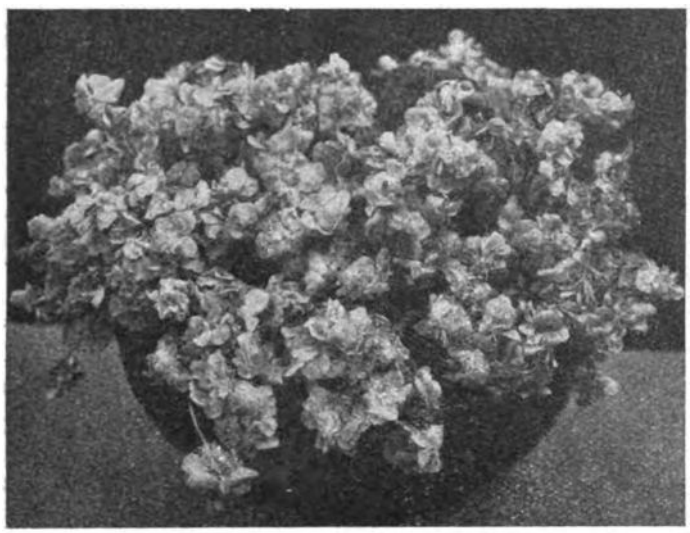
In case an attack appears to be spreading, spraying with Bordeaux mixture, which may be obtained from any horticultural sundriesman, may be tried, but it cannot be relied upon.

Red spider cannot be discerned with the naked eye, but if a plant loses its freshness and assumes a rusty appearance, red spider may be suspected. To remedy this, preventive measures, by keeping a moist, buoyant atmosphere, are much better than the cure. If the cure has to be resorted to, a vigorous syringing of the plants may suffice in the case of a slight attack, but if it does not, a nicotine and soft soap solution should be used, applied with as fine a spray as possible. The solution is made by boiling 1lb. soft soap in 20 gallons of water and stirring in 1½ oz. commercial nicotine and using very hot.

Weak doses of soot and manure water are a good stimulant if applied when the plants are throwing up their buds.

After flowering, as many runners as possible should be induced to grow from the plants and if these are pegged down into the soil and a little leaf mould placed around the base of the runner, rooting will take place freely. These young plants are then detached from the parent and planted outside in the soil about 6ins. apart. This provides the stock for the following autumn. There are several varieties on the market, of which Princess of Wales, Marie Louise and Comte de Brazza are among the best.

If this cultivation is followed up, good violets can be obtained throughout the winter and spring. M. H.



MARIE LOUISE, WITH BEAUTIFUL DEEP-BLUE FLOWERS.

PRINCESS OF WALES, ONE OF THE BEST SINGLE VARIETIES.

PREPARING THE GREENHOUSE FOR WINTER OCCUPANTS

THERE is generally something to do in a greenhouse in the autumn before it can be made ready for the reception of plants which have been growing on for flowering during winter. It may be that, for the past few months, the house has been devoted to dwarf flowering subjects in pots, and it will be necessary to remove the stages for taller plants which will take their places. Or, possibly, the house has been devoted to the culture of tomatoes or cucumbers, which will have to be removed to make way for other things coming on. In any case, the roof should have the first consideration—painting, puttying and replacing any broken panes. If it is not needful to do any painting inside, the sash bars and glass, as well as stages, ought to be thoroughly cleaned, so that all may be ready for the winter.

Should it happen that green fly, red spider or white fly has put in an appearance this summer, this is the time (when the house is empty) to fumigate well with a view to eradicating such pests. At the same time, opportunity ought to be taken to paint with lampblack and linseed oil the heating pipes, to prevent rust. The stove itself should also come in for its annual overhaul, so that when the need for making fires arises, everything will be in order. This work is much better put in hand while the weather is suitable, and one may temporarily remove any occupants out of doors.

Where it is proposed to house chrysanthemums, it will probably be found necessary either to remove existing stages from the house or lower them to ground level in order to accommodate the plants satisfactorily. Roof shelves should also be taken down and cleansed, so that when the time comes for housing small plants, like primulas, etc., their transference from the frame can take place without delay.

The date for housing winter tenants depends largely upon the condition of the weather and locality in which one resides. In many districts, plants in small pots accommodated in frames can be kept there often until well into October; but in the case of chrysanthemums exposed to the weather out of doors, it behoves the grower to "watch the weather" after mid-September, and be prepared to bring them under glass should frosts occur. A definite date cannot, of course, be stated as to when such plants ought to be housed; but, having regard to the trouble bestowed on them since the beginning of the year, it is better to bring plants indoors a few days earlier, rather than expose them to one night's frost which may cripple the buds, even if such early housing means abundant ventilation by day and night, and possibly slight shading in the middle of the day. I have seen more than one batch of plants in the Midland counties spoilt by leaving them out of doors a few days too late, and all the labour of months wasted.

Should the house be a lean-to, the back wall ought to be well brushed down and cleansed with water to dislodge any pests: and if it has been customary to whiten the wall, a coat of lime will generally kill any insects lurking in the crevices. F. W.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE advantages of sowing sweet peas in autumn are generally recognised by exhibitors, and as Mr. Smellie and Mr. Unwin agree that late September is the most suitable time in which that particular work should be overtaken in Scotland, growers should make up their minds regarding the varieties that are to be grown and place their orders at once, because delay in delivery is a common experience each year. In this connection a real difficulty arises. It is only in September that the new catalogues are published, and it is the exception rather than the rule for distributing firms in the trade to obtain possession of their stocks at such an early period. At the time of writing Messrs. Dobbie and Co.'s list is the only one that has reached me, and it contains a hint that the prospects of a good harvest are not bright. But be that as it may, the conclusion is obvious, that the modern cultivator of sweet peas in Scotland must conform to nature's laws which regulate harvest and seed time, and in doing so it may be necessary to extend the seed-sowing period beyond the favoured span. While the question is interesting as indicating the apparent divergence between up-to-date theory and practice, it only appeals to a comparatively small number of growers, as spring-sowing is generally followed by the mass of the people who cultivate our most popular annual for decorative purposes.

The method of sowing in autumn and subsequent treatment does not differ in any material respect from that observed in early spring. Pots and boxes are equally suitable provided they are 6ins. in depth, but the latter are generally favoured when a large number of plants are required. As soil conditions are closely associated with germination, care should be taken that the medium is neither heavy nor rich. It is better to err on the light side, for in that direction sweetness and porosity lie, therefore prepare a compost consisting of equal parts of loam, leaf-soil and sand, and if you provide a top layer of the latter material as a seed bed so much the better. A simple rule to be observed in sowing is to regulate the number of the seeds according to the size of the pots, thus a 3in. pot will accommodate three seeds, a 5in. pot five seeds and so on. If boxes are used, sow the seeds in rows 2ins. to 3ins. apart and allow a space of 1½ins. between each seed. Cover the seed to a depth of half an inch, and as each variety is completed attach a wooden tally containing the name and number of seeds, an arrangement that will facilitate the work of checking the germination results. Plunge the pots in ashes or in the soil of the frame, but the boxes are better to be raised above the surface. Keep the lights closed until the seedlings make their appearance in about a fortnight's time, when they may be removed and only replaced during spells of bad weather. Always remember that sweet peas are hardy and should never be coddled.

Messrs. Austin and McAslan, Glasgow, have issued particulars of their spring flower show, which is to be held in the McLellan Galleries on March 14th to the 16th. There are forty-nine hyacinth, narcissi and tulip classes open to gardeners and amateurs, and ten classes for azaleas, cyclamen, cineraria and Primula obconica. The firm provide the prizes, amounting to £50, together with special prizes of £3 3s. each for the best exhibit in the gardeners' and amateurs' classes.

The annual excursion of the Royal Caledonian Horticultural Society took place on September 3rd, when a party numbering over forty spent a delightful afternoon in the gardens and grounds of Arniston, Midlothian. The company were met by Lady Dundas and were taken round by the Factor and gardener. Notwithstanding the recent wet weather, the garden looked exceptionally well, and the flower borders were specially admired. Artistic blending of colours was very noticeable, and pleasing shades were used in the long borders running through the centre of the gardens. After viewing the range of glass-houses the party walked through a portion of the woods and saw the glen, which is a feature of the estate, and were shown two old larches, one known as the "leaning larch" from its peculiar angle. These are old trees over 100ft. high, and are said to be the first planted in Scotland. Tea was served in the mansion, after which the president, Mr. W. J. Thomson, expressed the thanks of the society to Lady Dundas. On the journey home the company also visited the historic chapel at Roslin.

September was ushered in by a spell of delightful weather which opened up the late bloom and created a wealth of colour in the gardens reminiscent of summer at its best. Dahlias, chrysanthemums, gladioli, phloxes and the autumn roses all contributed to the gay picture and banished memories of past disappointments. The brilliant sunshine in daytime is, however, followed by occasional touches of frost at night, warning amateurs of the risks accompanying autumnal climatic conditions and the exercise of prudence in the protection of tender plants. On the principle of safety first a number of chrysanthemums in the border should be potted up and taken indoors while they are in bud. Rambler roses should have attention about the end of the month. Cut out all the dead and old growth on which the withered sprays remain so as to promote the ripening of the new wood that is to produce next season's blossom. It will be noticed that several strong, erect stems have sprung up from the base. In the event of the number being greater than what is required for the future furnishing of the bush, take away the weakest and tie up the remainder securely so that they may withstand the winter's storms.

The first Saturday of September was an eventful day at Mosspark. It was the occasion of the flower show formally opened by Lady Malcolm Campbell, and the first public recognition of the success of Mr. James Stewart in retaining for Mosspark the custody of the *Daily Record* championship trophy awarded to the best-kept garden in the housing schemes of the Corporation. The Campbell Cup awarded to Mr. D. C. Williamson for the best bank of cut flowers, and the Society's challenge trophy won by Mr. J. R. Smith for dahlias were presented.

ST. MUNGO.

Flower Show Fixtures.

October 1st.—New Victoria (Glasgow Chrysanthemum.

October 8th.—Peebles Chrysanthemum.

October 15th.—Carnwath Chrysanthemum.

WHAT OUR READERS SAY

A TEST OF LAVENDER SWEET PEAS.

SIR,—For some years I have been greatly interested in growing lavender-coloured sweet peas, side by side, as each new variety of this particular shade of colour has been introduced. Last year I thought I had found just what I wanted in Austin Frederick, a flower of great beauty in my estimation from every point of view of what a sweet pea flower should be. This year I sowed a packet of "Mermaid," thirty seeds, twenty-seven of which gave strong, vigorous growths, and the result has been far beyond anything I ever remember to have seen in a lavender colour. The purity and depth of rich pure lavender, of the blooms, which are large, waved, and have on nearly every stem four flowers and very many five, has at last given me a type of flower which, I should think, has come to stay. In any testing of either flowers, fruits or vegetables, I give the most thorough attention to every detail, so that my conclusions shall be not only satisfactory to myself and my future work, but also a true guide to others who seek to know the best. Gardening as a profession is as fascinating to me at the end of fifty-five years as ever it was, but if there is one branch more interesting than another it is the testing of types of what takes one's fancy, side by side, either in the greenhouse, garden, orchard, shrubbery or plantation.—V. H. LUCAS, *Hurworth-on-Tees, Darlington.*

A DWARF PENTSTEMON FOR THE ROCKERY.

Pentstemon Davidsonii.

SIR,—This little shrubby pentstemon, which I first saw on its earliest appearance at Chelsea Show, has been the subject of considerable difference of opinion respecting its correct nomenclature. I have no intention of entering upon this vexed question, and this is all the more unnecessary, seeing that the plant can be procured most easily from nurseries by asking for P. Davidsonii. It is worth obtaining as it is a plant which has several attractions, although the purist in colour tones will possibly have faults to find with those of the blooms. But much may be forgiven such a pleasing little plant, even if its red flowers have more of that mauvy tone for which some of us care little. Yet this little shrublet, not more than an inch or two in height, has a decided attraction, and its toothed leaves of light green, together with these bugle-like flowers, look really well rising from a moraine or from a sunny crevice of the rock garden. I came upon an exceptionally good plant of this gem in a moraine of river gravel the other day, and its bright colouring seemed toned down by its surroundings as to make it all the more pleasing. A granite moraine has been recommended for it, but this does not appear to be necessary. It is propagated by cuttings which strike freely under glass.—S. ARNOTT, *Dumfries.*

THE CAUSES AND REMEDIES OF FRUIT SPLITTING.

SIR,—I think that most gardeners will agree that cases of fruit splitting occur more in a wet season than in a dry one. When fruits are growing inside, as peaches, tomatoes, melons and grapes, splitting is quite under the grower's control; outside, it has to be left very much to chance. In the case of outside fruit trees or tomatoes charged with an excess of moisture, splitting will occur in a season like the present. Our object should be, where fruit is maturing, to ward off excessive moisture. The fruits named above if grown inside should have no check while growing to full size; when this stage is reached, lessen the supply of water and moisture in the house, and allow air to circulate through the house night and day. If this is

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done, splitting is reduced to a minimum. Tomatoes can be picked when just coloured, after which the plants can be watered again. Grapes are the most troublesome, especially if the borders are partly or entirely outside; to remedy this, I always place spare lights over the outside border to throw off water as soon as the grapes are just coloured; this makes the outside as dry as the inside, and, with full ventilation in the day and the ventilator open a crack top and bottom at night, seldom does a berry split. The aim should be to keep plants on the dry side when fruits have reached maturity.—G. WALLER, *Surbiton.*

TENNIS BOUNDARY NETS.

SIR,—A short while ago the practice of taking out a strip of turf alongside the netting surrounding a tennis court was recommended in THE GARDEN as a means for keeping the edges of the grass neat. If this space is kept well hoed, it certainly does improve the appearance of the court; but to tennis players it has the serious drawback of making the balls very dirty, especially in damp weather. In my humble opinion a far better method is to fix the bottom roll of netting only to within 4ins. of the ground, and to stretch three or four strands of plain wire tightly along the intervening space. This enables one to cut the grass with hook or shears easily, and at the same time effectually keeps the balls within bounds.—R. KEENE, *St. Albans.*

THE BEST WAY TO START LIFTING POTATOES.

SIR,—I commenced lifting potatoes this week and found that the first row I dug wos in a much better condition than the second. The tubers were dry and clean and were much better and bigger than those of the second row, which were wet and sticky. My explanation is that the first row faced east and got more sun than the second. The second row will now get the sun (if any) and that will dry the tubers and help to develop them. So my hint is: Dig one row at a time, commencing with the row facing east, and give each row four to five days "to air" and dry, then dig up No. 2, and so on.—A. J. JOLLIFFE, *Warren Town, Newmarket.*

AN OLD CUSTOM.

SIR,—When Queen Mary was recently visiting the Midlands, she strolled through the famous religious garden at Packwood Hall. In years gone by religious gardens were very popular features of all country houses, and the one at Packwood is a remarkably fine specimen. This represents the Sermon on the Mount and the figures are symbolised by yew trees. One very high tree in the middle is the Mount, four trees near are the four Evangelists, and twelve others are the Apostles. All around on lower ground over a hundred magnificent yews stand for the multitude gathered round. The Queen walked along the corkscrew path leading to the Mount and sat in a tiny summer arbour admiring the well preserved grounds, and expressed her interest in the symbolism.—CHARLES H. LEA, *Birmingham.*

OUR PHOTOGRAPHIC COMPETITION

With this week's issue our competition closes, but the widespread interest it has aroused, both at home and abroad, and the influence it has made have not ended. Amateur and professional gardeners alike have testified to its usefulness, and we think it high praise indeed that those whose business it is to design and lay out gardens have acknowledged that they have gained ideas from the work done by amateurs as illustrated by photographs of their gardens which have been shown in our competition pages. Our hope is that less favourable photographic weather during the coming months will not deter our readers from using their cameras when any work, constructional or otherwise, is being done, as their fellow readers may learn something from such photographs.

This photograph, taken in the gardens at Lavington Park, shows the two blue borders which are on either side of a wide grass walk. Erigerons, campanulas, Nepeta Mussini and Viola Maggie Mott are the chief plants growing there. Lilium candidum and pillar roses form a pleasing background.
The guinea photograph, sent in by A. MAY, *St. Margaret's Bay, Dover.*

The sundial, which marks "only the shining hours," is fixed on a column of granite. A dwarf lavender and a rock rose are planted at its foot, and near it is a bird bath for the robins. The lilies show up well against the dark background of trees.
MRS. CRESWELL, *Ewhurst, Surrey.*
Award of 5s.

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This balcony in Whitechapel has been quite transformed. The blue African lily (agapanthus) flourishes in the tubs, and the four sink gardens, which are filled with dainty rock plants, are most attractive. MISS MONK, *London Hospital, Whitechapel, London, E.1.* Award of 5s.

In August a very pretty effect can be obtained by hydrangeas and Agapanthus umbellatus, the latter growing in tubs in front of a veranda. In the winter the agapanthus tubs are put under the veranda (dwarf periwinkle edges the veranda floor). LADY THORNEYCROFT, *Bembridge, Isle of Wight.* Award of 5s.

This summer-house and garden were made in an odd corner. It is now a very pretty and useful spot. In the summer the two side borders are filled with tobacco plants, and during the spring with yellow wallflowers. The centre bed is edged with dwarf box, and planted with catmint on

the outside and salpiglossis in the centre. The salpiglossis, when it has finished flowering, is replaced by orange and blood red wallflowers. Azara microphylla, clematis and escallonias are growing up the walls. E. G. DRINKWATER, *Oxon.* Award of 5s.

A SUMMER-HOUSE WITH A PLEASANT OUTLOOK.

This photograph shows a beautiful garden at Footscray Place, the residence of Lord Waring. The design of the archway is particularly fine. There are borders of herbaceous perennials on either side of the path. These perennials bloom throughout the summer. MRS. HINDMARSH, *Eltham.* Award of 5s.

This lily pond is in the centre of my sunk garden. The pond round the edge is bright with Cambridge blue lobelia and ageratum, and soon the portulaca will be out, making a splash of vivid colour against the stones. MISS REDMAYNE, *Preston.* Award of 5s.

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FRUIT AND KITCHEN GARDEN

Planting Out Spring Cabbage.

SEPTEMBER is, no doubt, the best month for planting out the spring cabbage—or Whitsuntide cabbage, as some call it. There is sufficient warmth in the soil for the plants to get a good start and become well established before winter. There should now be plenty of available ground that has been well manured and cultivated for the previous crop, such as shallots, onions or potatoes. Cabbages flourish best in a clay loam, and as they are gross feeders they naturally require plenty of support in order to make large hearts; hence, if the soil is of a sandy or gravelly nature, it will require more fertilising matter. As the main object is to produce a mass of leaf matter, the most important need is the nitrogenous element, which can be conveniently supplied by the application of soot, sulphate of ammonia, guano, fowl manure or sheep droppings, either in the solid state or by means of liquid manure when active growth begins again in the spring. Some people prefer to apply a little nitrate of soda in small dressings during showery weather, as it is a soluble and quick-acting fertiliser. It is very important to keep the ground loose and open around the young plants by constant hoeing and light forking. They readily respond to this treatment. If slugs are troublesome a ring of soot and lime around each plant should suffice. A buttered cabbage leaf acts as a good trap. —G. T.

Ripening Tomatoes.

BOTH indoor and outdoor tomato plants are now making rapid growth, so need close attention as regards the removal of side growths and diseased fruit. The latter should be burnt. There is more to contend with under glass in the nature of insect life. To cope with such pests cleanliness and spraying seem to be the most effectual means. In order to get the full benefit of all sunshine, any leaves shading the fruit should be cut back. This is the time when frequent applications of liquid manure are most beneficial as the plant needs plenty of available food to mature the crop. The soil around each plant should be kept loose and friable. As the plants develop they should be securely tied to stakes or other supports.—S.

The Importance of Protecting Broccoli.

MANY broccoli need protection from frost, particularly those which were not planted on firm soil and on soil that had not been previously manured. Firm ground and a position shielded from the north and east should always be selected. The first is not difficult, as it is within the scope of most, when planning for vegetables, to set apart a plot that has not recently been dug but which has been enriched with manure for a previous crop, as, for instance, spinach, or peas. If planted out in recently dug, loose soil, broccoli will romp away and make huge specimens by late autumn. It is with these "free and easy" growers that trouble mostly arises, as they have little staying power as compared with those got in in firm ground requiring the services of a strong dibber to make a hole for the roots. Such plants nearly always grow stronger and more sturdy, and as a result withstand frost much better than the others.

In a time of frost, it is wise to be prepared with material at hand to afford shelter, but it is unnecessary to afford such help until frost comes, because, after all, broccoli is very hardy, and anything approaching coddling should be avoided. There are, of course, several well known sorts that are almost independent of any kind of help in this direction, except in a time of extended frost, such, for example, as Snow's Winter White, Knight's Protecting or Veitch's Self-Protecting. These will stand several degrees of frost without harm, but even taking that into consideration, it is such an important vegetable that when severe frosts come some provision in addition to their own protecting leaves should be at hand. In some winters, as was the case last, no need was experienced, but it is well to be prepared to afford help if required. One may bring into requisition old pea haulm, straw litter or bracken, pressing this material well around the neck of each plant, and scattering some among the rows. It is not much trouble, but should necessity arise, in a time of hard frost, it is the little help which ensures the crop going through and coming to maturity. Let it be borne in mind, that although the plants themselves are hardy, the flowers or curds feel frost quickly.—C.

Present Treatment of Loganberries.

ALTHOUGH loganberries are strong-growing plants, the new wood was made late in the season this year. Probably the cold, dry spell in spring retarded growth. Fruit trees must be well matured if full crops are to be obtained from them, and it is so in the case of bush fruits, raspberries and loganberries. To secure wood as ripe as possible this year all old fruiting canes should be removed as soon as possible. Perhaps some readers have already attended to the work of pruning. Even if they have, I invite them again to inspect their plants and study them. It may be that more old wood can be with advantage cut out now. Instead of allowing the young canes to lie on, or near to, the soil, tie them up as high as possible, provided they are not unduly crowded, and expose them to the winds as well as the sunshine. If new loganberry trees are to be planted, select positions exposed to the south-east, south or south-west. Some of the heaviest crops I have seen were gathered from plants facing south-east where they had the benefit of the early morning sunshine. It may be because the loganberry will grow in almost any kind of soil that so little preparation of soil is carried out. But it pays to trench the soil thoroughly and add some old mortar rubble to it in districts where the soil is deficient in lime. Allow ample room for each plant to grow. Annual shoots grow 6ft. to 8ft. in length; such specimens require for each one at least 12ft., and not any should be planted nearer together where the shoots are to be trained to the right and left. Isolated plants often succeed well because they have plenty of room in which to grow. Plant in November. —G. G.

On Cooking Vegetables.

THOSE who grow their own vegetables have both the pleasure of seeing them develop and of enjoying them under the best conditions, since when gathered fresh from the garden, and especially in their young and tender stages, the delicate flavour peculiar to each vegetable is most pronounced. It may not be generally known that the French prepare a delicious soup from the entire pods while the peas are very young and tender. Scarlet runner beans cooked whole when very young are far superior to the more matured bean cut in slices, while vegetable marrows have more flavour if cooked whole quite young and tender. Moreover, by removing some of the first growth of these vegetables their period of production is prolonged and better development ensues. The white turnip is another vegetable which is more tasty if cooked very young and fresh. Sowings made now should provide roots to the approach of winter. Both first and second early potatoes are better cooked as soon as they are dug. The less they are exposed to the light the better.—G. S.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

Constructing a Rock Garden.

All rock plants require a free root run and ample drainage. To ensure this, the foundation of a rock garden should consist of stones, brick-ends or anything that will give good drainage; never should it be a bank of heavy earth. The stones that are to show should be near the surface, each being nearly buried when the soil is added. Turves should be placed over the stones wherever there is to be soil, to prevent the crevices being blocked by soil. The compost should be of a free and porous nature; grit or gravel mixed with good light loam and leaf-mould is suitable for nearly all rock plants, but many also require lime rubble. The best time for construction is the autumn or early winter. The soil will then settle during the winter, and planting can be commenced in the spring. —C. O'C.

A Remedy for Coral Spot.

A very simple and yet effective cure for Nectria cinnabarina, better known as the coral spot fungus, on the stem or branch of a tree or shrub, is to slice off the infected part with a knife, cleaning off all the bark right into the wood, and then applying a good coating of tar. Should it appear later round the side of the wound already made, slice off again and tar. A plant of Pterocarya stenoptera, the stem of which was badly infected with the fungus, has been completely cleaned, and the plant is now growing vigorously.—D. A. D.

Dahlias and Earwigs.

At this season of the year earwigs are a real menace to growers of dahlias, chrysanthemums, etc., and to deal with these pests I have found the following treatment to be very effective. First obtain an adhesive gum, such as "Stictite" or anything "tacky." Apply this at base of stems 1ft. from ground; then again at various intervals along the stems and branches. When growing for exhibition it is advisable to cut strips of paper and tie loosely, but securely, around the flower stems at about half way and dress this with the sticky substance. One application will prove sufficient.—W. H. P.

An Excellent Method of Preserving Beech Leaves in Autumn.

Pick when turning brown, and stand in a mixture of one half water and one half glycerine. The mixture need only reach about 6ins. up. When absorbed, the leaves have a perfectly natural appearance and keep for months.—M. H.

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WORK IN THE GREENHOUSE

Treatment of Pot-Grown Roses.

ROSES grown in flower-pots are very useful and extremely interesting, but they are not easily managed unless certain attention be given after the flowering season. The flowering period may extend to seven months under expert treatment, but these notes are written mainly for the benefit of the inexperienced.

It is after flowering that the plants suffer if great care is not taken of them. We all know that roses in open borders make a lot of late growth at this season and pot-grown ones will do so also if they are placed on a bed of ashes in an open quarter, kept cool, free from mildew and well watered. This is the time to repot the plants, those that require more rooting-space, and surface mulch others that will do well for another year in their present pots. The compost should be a simple one; it may be possible to reduce the size of the old ball of soil considerably without doing harm to the roots, but no attempt should be made to reduce it if by doing so the roots will be damaged. A plant now growing in a 9in. pot should be shifted to one measuring 11ins. across. This will be a sufficient addition to the rooting space. In cases where top-dressings suffice and repotting is unnecessary, the surface soil should be removed down to the uppermost roots and replaced with compost similar to that used for the repotting, only it may be a little more fibrous. Fibrous loam inclined to be heavy rather than light and cut about six months ago is the best to use. To each bushel add a 5in. potful of bone meal and a similar quantity of wood ashes quite dust-dry. The ashes will be beneficial in helping to produce firm new wood made while the plants are growing under glass. Pot firmly. This is all that need be done now except that in very hot quarters the pots may be plunged to their rims in ashes.—H.

Trapping Cockroaches.

COCKROACHES are often great pests in greenhouses, mushroom beds and wherever else they can find some protection. These creatures will devour anything that can be eaten, and more often than is commonly supposed damage to plants can be traced to their efforts. On account of the fact that the cockroaches get about almost exclusively at night, many gardeners are hardly aware of their presence until, perhaps, they are moving pots or disturbing some things that have remained in one position for a long while. Arsenic and phosphorus are sometimes used for killing cockroaches, but both of these are so poisonous that it is safer to leave them alone, especially as simpler methods of dealing with the pest are just as effective. One plan is to secure a quantity of the common bracken fern. Put fresh fronds of this where cockroaches are known to abound and leave for a night. For some reason the insects are very fond of this fern and will eat it greedily, but they die quite soon after their repast. Here is a cockroach trap which is very good. Half fill a fair-sized basin with water and then mix with this a few spoonfuls of honey or treacle. Place the basin on the floor and then rest three or four sticks so that one edge is on the rim of the bowl and the other on the ground. The cockroaches will clamber up the sticks and fall over into the bowl and get drowned. Another way is to half fill glass jars with a sweet solution and then sink these to the rim in the ground. Many cockroaches will tumble in when they try to get at the sweet liquid, but they will not escape again. Cockroaches are very fond of oatmeal. Scatter some of this on the floor for one or two nights and then finally make a mixture of half oatmeal and half plaster of Paris.

Stimulants for Greenhouse Plants.

AT the present time there are many plants in pots in the greenhouse, and others in frames and out of doors that before long will be brought under glass, which benefit by a judicious use of stimulants. The latter may be procured in a highly concentrated form, and, if the directions on the tin are rigidly followed, one cannot go far wrong in the case of such things as fuchsias, heliotropes, zonals, primulas and cinerarias; but no stimulants should be given until after the customary clear watering. In the hands of a beginner guanos and fertilisers applied according to the printed instructions which accompany them, are often safer to use than are liquid stimulants made from cow, sheep or horse manure.

While robust-growing things like chrysanthemums in pots quartered in the open air, will take a stronger application than less vigorous plants, it may be said even in their case, that it is much better to give two applications in a week, well diluted with water until about the colour of weak tea, than to over-dose them with strong food. The use of stimulants in moderation is very helpful to plants in pots just now, but it may be overdone in one's anxiety to have a plant in flower by a given date. That cheap and easily obtained stimulant—soot—is one which is both safe and useful if it is put in a coarse bag (after the fire has gone out of it by exposure to the air and turning it over now and then) and placed in a water tub. It is one of the best home stimulants for promoting healthy green foliage, and, generally speaking, adds vigour to a plant.—C.

How to Grow Early-Flowering Gladioli in Pots.

THE early gladioli are very suitable for growing in pots for the decoration of the cold greenhouse. They flower in April and May at a time when the spring bulbs are over, and on this account prove extremely useful. To get the best results the bulbs should be potted in October. Place three to six bulbs, according to size, in 5in. or 6in. pots. Any good quality garden soil will answer the purpose, although if this is very heavy it may be made lighter by the addition of sand. Plunge the pots to the rim in ashes in a cold frame, or choose a sheltered position out of doors. Note that the pots should stand on ashes, or some firm base, through which worms are not likely to work up. When the growths are pushing up freely, move the plants to a shelf or other light position in a greenhouse or simply leave them in the cold frame until the first flowers are ready to expand. Protection from severe frost must be given or damage will result. There are a number of fine sorts of these early-flowering gladioli and, when ordering, it is worth while securing as big a selection as possible. Note that the bulbs of these forms are very much smaller than those of the gladioli which flower in the autumn. All the undermentioned are recommended as being sure to please. The Bride, with pure white flowers, which are very freely produced; Blushing Bride, white flowers marked with crimson; Suttons Queen of Pinks, which is probably the finest of early flowering gladioli yet sent out. The long spikes are closely set with large well expended flowers of a delightful shade of salmon pink. Ackermani, salmon coloured flowers with white blotches, shaded red; Fiery Knight, large bright vermilion scarlet flowers on long spikes; General Scot, soft pink blooms with cream and scarlet blotches; Spitfire, brilliant scarlet flowers with crimson blotches and very free-flowering. Where it is not specially desired to grow named forms, it may be pointed out that the mixed bulbs offered by the leading firms are very good value indeed.—S. L.

Some Acacias for the Cool Greenhouse.

OWNERS of cool greenhouses hardly give sufficient attention to the Australian acacias, which are of considerable decorative value and are not at all difficult to grow. These plants are quite happy in a house where they can just be given protection from frost, although the time of flowering will be advanced if a little artificial heat is available. The blossoms are mostly some shade of yellow and these are produced in globular heads and cylindrical spikes, each containing many flowers. The leaves are very variable in the different species and, although the pinnate or feather-like leaf is the most common, there is a section in which flattened leaf-stalks function as leaves. The most suitable soil for acacias is a rich compost formed of equal parts of loam, leaf-soil or peat, to which a little charcoal has been added. Thorough drainage is essential and repotting must be carried out with care at the right time. After the flowering season the branches are cut back moderately hard and the plants are then kept rather close and moist for a few weeks. As soon as the young shoots start to grow vigorously repotting may take place. In most cases acacias will do quite well if left undisturbed for several years. During the summer a sunny position out of doors is best and, in dry weather, careful attention must be paid to watering. Propagation of these acacias is carried out by means of cuttings of the tips of the half-ripened wood taken in summer and placed in very sandy soil under a bell glass in a cold frame. A few of the acacias of more tender habit will require more heat to ensure a rooting of the cuttings. The plants are not difficult to raise from seed and these should be sown about 3ins. deep in sandy soil. Good kinds of acacia for growing in the cool greenhouse are A. armata and its variety angustifolia, A. hastulata, A. leprosa and A. riceana.—S. L.

Annuals for Autumn Sowing.

ON account of brilliant results, general utility and simplicity of culture, both in the greenhouse and in the garden, annual flowers are extremely popular in every quarter. Among the best for greenhouse cultivation are the various types of clarkia, salpiglossis, viscaria, nigella, calendula, nicotianas, mignonette, sweet peas, godetia and others, sowings of which, as detailed below, may be made just now in order that bright bloom and sweet scents may fill the greenhouse in spring. In the open there is wider choice and, provided that the soil be a porous one and the winter at least reasonable, an early show of blossom can be ensured by getting the seed in at once. The list again includes the clarkias, limnanthes, saponaria, nemophilas, candytufts, silenes, bartonia, calendula, annual chrysanthemum, Virginian stock, nigella and others. When the plants are to be grown in pots, sow seed in small sizes (3in. or 4in.), a pinch in each, the compost being loam with a little sifted leaf-mould and sand. Just cover the seed with a sifting of fine soil and germinate in the usual way in a cold frame. Ventilate freely after the seedlings come through, and, late in October, when the pots are taken inside, let them stand on a shelf near the glass. Thin the seedlings out to three or four, and avoid over-dampness. Pot them on later into 6in. pots. In the open, sow in drills 9ins. apart, in firm, unmanured but good soil; sow thinly, but thin out later in order that the plants may stand apart and be robust.—A.

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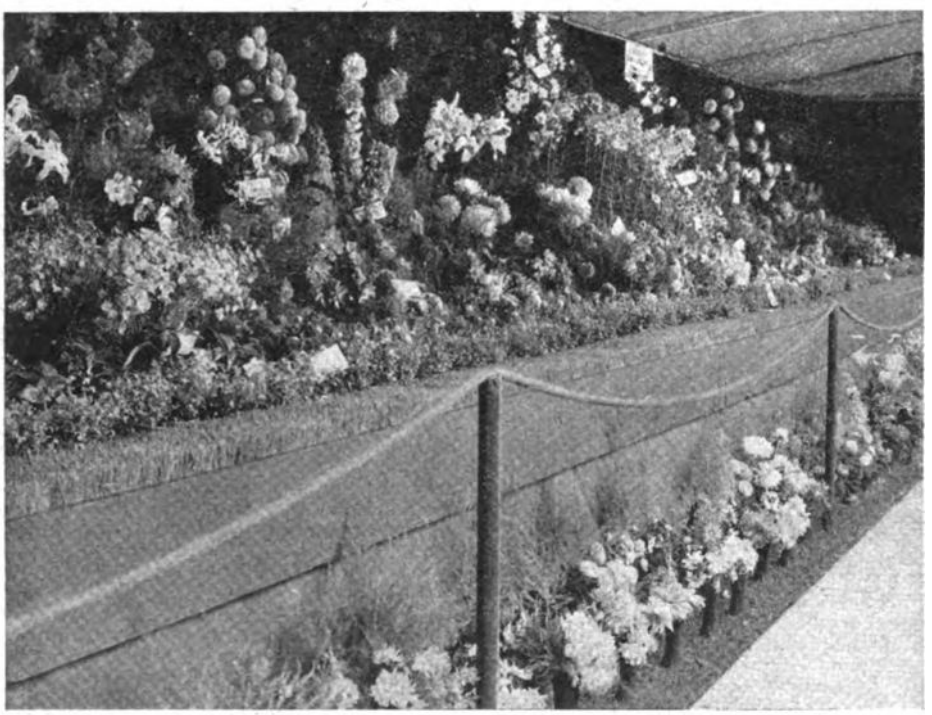
TEMPLE GARDENS SHOW

WALK down any market street in London and watch how eagerly the Londoner buys flowers and plants. There is no doubt about his love of flowers and his genuine desire to grow them for himself. Thousands and thousands of seedlings must be sold to London's amateurs each year. Cherished in their gardens month after month, they eventually find their way to the show tables of the district horticultural societies, to win for their cultivators the admiration of their fellows. On September 3rd–5th amateurs of Greater London excelled themselves at the Temple Gardens Exhibition, organised by the London Gardens Guild. The arrangement of the Show was unique. Instead of the usual stuffy tents, the marquees were constructed as half-span structures open on one side. By making the marquees face each other the effect of an avenue of flowers was produced. Down the centre a number of model gardens were arranged. The first was a water garden, constructed by Mr. Amos Perry of Enfield. Farther down, a fine display of clematis and other flowering and fruiting shrubs was staged by Messrs. L. R. Russell of Richmond.



A FINE EXHIBIT STAGED BY THE BERMONDSEY BOROUGH COUNCIL.
This exhibit shows what can be grown even in a smoky district such as Bermondsey.

Twice as Big as Last Year.

A break in the avenue at this point led to a large open square of velvety grass, the sides of which were also filled with London-grown flowers. This part of the exhibition was a new feature and made the whole Show fully twice the size it was last season. In the far corner were staged displays from the prize-winning gardens in the recent All-London Gardens Championships. The gold medal awarded for the best of these displays was won by Mr. Charles H. Dyke, Thornton Heath, whose flowers and foliage plants showed an extremely high standard of cultivation. Many unusual specimens were included in his display.

It was interesting to compare this class with the displays from other entrants in the Garden Championships, and it was evident that even in gardens where no special award was given by the visiting judges, there were, nevertheless, many well grown plants.

Mr. C. Campbell of Charlton won the gold medal among the displays from non-prize winning gardens.

Corporate Displays from Local Societies.

The owners of small gardens are often disappointed because at Show time they have not sufficient flowers in bloom to make a large display. If they belong to a local garden society, however, they are often able to contribute a few fine blooms to a corporate display staged in the name of the society. Many hundreds of London gardeners must have contributed their quota to the corporate displays staged at the Temple Gardens. These showed an exceptionally high standard of cultivation, the best display in the eyes of the judges being that staged by the Mount Pleasant G.P.O. Society. Among local societies, apart from the P.O. horticultural societies, the best display was made by the Camberwell Gardens Guild.

Trade Exhibits.

One of the most attractive features of the Show was undoubtedly the replica of the Championship Back Garden in the recent competition, which was made by Messrs. James Carter and Co. of Raynes Park. There were also model gardens on view, made by the proprietors of "Noelite" (Messrs. A. J. Redgrove and Son of Borough Green) and by the Rhymney Quarries, Limited.

Other exhibits by the trade included roses, by Messrs. R. Neal and Sons, Wandsworth; and Benj. R. Cant and Sons, Colchester; hardy plants, by Messrs. Lowe and Gibson, Crawley Down; Castle Nurseries, Limited, Chingford; and R. J. Case, Taunton; anemones, by Messrs. Reamsbottom and Co., Middlesex; gladioli, by Messrs. W. J. Unwin, Histon, Cambs; and A. Dawkins, Chelsea; bulb display, by Messrs. J. Carter, Raynes Park; herbaceous plants and roses, by Messrs. Wilson and Agar, Reading; carnations, by Messrs. Allwood Brothers, Hayward's Heath, and Messrs. C. Engelmann, Limited, Saffron Walden; hardy plants and clematis, by Messrs. H. J. Jones, Hither Green Lane; floral decorations by Messrs. Shearns, Tottenham Court Road; montbretia, by Messrs. Daniels Brothers; and garden designs, by Mrs. Marjory Allen. Arches and garden furniture made by the Castle Shipbreaking Company were also on view.

Individual Classes.

Among the individual classes, one of the most interesting was the Class 4, three spikes of gladioli. In this case a gold medal was awarded to Mr. S. H. Gregg of Wood Green, for a vase showing one spike of Flora and two new seedling gladioli, one of which was named after the *Daily Express* and one "Richard Sudell," as a compliment to the Organising Secretary of the Guild. The latter was a particularly charming flower of pale pink with a deeper pink edging.

Three of the individual classes were reserved for exhibitors resident within five miles of London Bridge. Mr. Butcher of Bermondsey, Mr. Oxer of Clapham and Mr. Baker of Dalston won the gold medal in these three classes. These classes alone were sufficient indication that the difficulties of the London atmosphere are not insurmountable, but that, given the desire, fine blooms can be grown in any district.

The Daily Express *Challenge Trophy.*

A challenge shield was offered by the *Daily Express* to the society whose members ecured the greatest aggregate of points in the Exhibition. This challenge shield was won easily by the Charlton and District Horticultural Society, whose number of points totalled 100; the runner-up was the Bermondsey Gardens Guild, with 68 points.

One of the outstanding features was the corporate display of flowers by municipal authorities, Bermondsey's exhibit, staged by the Park Superintendent, Mr. W. H. Johns, N.D.H., being awarded a gold medal. There was also a Ministry of Agriculture Information Bureau, which answered enquiries and gave advice on plant diseases and pests. Experts were in attendance at the Gardens Guild Tent who gave advice regarding problems of town gardening. The band of the Honourable Artillery Company played each day.

The Exhibition was an enormous success from every point of view. Between the time that the Show was opened by Lord Lambourne the President of the Horticultural Society, at 2.30 p.m. on Saturday, and Monday evening, when the awards were distributed by the Editor of the *Daily Express* and Mr. E. Cruse, Deputy-Chairman of the London County Council, between 20,000 and 30,000 people visited the Exhibition.

SOCIETY NOTES

Paisley Florists' Society.

INCREASED interest was taken in the annual two days' autumn show of this Society, which was accommodated for the first time in the more commodious premises of the Clark Town Hall. The change was the means of attracting a greater number of entries, and both from a competitive and exhibitive point of view the exhibition was one of the most successful ever held.

While the open section was poorly represented, it contained a number of high-class exhibits, particularly the classes for thirty-six blooms of roses and six vases of decorative roses, with which Mr. William Ferguson, Dunfermline, secured the chief honours.

Major Brown, Westerlea, was the most successful competitior in the plant and cut flower division. He won first prize in thirteen classes, and was particularly strong in chrysanthemums and dahlias. Mr. T. Harvie and Mr. D. Graham shared in the honours awarded to pot plants, while Mr. A. Carmichael excelled in sweet peas and annuals.

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THE GARDEN

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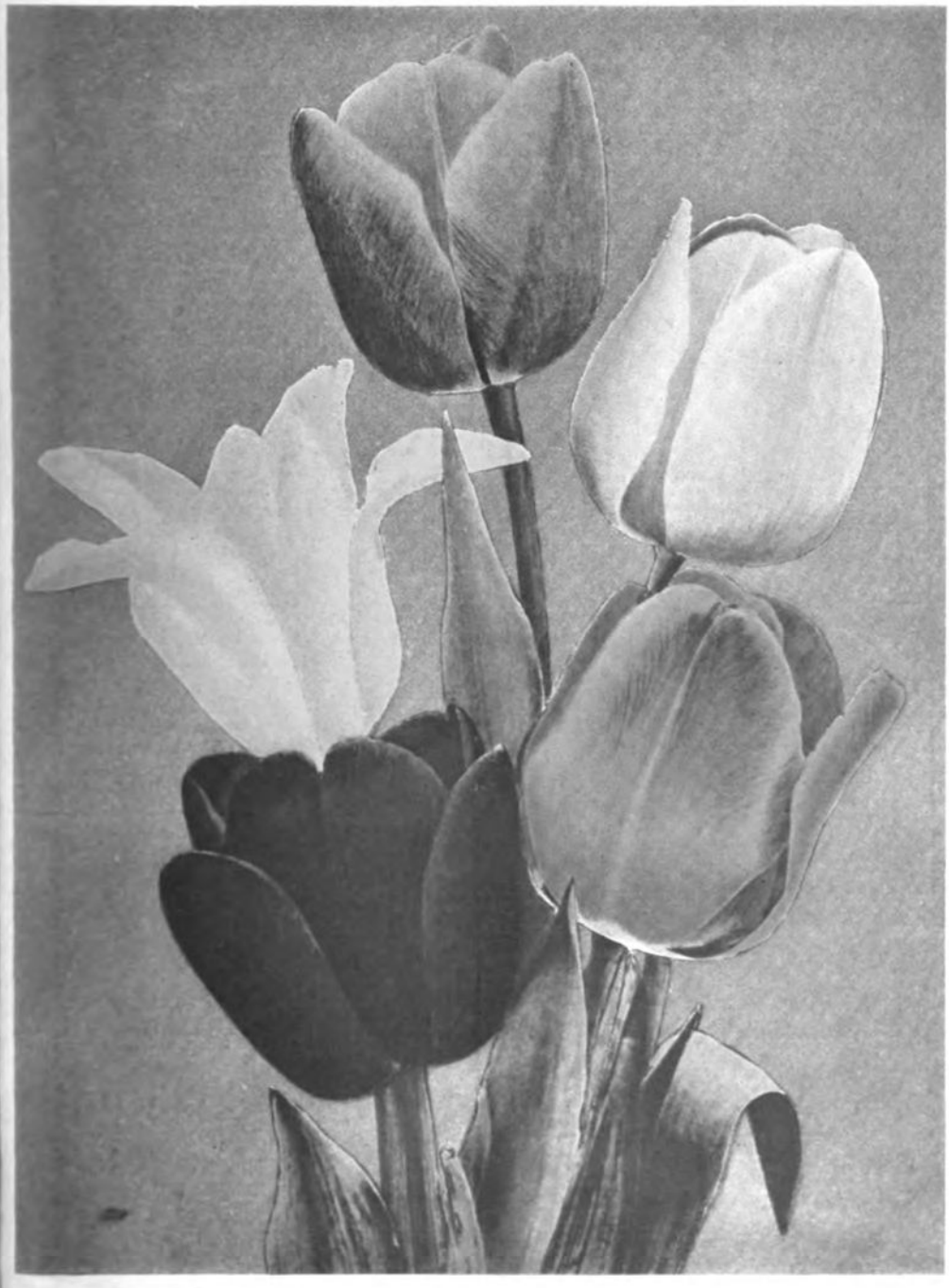
Vol. XCI.—No. 2912 Saturday, September 24th, 1927 Price TWOPENCE



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VOL. XCI.—NO. 2912. SEPTEMBER 24, 1927. PRICE TWOPENCE.

WINDBREAKS IN SMALL GARDENS

DURING the past few years the influence of wind on plant growth has been the subject of considerable study, particularly in public gardens and in some of the larger private gardens. Apart from such obvious damage as the wearing action of wind on the taller plants in the herbaceous border, it has been proved that frost, accompanied by air movement—what might be called draughts—causes more damage than a low temperature on still nights on young growth in spring, especially of trees and shrubs. This has brought about the use of both permanent and portable windbreaks. Naturally, in the more confined area of a small garden, often divided from the garden next door by a paling that acts as a windbreak, such appliances for keeping off wind are not such a necessity; nevertheless, they have their uses, and the cultivator of even the smallest garden should not neglect to consider the action of wind on his plants. Such advice would have been particularly applicable earlier this year, owing to the peculiarities of the past summer. As a rule, the prevailing wind during the summer months blows from the west, and gardeners with any experience usually take this into consideration when preparing their planting plan. This summer there has been an unusual amount of fairly strong easterly winds, with the consequence that many of the taller herbaceous plants protected from a westerly wind have suffered wind damage from which no amount of staking has saved them. This is an occasion when a portable windbreak would have been of considerable assistance.

These portable windbreaks can be made of the lightest materials, as it is surprising how little is necessary to break the force of the wind. Hurdles are excellent for this purpose; they are light, inexpensive and easily moved. Or even more simple is sacking, hessian or mats, such as are used for shading frames, tied to a few stakes and stretched in position when the wind blows strongly. These can be rolled up when not in use or put to other uses. Even a few branches firmly anchored in the ground, will be the saving of much wind damage.

Useful though these portable shelters are, owners of all gardens, particularly new ones in exposed positions, should try to provide permanent windbreaks on the sides from which prevailing winds blow. Only too often does one see excellent attempts at new herbaceous borders ruined by exposure to a prevailing wind. The experienced gardener will make it one of the first jobs in a new garden to see that he combats the prevailing wind at the earliest possible moment. A row of evergreens is useful, but in this case kinds should be chosen, such as Cupressus Lawsoniana or C. macrocarpa, that are clothed to the foot. Perhaps the most practical windbreak in a small garden is a paling which can be used for growing cordon fruit or climbers and takes up little space. But such solid windbreaks are not necessary. A trellis will give sufficient protection and will give a wall of colour when clothed with climbing roses or clematis, or an espalier for fruit.

In any case, we should like to impress on those who are gardening in exposed positions, the value of windbreaks. Not only do they save a large amount of wind damage during the course of the year, but they lessen the amount of staking during the summer months. There are very few garden plants that do not hate wind, and the latter is a mixed blessing which is very prevalent in these islands of ours.

Early Planting.

AFTER a succession of mild open winters, gardeners have got into the habit of putting off their autumn planting later and later each year. A hard winter is long overdue, and, although it may not occur this year, there is every sign that this is going to be an early autumn. Gardeners who may not have experienced a hard winter, or may have forgotten its effects, should take time by the forelock and see that new additions to their garden are bedded down snugly on the chance that hard weather sets in. It cannot be expected that a plant that is set in its place only a few days before a hard frost will flourish next year as well as one that is thoroughly settled and at home weeks before the frost starts. So early planting is advisable. These past open winters have made us forget that there is such a thing as making a garden snug for the winter. There has only been an occasional day during the past few seasons when active work in the garden has been impossible. Considerable work has been started and left unfinished overnight under the idea of open weather the next day, the next week, the next month. Such a state of affairs cannot continue indefinitely, and it may be that the overdue hard weather may come this winter. In the hopes that this may be the case—and it would do a world of good—gardeners would do well to get their plants in early; it may save losses that need not occur; in any case, the plants will be at home before the frosts commence. This may be a counsel of perfection, but it may be necessary. Therefore, plant early.

This Week's Work

For Gardens in the South and Midlands.

Remove seedling cinerarias and primulas into the greenhouse.
Plant daffodils, hyacinths and Spanish irises in beds and borders.
Lift and store potatoes, onions, beetroot and carrots.
Clear up strawberry and asparagus beds.
Take cuttings of calceolarias, violas, geraniums, pentstemons and antirrhinums.
Plant delphiniums, bearded irises and peonies.
Dress lawns with worm killer and complete fertilisers and make new lawns by sowing seed and laying turf.
Trim evergreen hedges and box edgings.

This Week's Work

For Gardens in Scotland and the North.

Lift any potatoes that still remain in the ground.
Prepare ground for new raspberry beds.
Burn haulm of garden peas that have finished cropping.
Earth up Brussels sprouts as a protection against wind.
Plant Spanish and Dutch iris.
Take cuttings of rambler roses.
Finish autumn sowing of sweet peas.
Cut marrows before they become large and tough.
Begin boxing seed potatoes.
Pot daffodils and hyacinths for succession of bloom.
Give greens and lawns a final cutting.
Remove and store dahlia roots as foliage withers.

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TULIPS FOR THE AMATEUR

THE best time for planting tulips in the open is October. Our old friend the Rev. Joseph Jacob used to say November, quoting Lord Mayor's Day as the ideal time. This may be the case where one has to deal with a nice, warm, well drained soil; but I am sure that, where the soil is retentive of moisture, the earlier date is far better. For one thing, there is much more chance of finding the ground in a workable condition in October that there would be in November, and if any number of bulbs have to be planted the work will go more pleasantly and rapidly. Tulips like plenty of manure (not in a raw state), but it is not good for the bulbs to come in contact with it. So either partly decayed stuff should be used or, failing that, dig in some raw bone-meal—3 oz. per square yard—at time of planting, and give a light top-dressing of stable manure during the late autumn or winter. Peat moss litter manure is the best; it is easily spread, and does not look unsightly.

Some of the very best tulips for bedding—*i.e.*, the early Dutch varieties—are Augusta, deep rose pink; Couleur Cardinal, brilliant crimson shot with purple; Dusart, crimson scarlet; King's Crown, bright crimson edged yellow, a large flower and very showy; Lady Boreel, large pure white; McKinley, orange red, shaded carmine, distinct; Mon Tresor, very fine yellow; Prince of Austria, bright orange scarlet, sweetly scented, one of the very best early tulips for either bedding or pots; Vermilion Brilliant, extra good, early, also fine for pots; Van der Neer, violet purple, very large, and lasts well.

Doubles.—Boule de Neige, one of the best whites; Murillo, beautiful blush, alike good for beds or pot work; Rubra maxima, dazzling crimson scarlet; Safrano (Tea Rose) Primrose, yellow flushed salmon.

Late or May Flowering Tulips.

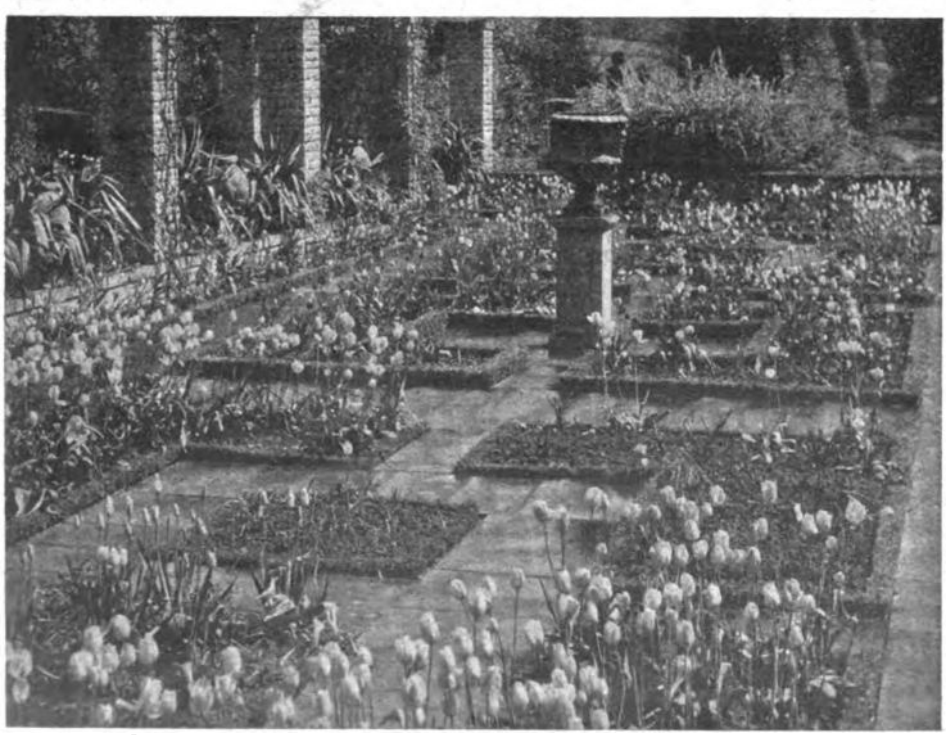
These may roughly be divided into two sections: the cottage, and Darwins. Some of the cottage varieties might well be taken for Darwins, but a committee of experts has placed them in the sections to which they believed them to belong, and a classified list was issued by the R.H.S., so the public must now accept this order of things until a revision of the list takes place. There are quite as good things among the "cottagers" as there are among the Darwins, and all are very suitable for cutting, having long stalks. Some of the very best are: Bouton d'Or — as its name implies—a buttercup yellow, with medium sized, cup-shaped flower, may be planted among Darwins, as it flowers at the same time and is the same shape; Gesneriana major, deep crimson, with indigo blue base, a most gorgeous tulip, but a little bit tender; Inglescombe Pink, a kind of buff pink on opening, turning pink with age; Inglescombe Yellow, a well formed flower, very late; La Merveille, salmon, shot with vermilion, very sweetly scented; Mrs. Moon deep yellow flower of graceful shape, very tall, late; Orange King, very sweet; Picotee, white with carmine edge to petals, very good for cutting.

COULEUR CARDINAL, ONE OF THE BEST EARLY SINGLE TULIPS FOR BEDDING PURPOSES.

Darwins.

These are all tall and stately; they have a wide range of colours, though no yellows are allowed to be classified under the heading of "Darwins." There is an enormous number of these tulips on the market; no two catalogues contain the same varieties, and new things are constantly making their appearance.

Space will not allow of my naming those which are of outstanding merit, and which are reasonable in price. There are very few amateurs who are ready to give high prices for new tulips, and, unless they are able to cultivate them and increase them, it would not be wise to give as much for one bulb of a novelty as would buy ten to twenty bulbs of one of the older things: Bartigon, rich deep red, strong grower; Clara Butt, pale rose pink, a very popular variety; Edmée, deep rose, edged pale pink—there are at least six Darwins on same lines as Edmée, but I think it is the best; Farncombe Sanders, vivid cherry red (I always say that if confined to one tulip this would be my choice); Feu Brilliant, one of the very best bright reds; La Tulipe Noire, as nearly black as any flower which has yet been produced; Marconi, deep purple, a huge flower, the finest of this colour; Margaret, flower of pale pink, resembles a bit of delicate egg-shell china—late; Petrus Hondius, deep rich rose, very distinct; Pride of Haarlem, one of the very largest and very best, deep brilliant carmine, one of the first to bloom; Prince of the Netherlands, deep cherry red, very large; Rev. Ewbank, silvery mauve, about the best in this colour; Valentine, bright violet, large, tall and early; Faust, one of the best of the dark-coloured flowers, tall and stately.



TULIPS ALWAYS LOOK WELL IN A FORMAL GARDEN.

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Many of the Darwins are good for forcing, though they do not seem to have been much used in this way by amateurs. Having such long stalks, they need carefully staking before fully in flower.

A few well grown pots of Darwins placed on the floor of a conservatory among foliage plants would have a very telling effect. Few if any of the cottage tulips are really good for pot work; when grown under glass they are somewhat weak and floppy.

Those amateurs who have not yet studied their catalogues will be pleased to hear that Darwin and cottage tulips are cheaper this season than they have been for many years. At present figures they are very good value for the money expended, as they make a glorious show in the garden and, given decent weather, they last a long time in bloom.

J. DUNCAN PEARSON.

RHODODENDRONS FOR PRESENT PLANTING

These are among the best flowering shrubs that the amateur can plant in his garden. They are decorative in foliage as well as in flower, and will succeed in almost any garden where the soil conditions are to their liking.

RHODODENDRONS have become more prominent in recent years among the leading gardeners of the country, and it is well from time to time to consider the best way of taking advantage of the varieties which, after thorough testing, can be safely recommended as suited to the requirements of gardens not possessing the ideal conditions for growing the more delicate forms, which in many cases may be said to be the most beautiful. I refer particularly to the Himalayan and Chinese species and the beautiful hybrids which have been raised, for the most part, in Cornwall or some equally mild climate to be found near the sea coast anywhere on the western side of the British Isles where the influence of the Gulf Stream is most felt. It is admitted that these plants are not hardy in the sense that if planted under conditions more remote from the sea influence and less favourable in regard to the selection of actual position, they will suffer from frost, in most cases enough to make them of no use in such gardens, and in some will actually be killed outright. There is, however, no reason to prevent the enjoyment of fine hybrid rhododendrons of a hardy strain. Indeed, so hardy are some, that I have personal knowledge of them coming through American winters—in Massachusetts, for example, where it is no uncommon thing to register 15° below zero Fahr. Such being the case, it is possible, wherever soil conditions allow, to select rhododendrons perfectly able to withstand any weather we are likely to have in the British Isles. It is not as a rule, however, that the most severe winters do the most harm to vegetation generally; but a very early frost in autumn or a very late one in spring will punish anything that, in the first case, is still in a growing condition, or, in the second case, is well on with precocious growth and in a sappy condition. One can select a considerable number of fine hybrid rhododendrons that can be called hardy enough to stand without protection and without injury eight out of ten years. The other two years may bring such a frost as was experienced here last April, when from 15° to 20° of frost were reported in many places within twenty miles of London, and so severe was it that few plants escaped injury. Most of them now show no signs of it and are completely recovered.

Nowadays the enjoyment of the garden is universal. I have noted in the last few years how small gardens have improved, not only in the care that is bestowed upon them and the lay-out, but more especially in the choice of varieties of plants and flowers used. There is still room, however, for improvement in the choice of rhododendrons. There are too many of common things, such as Rh. ponticum or Cunningham's White, occupying spaces which could grow equally a choice hybrid, such as Cynthia, Pink Pearl or any really good hardy hybrid. Once these are seen in comparison with their inferior brethren, and it is realised that they are just as easy to grow, then this particular family will be started on a new lease of life. At present, I fear, the grower is too often satisfied with what is, so to speak, pushed upon him. There are few places where common rhododendrons grow that are not suited to some of the good hybrids. The latter have also one very useful asset—they thrive in an atmosphere which is unfriendly to many evergreens, and in our manufacturing districts—such as Manchester, Sheffield and Birmingham—one finds rhododendrons, not, perhaps, in the heart of the city, but well within smoky areas, growing well and flowering beautifully. Not five miles from the centre of Manchester could be seen, a few years back, flowers of Pink Pearl and Cynthia not to be beaten in

PINK PEARL, A HARDY AND BEAUTIFUL HYBRID RHODODENDRON.

quality anywhere. Plants which will do this under what are not ideal conditions command respect, and are, without doubt, of great value to garden lovers whose means or business keep them in restricted areas near the big towns and, consequently, with a limited space and a contaminated atmosphere. Beyond this immense class of gardeners are those who live in the country in small houses and not very large gardens. The gardens are often made out of a bare field and are without shelter from the four winds of Heaven. These demand hardy plants, and, particularly in the Midlands and northern counties, hardiness is a necessity.

Further points which should be considered are foliage, habit and freedom in producing flower, and a list is appended to this article of twenty-four of the hybrids of hardy type that can be safely recommended for planting anywhere that has the proper soil in which they may grow. It used to be said that peat was necessary; long experience has shown me that rhododendrons will grow well and flower magnificently in soils entirely free from peat. A good turfy loam with plenty of fibre in it is admirable. Lime in any form is one thing that makes rhododendrons impossible. Rank clay without any fibre is nearly hopeless. Clay must be excavated to a depth of at least 20ins., drainage provided, and the soil made up with leaf-mould and turfy top spit well broken up and some 15 per cent. of sharp sand worked into the mixture. Where good loam is found, deep trenching and the addition of some leaf-soil will be found sufficient. On soils friendly to rhododendrons the ground should be always well broken up and the fibrous part of it used round the roots. A mulching of leaf-mould and cow-manure will be found beneficial, particularly in producing good colour to foliage. Care must be taken not to over-feed, as this may induce too much growth, with a consequent lessening of flower.

Now that a new Rhododendron Association has been formed, it is hoped that, in the near future, all sorts of information concerning this wonderful race of plants, not only as to the species but of hybrids of all classes, will be distributed to members. It is also hoped that amateurs, down to those with even the smallest gardens, who are lovers of rhododendrons will in due course take advantage of the Association and join it.

The following list of hybrids is not intended to be in any way exhaustive, but is intended as a groundwork of really good reliable plants with which one is reasonably sure to get a good show each season:

Blush and White Varieties.—Gomer Waterer, The Bride, F. B. Hayes (heavily spotted), Mum (very late), Mme. Carvalho, Boule de Neige.

Red and Crimson.—Bagshot Ruby, Doncaster, Michael Waterer, Cynthia, Fred Waterer, Charlie Waterer.

Pink.—Pink Pearl, Concessum, Mrs. W. Agnew, Philip Waterer, Corona, Mrs. Holford, Mrs. Tritton, Prince of Wales.

Lilac and Purple.—Fastuosum flore pleno, Joseph Whitworth, Everestianum, Purpureum elegans.

F. GOMER WATERER.

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THIS WEEK IN THE FLOWER GARDEN

A Good Evergreen Shrub.

Berberidopsis corallina.

THIS handsome evergreen shrub is particularly pleasing when clothing a grey stone wall; in such environment the terminal, drooping racemes of small crimson flowers and the toothed or slightly serrated dark green leaves are seen to great advantage.

B. corallina proves hardy in any but very cold districts and responds to the favourable conditions engendered by a south or south-west wall; a good ordinary compost, loam and leaf-soil, well drained, are necessary.

The generic and specific names are very apt (from *Berberis*, the barberry, and *opsis*, like=resembling the barberry; and *corallina*, coral red), and a well grown example of the plant on a wall or draping the arch of a garden building is both pretty and striking during its season.

Propagation may be effected by layering, in autumn; by seeds, or by young cuttings, in spring.

B. corallina was introduced from Chili in 1862.—R. E. A.

Shrubby Calceolarias.

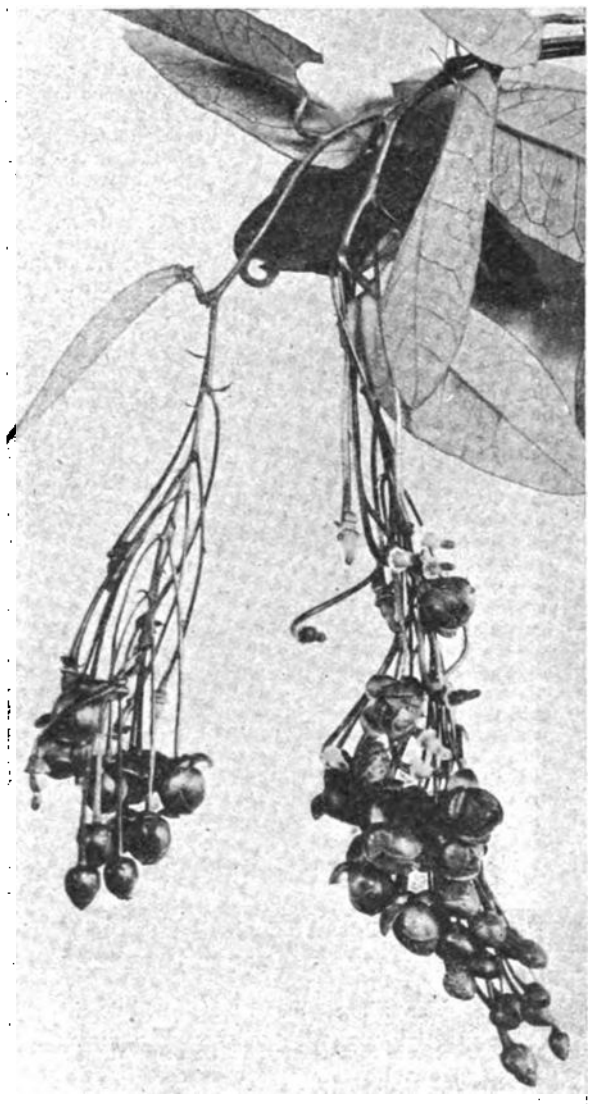
Take Cuttings this Month.

THE shrubby or bedding calceolaria is a very easy plant to grow, seeing that it needs only the protection of a cold frame, hand light or bell glass during the winter. The commonest method of propagation is by means of cuttings, which are taken during September and inserted in a prepared bed of well drained sandy soil. Make the cuttings about 2ins. long and put them 2½ins. apart. A small number of cuttings may be covered with a hand light; but, where the cuttings are numerous, it is best to prepare a bed in a cold frame. Keep the frames closed for a few weeks until the cuttings are rooted, and then give abundance of air. Free ventilation should be allowed all through the winter except when the weather is very cold. During severe frost protect with mats or light dry litter. The young plants will not grow much during the winter, but, as soon as the spring comes, they will start vigorous development. Take out the tips of the shoots once or twice, and, early in April, plant out on a sheltered border where a little protection can be given in the event of a very cold night. By the first week in May the plants will be ready for removal to their flowering positions. All the shrubby calceolarias do best in a soil which is somewhat on the heavy side, and they do not like very hot, sunny situations.

There are many named sorts of shrubby calceolarias, but the following are among the best: Amplexicaulis, lemon yellow; angustifolia, golden yellow; Bijou, bronzy crimson; Camden Hero, crimson; Cloth of Gold, deep yellow; Golden Gem, golden yellow; Kayi, deep yellow; Prince of Wales, crimson; Prince of Orange, bronze yellow; Sultan, dark crimson.

Two very fine and useful tall calceolarias are Burbidgei and integrifolia. The first-named must be given the shelter of a greenhouse during the winter, but it is worth some care, as it will grow to 6ft. or more in height and is in all ways a splendid subject for the border during the summer, and, when taken indoors, will continue to produce its yellow flowers for a good part of the winter.

C. integrifolia will stand out of doors in the winter, in warm, sunny corners, in the south and west of England, and it will also grow at coast localities over a wide area. This species, which also has yellow flowers, grows to a considerable height, but comparatively small specimens flower freely. Both of these species are raised from cuttings taken in September, which may be rooted without any difficulty.



THE DROOPING CRIMSON CLUSTERS OF THE CORAL PLANT (BERBERIDOPSIS CORALLINA).

Plants for Steps.

OF course, only plants of very humble growth are suitable for planting on the treads of steps. One of the best subjects for the purpose is thyme (Thymus Serphyllum). This plant will grow in the driest positions, and it bears treading on; after a little bruising in this way the foliage gives out its delicious fragrance in a very pleasing manner. There are several varieties of thyme, of which the following are specially worth growing on steps: T. Serphyllum alba (a white-flowered form of the common type), coccinea, lanuginosa, carnosus and villosus. The variegated form of the lemon-scented thyme (T. citriodorus) is a lovely plant, although, being of rather a robust growth, it is hardly suitable for placing in positions where it would be trodden on to any great extent. The minute creeping and peppermint-scented T. corsicus with flowers so small as to be almost invisible, is a species which would be perfectly happy in garden steps. Other suitable subjects for such position are Arenaria balearica, Mentha Requieni, Hypericum repens, Potentilla ambigua, Dryas octopetala, Alyssum montanum and Artemisia.

Plants of rather more erect habit, admirable for placing immediately beneath the lower courses of steps, include Erinus alpinus and albus, Campanulas pusilla and alba, Dianthus cæsius, Hypericum coris, Asperulas hirta and suberosa, Hutchinsia alpina, and a number of saxifrages like oppositifolia, Aizoon, Rhei, hypnoides and any varieties of these. Plants are best established in garden steps in the spring and, after setting, they should be watered morning and evening unless the weather is very cold. At this time of the year a good way of establishing any of the plants named is to mix a little of the seed into the joints. The resulting specimens settle into the situations well and will flower in the following year. Just a few plants suitable for these special positions will flower in the same season if seed is sown in the spring. Of these one may mention Linaria alpina, which forms dense silvery tufts covered with bluish violet flowers: this charming little species is usually biennial, but when it is thoroughly happy it often develops perennial habits. In any case the matter is not of great importance, for L. alpina sows itself with great freedom. Sedum cæruleum, an interesting little stone-crop, and Calceolaria mexicana and Saxifraga granulata are also worth growing.

A Good Rockery Plant.

Silene maritima.

THIS native silene of our sea coasts is hardly sufficiently appreciated by rock gardeners, perhaps because it is a home production.

It has blue-green foliage and double white flowers, in size and appearance almost exactly like a Mrs. Sinkins pink. Lying flat upon the ground, it makes an excellent icurtain for a rock face, if it is planted above it and allowed to trail downwards. The plant will soon be quite a yard across. Flowering at the same time as purple or blue aubretia, although for much longer, it is very effective combined with it. This silene does not demand, but much appreciates, a sandy soil. It is easily increased by cuttings taken at the present time, or by division of the roots in spring. Cuttings of half-ripened shoots inserted in sandy soil in a frame or under a bell glass will root quite readily.—G. H.

A Small Tree for a Bed on the Lawn.

Aralia spinosa.

THERE are few hardy plants which have such striking and beautiful foliage as the angelica tree (Aralia spinosa). The species is a native of North America, and is not at all difficult to grow in any reasonable situation. The only point to bear in mind is that, in a very exposed situation, the great leaves may be torn by the wind. The angelica tree makes a fine specimen for the centre of a large bed or to fill out a bed on a lawn entirely

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with a groundwork of small plants beneath. To secure the full beauty of growth the shrub should be in a position where it can be allowed to remain for some years. In most cases the angelica has a single erect stem and it is best to keep it to this habit. At its tallest the shrub is rarely more than 10ft. high, but much smaller examples may be used with good effects in many parts of the garden. The angelica tree, which is deciduous, flowers in autumn and has small white blooms collected in large umbels, while the stem is clad with strong spines. Propagation is best carried out by means of root cuttings.—L. B.

A Decorative Tufted Plant for the Rock Garden.

PRICKLY THRIFT (Acantholimon) is a low-growing tufted plant which comes from Asia Minor and the East. The flowers resemble those of the statice and armeria, but the habit of the acantholimon is very distinct. Prickly thrift does form branching cushion-like tufts somewhat after the style of the ordinary thrift, but the leaves, instead of being soft and grass-like, are rigid and spiny. Prickly thrift is essentially a plant for the rock garden, and should be placed in light soil in sunny positions, where its evergreen leaves and compact tufts will form an attractive feature all through the winter. In the summer the thrift-like flowers will be highly decorative, so that in all ways acantholimon is a very desirable plant. Propagation is carried out by means of seeds or cuttings. The cuttings should be taken during September and kept in a cold frame through the winter.

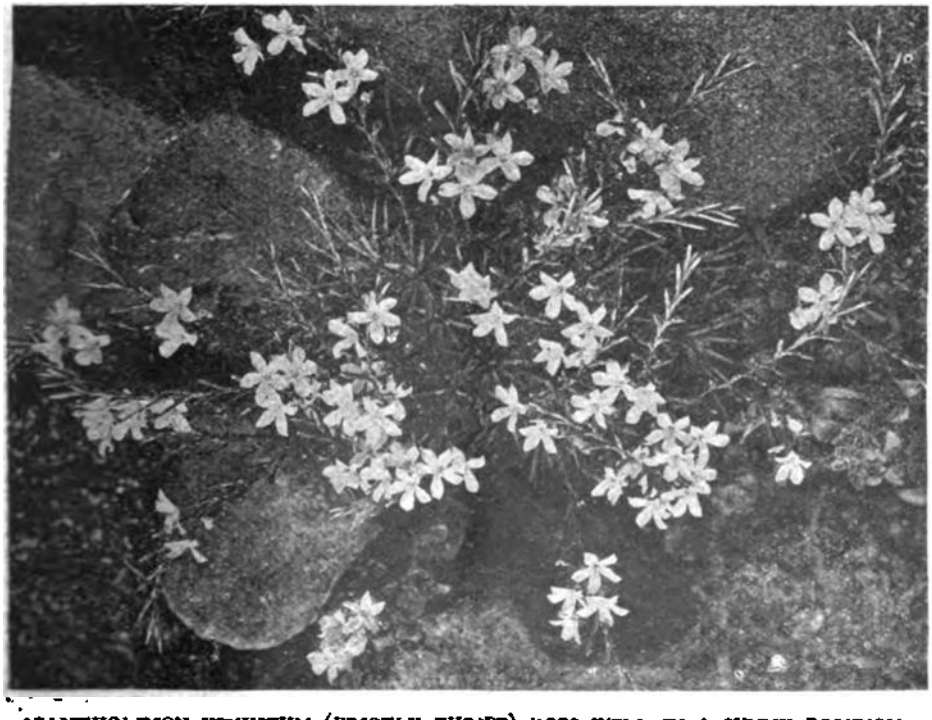
Growth is slow, and it may be two years before the plants are of any size. Many growers say that by layering it is possible to obtain much larger plants in less time. All the acantholimons are hardy and prefer warm, sunny situations in a sandy loam. The freest growing of the prickly thrifts is A. glumaceum, which attains a height of about 6ins and produces quantities of rose-coloured flowers. Other species are AA. venustum and androsaceum, both with pink flowers. A very fine white-flowered species is A. Kotschzi, which has spikes of bloom that rise to a considerable height.

Ramondias for the Shady Rockery.

NO rock garden, however small, is ever completely furnished without a few ramondias, and, moreover, they will succeed in crevice and fissure, where many other plants would fail. They are hardy, easily grown if afforded the right position, and may reasonably be considered one of a choicest dozen of alpines suitable for the rock garden. The principal and best known species is R. pyrenaica, a native of the Pyrenees, where it thrives between rocky boulders. It forms a large flat rosette of dark green crinkly leaves, which fit quite close to the rock. The flowers are borne on stems 3ins. to 4ins. high, and are a beautiful violet-purple, with a minute orange centre. There are also white and rose-coloured forms, but they are not equal to the type. R. servica is another desirable species with slightly brighter green leaves, the flowers being a pleasing shade of mauve. In R. Nathaliæ we have a good variety of R. serbica, which produces flowers of a rich violet shade, with bright orange anthers.

RAMONDIA, ONE OF THE BEST PLANTS FOR A SHADY CREVICE IN THE ROCKERY.

If a few details are considered, no difficulty will present itself regarding the successful cultivation of ramondias. Good drainage is essential, and they must be grown in shade or partial shade, so a north or north-east aspect should be chosen, for they quickly shrivel and die if exposed to full sunshine for any length of time. They also need a position where moisture will readily drain from the flat rosette of leaves, and this fact clearly points to the vertical fissure as the ideal situation for ramondias. Here they will thrive if the fissure or crevice is correctly made so that the roots will receive an adequate supply of moisture during the summer months. When it is necessary to water the plants it ought to be done from behind, so that the moisture percolates among the roots. Overhead watering in summer will sometimes cause the foliage to have a rusty and unhealthy appearance. The staple of the rooting medium is peat, to which is added one third of good quality loam, and a sprinkling of sharp sand. The soil must be made fairly firm around the roots and the plants should be 6ins. apart. Ramondias can be increased by leaf cuttings, similarly to many other of the Gesneriaceæ, but as seeds are produced in plenty, this method I consider the best for increasing the stock. Ramondias may also be increased by careful division during early autumn. Seed should be sown as soon as ripe or at the present time, in pots of peaty compost, but owing to the minuteness of the seeds, no covering of soil is needed. The pots should be placed in a cold frame, covered with a piece of glass, and brown paper, to prevent evaporation, then germination will soon take place. Examine the pots daily and when the seedlings appear, remove the paper and glass, but provide a little shade. Prick off in boxes when large enough and as they increase in size they should be potted off singly, and kept in the cold frame till they are fit for the rock garden.—B.



ACANTHOLIMON VENUSTUM (PRICKLY THRIFT) DOES WELL IN A SUNNY POSITION.

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HINTS ON TULIP PLANTING

THE postman's daily burden of catalogues reminds us that the advent of the bulb-planting season is at hand. Although it is not wise to plant tulips too early, no time should be lost in securing varieties chosen for next season's display, as special kinds are frequently only stocked in small quantities. Delay in placing orders results in the supply of substitutes—and the possibility of later disappointment.

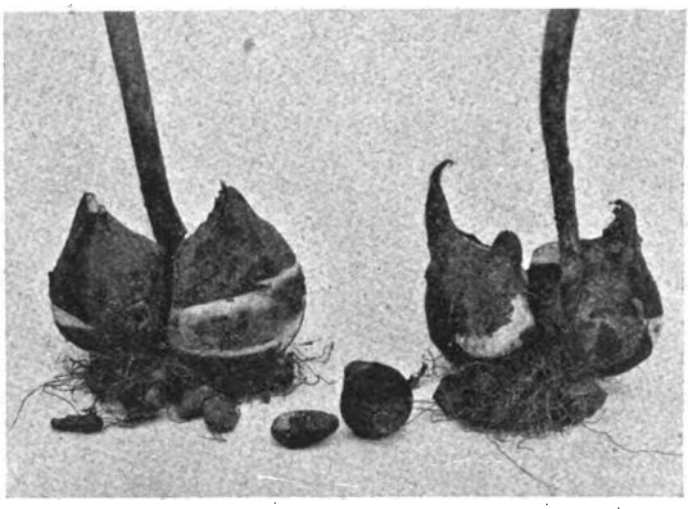
The first bulbs to plant will be the daffodils and hyacinths for Christmas, then snowdrops and early-flowering aconites, followed by iris, daffodils and the general crop for outdoor flowering. The planting of tulips, other than those intended for forcing, should be delayed until a convenient date between the middle of October and mid-November. As a matter of fact, if the bulbs are kept cool and quite dry, they will not come to any harm so long as they get planted before the end of the old year. This knowledge is frequently helpful when mixed herbaceous borders have to be cleared out during the autumn. Daffodils *need* to be planted early: tulips do not. Illustrating the above, I was compelled by force of circumstances this year to keep several thousand Pride of Haarlem unplanted until the last week of January. They were given a sheltered position, and were actually among the first Darwins to flower, the blooms being marketed during the first week of May. If daffodils had been kept out of the ground and planted at the same time they would have taken three years to recover!

The first decision to be made is the choice of a supplier. In this connection, "flowery" catalogue language is not the *best* criterion of quality, nor will the cheapest market necessarily prove the most satisfactory. Tulips, like potatoes, are of all sizes, and the best grades command the best prices. Such as Faust, Teddy, Farncombe Sanders, Pride of Haarlem and similar strong growers, should be the size of a golf ball, while Clara Butt, Picotee, Grenadier, Marksman, Logan Rose, Springtime, etc., will average smaller, according to the natural vigour and size of flower of the variety.

It is an entirely fallacious practice to pay any regard whatever to the brown outer skin. The purpose of this is to preserve the natural moisture until the growing season, at which time it is sloughed off in exactly the same manner as the outer casing of any bud. Unlike the daffodil family, which produce flowers year after year *from the same bulbs*, tulip bulbs are produced in their entirety *annually* and they begin to shrink and shrivel as soon as top-growth commences, rotting entirely away in the course of the season. In effect they transfer their entire substance into foliage and flower, and the root produces new bulbs each year. The old Dutch and English florists carefully skinned their bulbs white when planting them, and I think there is much merit in this practice, as any spores of fungus—"fire," for instance—will, naturally, lurk in the loose outer skin. The bulbs themselves, being purely new growths are, *ipso facto*, healthy. Tulips are naturally gross feeders and, short of planting them in contact with manure, it would be difficult to over-feed them. This is one of the reasons we plant them late in the season. It should be borne in mind that they are not natural Britishers, but only "naturalised." When they begin to grow they want to come steadily on without a check; if they "get going" too soon, the tissues of their fleshy tops will become ruptured with frost and leave them a prey to disease.

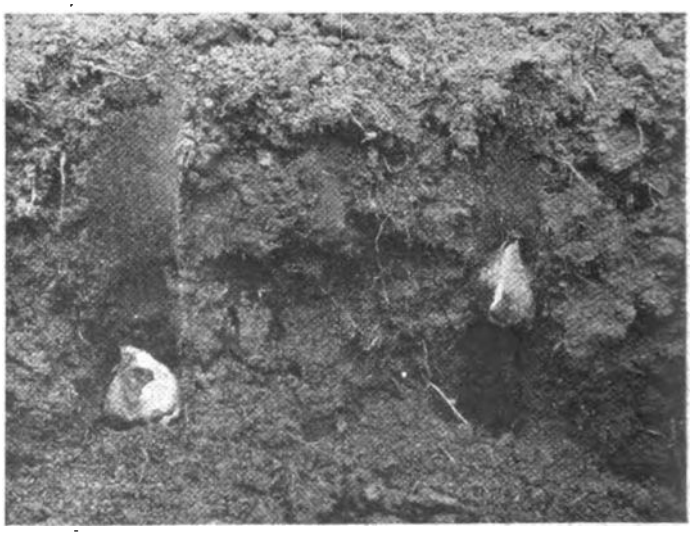
Tulips look their best in clumps or groups and not in a long-drawn-out, straggling, single line. Mixed varieties of good quality, which can be purchased for 5s. to 10s. per 100, should be planted in broad bands about 2ft. wide, sweeping in bold curves from end to end of long beds. Planted this way they should be not less than 6ins. or 8ins. apart, and should spring from a "carpet" of such subjects as arabis, alyssum, myosotis, violas, pansies or polyanthus, which can be chosen according to the colour effect required. In preparing the ground it is well worth while to "do them well," for only by this means will your flowers excite the admiration of your visitors. If farmyard manure is not available, mix equal quantities of steamed bone flour, sulphate of potash and super-phosphate of lime, and dress the land with about 1lb. of the mixture to 4 sq. yds.—more will not hurt. If the land is very sandy, or poor and light, halve the potash and substitute kainit, which has the property of holding the natural moisture of the soil against evaporation and excessive drainage.

The planting depth will depend on the nature of the soil. Deep planting is natural, and has everything to commend it. Perhaps the two strongest points in its favour are that the bulbs need not be moved every year and do not get attacked by slugs, which will not venture far underground. Of course, when one plants commercially in scores of thousands, deep planting is not practicable, on account of the enormous extra weight of soil which would need to be moved. The depth usually recommended is three times the depth of the bulb. This is safe for the bulbs, but not secure from pests or the thrusting spade of the summer-bedding cultivator. Nine or ten inches or even a foot in very light soil will not harm your tulips in the slightest, if they are planted in land required to be "dug over" for later crops of flowers.



NEW TULIP BULBS ARE PRODUCED EVERY YEAR, AND ONLY THE LARGER ONES SHOULD BE PLANTED.
No attention should be paid to the sloughing of the outer skin.

PLANTING A CLUMP OF TULIPS.
Note the distance between each bulb and the depth to plant. From six to nine inches is a good depth to plant tulips.



THE RIGHT AND WRONG WAY OF PLANTING TULIPS.
The bulb should have a firm base on which to rest, with no air pocket between the soil and the bulb.

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When tulips are grown for house decoration the chief point to bear in mind is that the growing atmosphere *must* be dry and "airy." Nothing is worse than the stuffy, muggy and damp conditions resulting from want of sunshine and ventilation. Unless you are aiming at a definite date of flowering, temperature is a secondary consideration. Frost is to be avoided, of course; but heat, plus lack of sunlight, will result in long and weedy stems. Keep your pots in the best possible light and use rich, well drained *soil*, not fibre.

For outdoor culture it is best to avoid double tulips. If the weather is wet and cloudy at flowering time the flowers are apt to rot. Among the best of the early varieties which will follow the daffodils in quick succession are White Hawk, Brilliant Star (vermilion scarlet), Couleur Cardinal (deep scarlet), Dusart (dark red), Flamingo (clear deep pink), Prince of Austria (rich orange), Joost van Vondel (deep cherry red), Proserpine (carmine rose).

Following these will come the May-flowering and Darwin strains in bewildering variety. It would be a hopeless task to attempt to give a short and at the same time representative list of these. It is always a wise plan to make a note of names of good flowers when seen. The following are moderately priced varieties of good quality:

Red Shades.—Alcmene, Farncombe Sanders, Louis de la Valliere, Nectar, Pride of Haarlem, Petrus Hondius, Prince of Netherlands, Triton.

Pinks.—Comedy, Flamingo, Massenet, Sir Harry, Clara Butt.

Yellows.—Alaska, Bouton d'Or, Canary King, Canary Queen, Moonlight, Mr. Dames, W. T. Ware.

Deep Reds.—Andromaque, Jefferies, Maitre Partout, Millet, Miranda, The International.

Scarlets and Bright Reds.—Scarlet Perfection, Scarlet Emperor, Teddy.

Orange and Chestnut.—Ægir, Boadicea, Marginata.

Lilac and Grey.—Crepuscule, Dream, La Tristesse, Melicette, Remembrance, Rev. Ewbank.

Bronze.—Indian Chief, Prince Albert, Toison d'Or.

There are many varieties of outstanding merit which, for want of space alone, must be omitted; but no collection, however small, should omit Grenadier—brightest orange scarlet; Panorama, the exact tint of a ripe horse chestnut; Prince of Orange, the colour of a Seville orange; Lucifer, an even better flower than the foregoing, rich orange with a rosy flush; Lido and Afterglow, rosy crimson with coppery bronze margin. In the planting of tulips three cardinal points are essential to success: Do not plant too early; do not plant too closely together; and treat them liberally with rich food. H. G. LONGFORD.

THE NEW HERBACEOUS BORDER

Some Hints on Preparing the Soil and Arranging the Plants.

TO those who are contemplating the formation of a herbaceous border to give a wealth of bloom next year, time and labour spent on its preparation now will be amply repaid.

October is the best month of the year to lift and divide quite a number of our lovely herbaceous perennials, so that a few hints on the preparation of a new border will not come amiss at this season.

We must remember that the herbaceous border is to be of a semi-permanent nature and that the plants (unless half-hardy, annual or bulbs) are to remain where planted for a few years without disturbance, so that, as a preliminary to planting, we must see that the land is in good heart.

The soil should be thoroughly drained, trenched to a depth of 2ft. and well manured with horse-manure or, if possible, farmyard manure, placing the manure at the bottom of the trench and covering with the second and first spit of soil. If the drainage is not naturally good, broken bricks or porous drainage pipes should be laid in the bottom of the border. This is necessary to give the border time to settle.

Having prepared the border, we must now consider how and what to plant. It is not possible more than to hint at a few considerations which should guide us in the selection of our material for planting. At the outset it may be stated that, in a small way, it is better to make the border a seasonal border, *i.e.*, one which will give us a bright display of colour during one season of the year only, *viz.*, spring, summer or autumn. It is not at all easy to create a border which will give us a continual supply of flower from spring, through summer to autumn, without appearing very blotchy and ragged at times.

A few words may here be said about colour schemes. The object of a colour scheme is to grow flowers whose colours when taken together produce a harmonious and pleasing effect upon the eye. Strong reds should never be placed next to delicate pinks, nor oranges close to pale yellows. The best arrangement is a gradation of pale colours leading up to stronger colours, though some strong colours, such as blue and yellow, harmonise very well together.

The old idea of a border with plants of a similar height placed together, the shortest in front and the tallest always at the back, is gone. Of course, the principle that a tall-growing plant must not be placed immediately in front of a low-growing one still remains; but, in place of the regular, bank-like arrangement, we have to-day an arrangement whereby masses of tall-growing plants occasionally come prominently to the front edge of the border, forming points, while lower-growing plants may be placed in bays between two points. There must be nothing regular about this arrangement of points and bays. Regularity in a herbaceous border is out of character.

A WELL GRADUATED AND CAREFULLY PLANNED NARROW HERBACEOUS BORDER.

It is a good practice for the amateur to make a plan of his border on paper and to try and work to it, comparing the result with his expectations, noting his mistakes and successes for future uses.

If our clumps have become too large or are dying in the centre, lift them carefully and divide them into pieces with a spade or large knife, selecting pieces for replanting from the circumference of the plant. Do not plant the pieces too close together. The distance apart must be governed by the subject, yet at least 6ins. should be left between the pieces, and in many cases a foot or even 15ins. Firm the pieces well with the fingers, and afterwards tread them in. Do your planting during fine weather, and the plants should soon emit fresh roots and be ready to break into top growth when spring comes.

Bulbs such as crocuses, tulips, narcissi, hyacinths, etc., which will make quite a display of colour in the early months of the year, may be dibbled in the border among other plants.

The following is a list of hardy herbaceous perennials suitable for herbaceous borders: Acanthus, achillea, aconitum, actæa (plant in moist, shady position), Ajuga, althæa, Alyssum anchusa, Anemone japonica, astilbe, bocconia, bupthalmum, campanula (the Canterbury bell), centranthus, chelone, Chrysanthemum maximum, coreopsis, delphinium, Dianthus plumarius (pink) and barbatus (sweet william) dicentra, doronicum, echinops, eryngium, gypsophila, helenium, helianthus, heuchera, kniphofia, lupinus, monarda, myrrhis, nepeta, pæonia, phlox, pyrethrum (do not transplant or divide more than necessary), rudbeckia, salvia, scabiosa, senecio, sidalcea, solidago, statice and verbascum.

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THE BUSY MAN'S PAGE

Autumn Work in the Vegetable Garden.

THE summer of 1927, with its abnormal rainfall in various localities, has in too many gardens been fraught with much disappointment, and weeds have grown quickly and become rampant. It is, however, important that an attempt should be made to deal with weeds by up-rooting them by hand, spreading them out, and as soon as possible burning them. At no other time of the year is it more necessary to get the work done than in early autumn. All refuse in the shape of weeds and decaying vegetable refuse should be collected forthwith and put on the fire, as unless this is done there will be a legacy in the spring which will be hard to get rid of. One knows that should the winter be mild such pests as groundsel and chickweed grow apace, and the only remedy to clear the soil is the autumn bonfire. Properly built with wood, such a fire will go for days if banked up, and the ashes if collected will come in useful next spring. Until the ground has been made free, no digging should be attempted, and when this is set about the rougher it is left the better. If any lime is needed, now is the time to give the order, and the same in respect to manure, as the latter may often be more readily obtained during winter than in spring, when so many are wanting it. On heavy ground it is sometimes possible in October in rural and suburban districts to obtain a few loads of leaves from various councils. In using lime it is well not to forget to scatter some on the ground occupied by winter greens, as this will exterminate many pests.

Grease-Banding of Fruit Trees.

NO matter how few fruit trees one possesses, the operation of grease-banding ought never to be omitted during the autumn months. The object of grease-banding is to prevent the female insect of the winter moth from climbing up the stems of the trees, which it must do to get to the branches, where it deposits its eggs close to the buds.

On a standard tree the grease-bands are put on the stems about 3ft. from the ground, and on half-standards and bush trees as high up from the ground as possible. The bands can be bought from any horticultural sundriesman, and are made about 1ft. broad and 18ins. long. Tie a paper round the tree twice, one tie being 3ins. below the top of the paper and the other tie 3ins. from the bottom. Leaving the 6ins. of the centre of the paper to be covered with the grease, which ought to be bought prepared. Several brands are advertised in the pages of this paper.

The Correct Tools for the Garden.

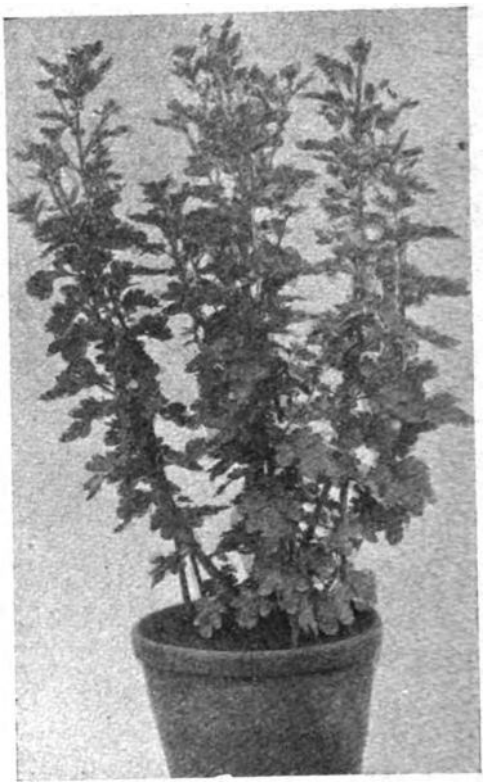
GOOD gardening cannot be done without the right tools. There are two kinds of forks, and the soil will work better with the right one. For heavy soils the one with the thin round prongs is best, being strong and light. But on light soils the wide flat prong is preferable, as the soil stays on better. A shovel is much better than a spade for heaping sand or gravel. Three kinds of rake are needed: firstly, an 18in. one, for raking stones, etc.; an 8in. one, for going in between growing plants; and a wooden one, for raking grass when cut. A hoe and mattock are very necessary for good cultivation. Secateurs with both blades sharpened are best for hedge cutting and pruning. Other small tools, such as a bedding fork and trowel, are essential. You should have a dibber and drill cutter also.

Lifting and Potting Chrysanthemums.

GOOD chrysanthemum blooms can only be achieved by attending to the smallest details of culture. Absence from home and other claims upon the time of growers often preclude them from consistently serving the best interests of their plants, and for this reason plants grown in pots from start to finish in some gardens are most disappointing and unsatisfactory.

It has become a very common practice in the case of plants that are grown for cut flowers to plant outdoors goodly breadths of the more popular decorative varieties. Such plants will be found in superb condition for lifting during the coming weeks. They may also be lifted from the open border, and either potted up into large pots or placed in boxes or any other receptacle that can be drained and that will accommodate the ample roots of these plants. The plants should not be lifted if the ground is at all dry, as the soil would fail to adhere, and the check would be felt more severely in consequence. In dry weather give the plants it is intended to lift a good soaking with clear water an hour or two before the lifting and potting are to take place. Also see that the growths are lightly but securely tied to stakes and a tie made round the whole of the plant; this will facilitate the lifting process. The lifting should be done with a spade, this being inserted all round the base of the plant so that it may be lifted with a good ball of soil adhering to the roots. Unnecessary soil should be removed with the hands, so that the ball of soil and roots may be comfortably adjusted in the pot or box got ready for its reception. The pots should be large, clean and carefully crocked. Cover the crocks with a double handful of turfy loam or decayed manure, and a small quantity of prepared soil should be placed on this. A suitable compost may be made up of loam, leaf-mould and coarse sand, well mixed before using. After adjusting the plant in position in the pot, work in the soil, making this very firm, assisting in this by a few sharp raps on the potting-bench. Subsequently water in, standing the plants on sifted ashes or boards in a semi-shaded position for a few days to recover from the check experienced. Place them in the greenhouse as soon as frosty weather makes this protection necessary.

A CHRYSANTHEMUM IN EXCELLENT CONDITION FOR LIFTING.



THE SAME PLANT AFTER POTTING AND STAKING.

Gooseberries.

OLD, worn-out shoots should be removed now, retaining, in established trees, sufficient strong, young growths with which to replace the discarded branches.

Wireworms.

THESE are the larvæ of small beetles and are the most persistent and destructive of all ground vermin. The worms attain a length of ¼in. to 1in., and live for a period of three to five years in their subterranean homes. Soot is a popular remedy, and "Vaporite" has been used with successful results. Many gardeners prefer to set traps for them, for which purpose thick slices of potato or beet prove the most alluring bait. Mark the spots where the traps are buried and examine them every few days.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Treatment of Autumn Window-Boxes.

SUMMER flowers are nearly over, and it is time to begin preparations for the spring show of blooms in the window. So many people live in towns, where it is often not possible to have a garden, that special advice to those who grow their flowers on the window-sill is not out of place.

Bulbs are pre-eminently suitable for window-box cultivation, especially hyacinths, crocuses and daffodils, and at comparatively little expense a window-box can be made a feast of beauty.

I assume that you already have your window-box made and in position, but in case this is not so, these are the points you must consider.

Good straight wood should be used for the box, well seasoned, of course. If there is the slightest doubt about this, a small binding of metal should be nailed round the corners to prevent them bursting open. The box should be at least 6ins. deep, inside measurement, and 6ins. or more wide.

It should be secured to the window frame with a small bracket—*Safety First!*—and should also be raised a little from the sill so that the dampness does not rot it. Holes must be made for drainage, the inside of the box charred, and a layer of crocks, concave side downwards, put over the drainage holes.

Special care must be taken to obtain good soil, as, owing to the limitations of space, the condition of the soil matters more than in the garden. The ideal is a fibrous loam and leaf-mould, into which two or three handfuls of bone-meal have been mixed. A layer of manure just over the crocks is good, but it should be well decayed.

Treatment of Old Soil.

If you have an old box with the soil in a rather exhausted state, turn it out. See that the crocks are clean, If they are slimy and sour, wash them well before again putting them back. Mix into the old soil a quantity of decayed leaves and some superphosphate of lime—say, about two handfuls of the latter to a window-box.

Partly fill with soil and press this fairly firm before planting the bulbs. Then place them in position, and cover with soil to within an inch of the top. Firm this well and then water. Do not overdo the watering, as little moisture will be needed until the bulbs begin to grow.

Small veronicas, box or other dwarf shrubs do well during the winter, and if these are used in conjunction with the bulbs, the boxes will not have that empty and depressing look which so often is seen when the summer flowers are over.

Flowers in Succession.

Bulbs grown in window-boxes naturally flower at different times, according to the kind of bulb, and if a judicious selection is made, an almost constant succession of blooms can be secured. If planted together, crocuses will flower first, hyacinths and daffodils next, and tulips last.

If you want to ensure your box being in full bloom all at once, try mixing with your bulbs such things as forget-me-nots, arabis or other free-flowering subjects, which will flower both before and after the bulbs.

Autumn-Sown Annuals.

EARLY flowers, strong bushy plants and a sturdy constitution which is not easily ruined by inclement weather or the attacks of insect pests—these are the advantages resulting from autumn sowing of hardy annuals in the flower border. Now is the time to clear away faded Canterbury bells, clarkias, candytuft and other short-lived plants, and to sow in their place a few annuals, such as calendula (Orange King marigold), eschscholtzia, nigella and sweet alyssum. Sow thinly where they are to flower, so that transplanting may be avoided, and early flowers next year will be assured.

Pool Garden at the Foot of Trees.

IN the accompanying picture, a charming idea is shown as to how to introduce a water garden in a garden which contains large trees. A cement retaining tank is built level with the surrounding lawn, and this is cunningly given a natural appearance by the use of an edging of rockery stones. The various water plants are employed to add to the naturalness of the effect.

THIS SMALL POOL HAS A NATURAL APPEARANCE ALTHOUGH ONLY IN A SMALL GARDEN.

Bulbs for Home Decoration.

NO other class of plants is so well adapted for cultivation indoors as "Bulbs."

Snowdrops and daffodils can grow and flower even during the dark days of early spring, long before the summer flowers have found their stride.

The daily arrival of bulb catalogues at this season reminds one that the planting season has come round again. Out of doors it is already time for snowdrops, crocuses, scillas and winter aconites to be planted.

Indoors the preparations for planting bulbs should be proceeded with as quickly as possible. The secret of successful bulb-growing is to develop as many roots as possible before any top growth commences. If bulbs are planted too late they are never satisfactory.

Lifting Early Potatoes.

THERE is no advantage gained by allowing the tubers of potatoes to remain in the soil after the tops have turned yellow. Early varieties, like Sharpe's Express, can now be lifted in most districts. Before storing them away, it is advisable to lay the tubers on the surface of the soil in full sunshine until they are thoroughly dry. Pick over them and remove any diseased tubers. It is worth while, about a fortnight after the tubers have been in store, to turn them out, when diseased tubers will be more easily detected. Potatoes should be stored in a cool, well ventilated shed or cellar. They can be stored in sacks, provided these are well covered to keep out the light.

This Week in the Vegetable Garden.

THERE are several things requiring to be done in the vegetable garden. Make a sowing of onions for next year. Two rows of 10yds. length each, would be sufficient for the year's crop for most households. Ailsa Craig and Bedfordshire Champion are two old, but excellent varieties. They can be sown an inch deep in drills 12ins. apart. Half an ounce of seed is sufficient for the two rows.

The advantage of autumn-sown onions is that they avoid the attacks of the onion maggot, as the necks have become hardened by the time the fly makes its appearance in May. Onions sown now need not be thinned until next spring, when the thinnings can be used for salads.

Beds of Hyacinths.

ALTHOUGH hyacinths are still rather dear, many amateur gardeners are so fond of them that they cannot do without them in the borders. Hyacinths usually deteriorate from year to year in this country, and the bedding quality sold by all bulb merchants is generally quite good enough for outdoor use. The bulbs should be laid on the surface of the bed, in the position where they are required. Then plant each one carefully with a trowel, allowing the base of the bulb to rest firmly on the soil. About 2ins. of fine soil should cover the bulbs. Mark the spot where the bulbs have been planted with a few sticks or labels so that you do not disturb them if you have to fork the soil near them.

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NEW ROSES WORTH NOTING

AFTER the late frosts and heavy rains it is pleasing to record a beautiful display of July blooms in this district. Among the new varieties that I have tried and can recommend to amateurs are the following:

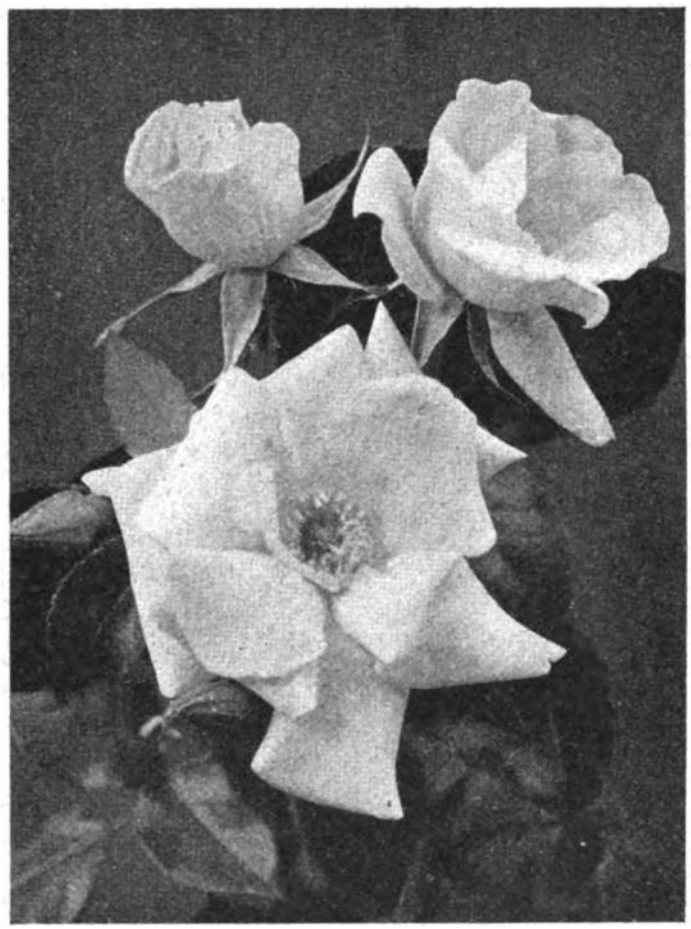
Billy Boy (Pernetiana).—A deep yellow, semi-double, with bright green foliage and no sign of mildew, compact habit and very free flowering. When better known there will be few amateurs who will not want this truly charming rose in their collection, which has the additional virtue of being sweetly scented. No rose has pleased me more—making allowance, of course, for the difference in class—since I first grew Shot Silk.

Another semi-double, which is worth growing if only for its unique colour, is *I Zingari*, orange and scarlet, reminding one of the colours of the old cricket club of that name. The blooms are rather thin, but sweetly scented and plentiful. A bed of this variety would be extremely beautiful.

Marcia Stanhope.—The new fragrant white, has perfectly shaped blooms with high pointed centres and of a size that makes it valuable for exhibition purposes, and it will doubtless take the place of Druschki in course of time, from which it is a seedling.

Holt Hewitt.—Rich velvety crimson, reminding one of George Dickson, but has the merit of stronger stems than the latter; sweetly scented, free flowering and blooms of exhibition size.

Ivy May.—A delightful little rose of Mme. Butterfly parentage, with the latter's deepest colours intensified; perfectly shaped buds and so free flowering as to make disbudding a necessity in order to see it at its best. Although it has been rather prone to mildew, it has proved a decided acquisition, being very attractive in all stages from the bud to the open flower and has a strong refreshing perfume.



A ROSE TO PLANT THIS SEASON.
Billy Boy, a charming deep yellow semi-double variety.

Clovelly.—Rich satin pink, beautifully shaped buds on long stout stems; scented, of strong habit and retains its shapeliness when fully open.

One of the most arresting roses has been *Wilhelm Kordes;* of perfect shape and colour somewhat resembling Georgeous, but of so vivid a type as to render it difficult adequately to describe its remarkable colouring; it has tough dark green foliage, mildew proof, and no amateur can go wrong in adding this beautiful specimen to his collection.

This fine new Pernetiana rose was illustrated and described in THE GARDEN, August 27th, on page 565.

I suppose *Lady Inchiquin* can no longer be styled a new rose, but to those who have not yet tried it, I can thoroughly recommend this beautiful orange cerise variety. The blooms are large and full, while it is sweetly scented and valuable for all decorative purposes.

Charles P. Kilham.—This rose has been sent me by the raisers, Messrs. Beckwith and Son, for a trial, and has produced blooms of a very delightful and attractive nature, which are of excellent shape both in the bud and when open, while the colour is something like Mme. Herriot, brilliant orange red suffused with golden scarlet; the foliage is clean and the habit good. It is a welcome addition to roses worth growing and will be in great demand when better known.

Derby. R. C.

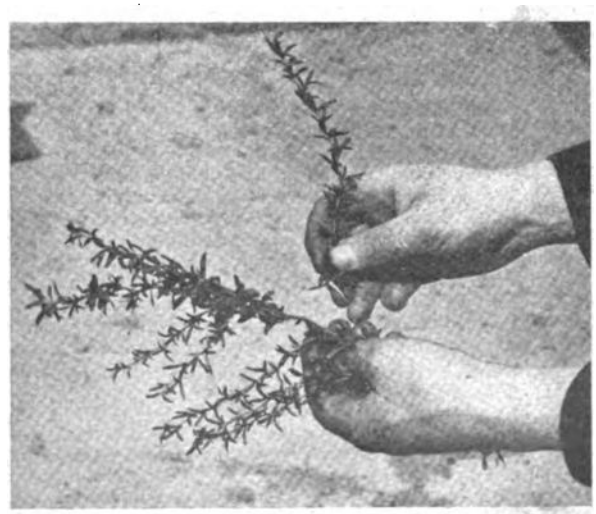
HOW TO TAKE SHRUB CUTTINGS

This is the time for increasing the stock of many shrub and border plants by the taking of cuttings and inserting them under glass. The following article gives details on how to proceed with this interesting work. All amateurs should become familiar with this work.

THERE is no more interesting branch of gardening than the increase of plants by seeds, cuttings, layering, division or grafting. Of these several phases that of propagation by cuttings is the one which can be practised with the greatest degree of success by the thousands of amateur horticulturists who find in gardening a most captivating and healthy hobby.

Autumn, which for our purpose is September and early October, is the best season for increasing many shrubs and border flowers by cuttings in cold frames, under bell glasses and hand lights, or with only a wooden box containing 4ins. or 5ins. of sandy soil, and a sheet or two of glass to cover the top, making it fairly air-tight, to prevent the drying up of the cuttings while roots are being formed.

At this season growth is practically completed, but the wood is not very hard, with the result that, combined with the warmth in the ground, more or less warm autumn days and a conserved moist atmosphere under the glass, the cuttings commence rooting almost at once.



REMOVING A CUTTING WITH A HEEL FROM A BRANCH OF BERBERIS STENOPHYLLA.

A warm, sheltered and somewhat shaded position suitable for the purpose of rooting shrub cuttings can be found in most small gardens, and can be readily secured in large gardens. From most points of view a north-west aspect is the most suitable. It is sheltered from the north-east winds, and very little sun will reach the cuttings to dry up the moisture before they are well rooted.

When it is intended to root cuttings in considerable numbers, a movable wooden frame with a light or lights, as depicted in the accompanying illustration, is very useful and adaptable. A bed of sandy soil can be made up in the frame, and the lines of cuttings inserted and labelled with name and date of insertion. A good average distance is to dibble the cuttings in 3ins. to 4ins. apart in the lines, with a distance of about 6ins. between the lines. This, however, is

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subject to variation, according to the size and type of cutting, also closer "dibbling in" can be practised when it is intended to lift and pot, or transplant, the rooted cuttings in spring, compared with a wider distance apart desirable if the frame, hand lights or bell-glasses are to be removed in spring and the young plants left in position until autumn.

In the case of small numbers of cuttings, very many shrubs can be rooted successfully under bell glasses or in hand lights in a shady border. Prepare a bed of sandy soil, over this place a thin layer of sand, mark on it the sizes of the respective bell glasses or handlights, and dibble in the cuttings. Water well with the spray from a fine-rosed watering can and cover with the bell glass or hand light.

The length of the cuttings will, obviously, vary with the type of growth of the shrubs, from as small as 2ins. or even less in the case of hardy heaths, to 4ins. to 6ins. with strong-growing shrubs, which include the berberis, some of the cotoneasters and the rambler roses. There are two types of cuttings (1) with a thin heel of old wood at the base and (2) cuttings with a base cut just under a joint, or node, where the leaves have been removed. To secure the best cuttings with thin heels of old wood cut off branches which can be readily spared from the parent bush. Hold one of these in the left hand, in this case Berberis stenophylla, as depicted in Fig. 1, take the proposed cutting between the thumb and first finger of the right hand, and give it a gentle downward pull. It may come away with rather more "heel" of old wood than is required, but this can be readily "pared off" with a sharp knife. Remove the lower leaves from the part of the cutting to be inserted in the soil. The discretion of the operator must be used as to whether the top of the cutting is left on or shortened if weak or too long. The cuttings illustrated of the rock rose, Cistus cyprius, serve as a very good example of cuttings made with a node or leaf-joint as a base.

PREPARED CUTTINGS OF CISTUS AND BERBERIS.

Note the length of the cuttings and how each has been taken. In the case of the cistus cuttings the basal leaves have been removed, while in the berberis cuttings the thin heel of wood can be seen.

A good average depth to insert cuttings in a cold frame or under hand lights and bell glasses is about one-third the length of the cutting, thus leaving two-thirds above the soil.

Stiff cuttings may be pushed carefully into rather loose sandy soil and be made firm by watering. Use a dibber (pointed stick) to make holes to insert rather soft or fragile cuttings, but the surface sand must be dry to run in and fill up the hole when the dibber is withdrawn and the cutting inserted. Label, and water to settle in position and prevent flagging or wilting of the cuttings.

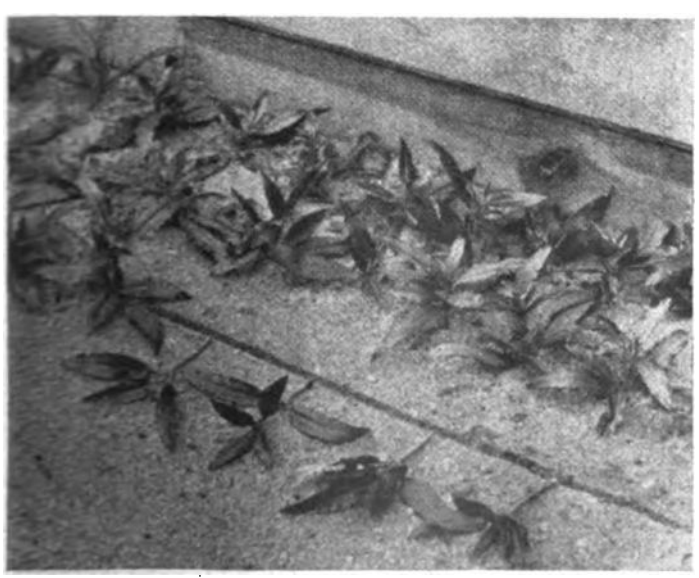
Dibbling the cuttings into beds of prepared soil and covering with bell glasses is largely practised, and the soil can be kept more evenly moist than when the cuttings are inserted in pots and stood in a cold frame. The desired even moist conditions, however, can be secured by inserting the cuttings in pots and plunging in sand or light soil in a border and covering with bell glasses. One point in favour of this method is that the pots can be lifted up and critically examined. They may even be inverted in the hand and the ball of soil carefully knocked out of the pot to see if the cuttings are rooted. Many more hardy shrubs can be readily increased by cuttings than is generally understood. A very important point is that the soil must be of a light, porous character even half sand may be added to rather heavy loam.

While both evergreen and deciduous shrubs root very well in cold frames and under handlights and bell-glasses, it is for evergreen shrubs that is of the greatest the glass protection value.

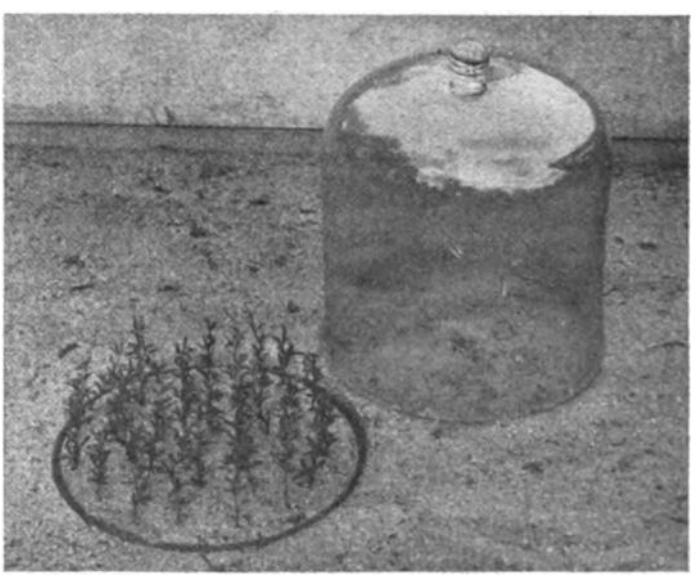
A few of the best known examples include Osmanthus Delavayi, Viburnums Tinus, Henryi and rhytidophyllum, yews, hollies, buxus (box), cistuses, lavender, helianthemums, cotoneasters, the smaller-leaved rhododendrons, rosemary, cytisus and genistas, barberries (both evergreen and deciduous) and Lonicera nitida.

After-Treatment.

It is not sufficient once the cuttings are inserted in a suitable medium to leave them until they are rooted. They should be examined from time to time and immediately on rooting should be removed from the cutting bed or frame and potted on in a suitable soil compost. This is necessary where cuttings are being rooted in pure sand, since no nourishment is available to the new roots and unless the rooted cutting is given food material in the way of a loamy soil, it will soon die off. The change from the compost of pure sand to that of soil should not be brought about too rapidly, however, as the cutting may suffer a check by the quick change. Rather let it be brought about gradually till the rooted cutting becomes a properly established plant, when it can be potted on in easy stages. A. O.



INSERTING CUTTINGS OF CISTUS IN A COLD FRAME.



CUTTINGS OF BERBERIS STENOPHYLLA INSERTED UNDER A BELL GLASS IN A SHADY BORDER.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

IN addition to last week's note regarding the difficulty of obtaining sweet pea seeds in time for September sowing, a plotholder tells me that simila trouble is experienced in connection with the boxing of seed potatoes. According to modern methods of culture, both early and late varieties of tubers should be sprouted in boxes as a means of increasing the weight of the crop, but according to my informant when new seed has to be bought, it is seldom available before the end of January. Little benefit is to be gained by boxing seed of first early potatoes at that late period as they are usually put in the ground at the beginning of March, should the weather prove favourable. The south Ayrshire and Galloway farmers, who are the principle raisers of early potatoes in Scotland, have practised the sprouting of tubers for the past thirty years and they have already begun to box their seed for next season, thus proving that the process of sprouting should be slow. These farmers save their own seed and when a change of seed is made at two or three yearly intervals, they purchase stocks from one another. The amateur gardener may therefore solve the seed potato problem by following the example of the farmers and save their own seed, if the crop is free from disease and rogues. The system that is sometimes followed by small gardeners of using ordinary household supplies of potatoes for seed purposes is an evil one and should not be encouraged, because of the liability to disseminate disease and the prospect of growing a crop containing possibly half a dozen different varieties. Rather endeavour to make a careful selection of your own seed, choosing tubers about the size of a hen's egg that resemble each other in colour, shape and eyes and box them within the next two or three weeks. Even though the experiment should turn out a success, remember that a change of seed is advisable after the second or third year.

The registration of a few degrees of frost about the middle of the month was a timely reminder to gardeners that they may wake up some fine morning and discover that the dahlia bloom is over for a season. When this happens the roots may be lifted and stored away for the winter without unnecessary delay. The operation, however simple, involves the exercise of care, as the tubers are brittle and may be easily damaged in the process. See that the fork is inserted some distance from the stem, and if the clump does not come away freely, loosen the soil surrounding each plant. Cut down the stem to within 6ins. of the root and attach on each a label bearing the name of the variety, so that identification may be made easy in spring time. The great danger to dahlias during winter is not frost, but damp, which causes the tubers to rot, and precaution must therefore be taken to prevent loss. In the first place the roots should be in a thoroughly dried condition before they are stored. This may be accomplished by removing the soil and drying the tubers by exposure to the sun on a fine day or by placing them on the staging of a cold greenhouse for a few days. Then the place to be selected as a winter store must be thoroughly dry and not necessarily dark. Some growers hang the roots upside down, others place them in boxes in a similar position, but whatever system is adopted, it is a wise plan to make an occasional inspection of the tubers during the three or four months they are kept indoors. Although dahlias are not supposed to be hardy enough to remain in the open ground over winter, several amateurs of my acquaintance left their Coltness Gem undisturbed in the border, and strange as it may appear the mortality was trifling, despite the rigorous weather experienced at the end of 1926 and the beginning of 1927. Growth was more vigorous and the plants came into bloom earlier than those raised from cuttings. Where a large quantity of the dwarf dahlia is grown and the owner is prepared to take the risk, ordinary prudence demands that some protection should be afforded.

Another garden favourite that requires attention at this season is the gladiolus. Unlike the dahlia, the foliage takes a long time to wither and it is not advisable to wait until it reaches that condition before beginning the winter treatment. The corms may safely be lifted when the bloom is past and the foliage has begun to lose its freshness or show signs of fading. After remaining in an outhouse or shed for a few days to dry, the stems should be cut away, and on removing the earth it will be discovered that the old corm is in process of decay and that a new one has been formed on the top of it. By a gentle pressure of the fingers the two can be easily separated and the new corms should be stored away in boxes of dry sand until the time arrives for starting them into growth. A damp or warm atmosphere is injurious as the corms require to be kept cool and dry while in a dormant condition.

Very few amateurs, I imagine, are familiar with parrot tulips, yet they have been in existence for ages and there is probably no other bulb that is capable of making such a gorgeous splash of colour in the flower border after the earlier tulips are over. These brilliant flowers of great size and of varied and grotesque shapes are seen at their best when grown in clumps, and they are also useful for decorative purposes indoors as they stand a long time when cut. The late Rev. Joseph Jacob also recommended that the parrot tulips should be grown in hanging baskets and the bulbs arranged in such a way that some will grow through the sides and some out of the top. By this arrangement the great ragged blooms hang down in charming confusion and display their quaint colourings and weird forms to advantage Three of the best varieties are Café Brun, reddish brown and yellow; Constantinople, dark red; and Cramoise Brilliant, deep crimson, with black star-shaped centre, each of which cost about 2s. per doz., but those who can afford a novelty at double that price should experiment with Fantasy, whose soft salmon rose colour resembles the popular Darwin Clara Butt.

Although it is somewhat late in the season, I have just completed a test of some thirty varieties of lettuce under trial at Cathcart Nursery, with the object of finding out which sorts remain longest in good condition and do not run readily to seed. A number of the earlier varieties were beyond the sphere of usefulness, but of those sampled I would place Webb's Wonderful first, Blonde Stonehead second and Austin's Matchless third. They are all of the cabbage type and were large, crisp and of excellent flavour.

Three novelties of exceptional merit, consisting of two seedling chrysanthemums of the early flowering type and a seedling carnation, received a first class certificate at the Glasgow Flower Show last week. The latter is a large crimson flower measuring 4½ins. across, which some authorities regard as an improved Red Laddie. It was raised by Mr. Johnston at Springburn Park and the specimen plant carried several blooms in different stages of development, with non-bursting calyx. Messrs. Torrance and Hopkins, Busby, are responsible for the introduction of a new colour in chrysanthemums which may be described as helio-rose on one side of the petal and biscuit on the reverse. This incurved novelty is a sport from Lizzie McNeil and is to be known as Mrs. John Wilson. The other new introduction is also incurved in form and has been called after Mrs. Quinten McFadyen, the wife of a well known grower of pansies and violas at Carluke. It is the production of Mr. Alex. McAlpine, Tollcross, who has raised some of the most popular varieties in cultivation to-day, but good as Euphie Ritchie, John McAlpine and Mary A. Houston are, he considers, his latest creation to be his best. The colour is a pretty combination of bronze on the inside of the petal and gold reverse, and a notable characteristic is its robust growth and long flower stems exceeding 2ft. in length. ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

When Planting Cabbages.

When planting cabbages the soil should be very firm, as loose soil tends to make the plants grow flabby and soft. However, firm soil usually contains a large number of weeds, and these should be cleared while hoeing the ground. Then the line should be set and number of holes made with the dibber. These holes should be filled with water which must be allowed to run away. While this is going on the plants should be drawn from the seed-bed and the lower portion of the root cut off. They should then be tied in bundles and allowed to stand in a bowl of muddy water for about an hour. This allows the plants to draw up a supply of water. Then the plants should be placed in the holes and pressed firmly in. A little dry soil placed around will prevent immediate evaporation of the moisture.—G. W.

Leaf-Mould for Potting.

If fresh oak and beech leaves are gathered and put into sacks and kept in a warm place near a stove or copper and, when dried, rubbed through a ¼in. sieve, the best form of leaf-mould for use for potting purposes is obtained.—M. H. G.

Artistic Arrangement of Flowers.

Gladioli are best grouped with their own foliage in bronze vessels. They last well and their buds open in succession. Montbretias, with their art shades of colour, are equally effective if similarly arranged. Then again, Viola cornuta lends itself to the best advantage when placed with its foliage in a small brown jug. Chrysanthemums and Michaelmas daisies should be cut with long stems and placed in tall receptacles, so as to avoid stiffness. No matter what kind of vessel is used, nothing of a decorative character should be utilised which would detract attention from the flowers themselves. Soft neutral brown is always harmonious.—A. L.

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WHAT OUR READERS SAY

SPRING BEDDING PLANTS FOR A NARROW BORDER.

SIR,—Where space is very limited, such as in towns, a border of 2ft. or 3ft. can be made a blaze of colour in spring by planting wallflowers, tulips, forget-me-nots and a few polyanthus in the following way.

The wallflowers, Fire King, a very brilliant flaming red, and Cloth of Gold, can be used and planted in clumps, Fire King at the back, Cloth of Gold in front. Plant five or six in each clump about 10ins. between each plant, leaving good spaces for the tulips, which should be planted twice their depth, this brings them into bloom at the same time.

Along the edge can be planted a few forget-me-nots alternately with polyanthus. No border could be brighter than this, and, with the exception of the polyanthus, the plants can all be cleared ready for summer bedding.—A. J. F., *Ampthill*.

ROSES *v.* HERBACEOUS FLOWERS.

SIR,—Up to last year, and for very many years, the position of honour has always been allotted to the roses. I have been fairly successful, too; but year after year there has always been an element of doubt in my mind. Did the Queen of Flowers justify her enthronement, did she repay me for the devotion to her cause? I was proud of my successes with Betty Uprichard, Shot Silk, Mabel Morse, Caroline Testout and others; but, generally speaking, my rose-bed was unsatisfactory, patchy, uninteresting. It had that half-empty appearance, and, despite the efforts of more than thirty choice bushes, it failed completely to capture the imagination or to impress the memory.

On the other hand, the herbaceous borders were glorious in their diversity of bloom; the heleniums, Shasta daisies, gaillardias, scabious, lupins, delphiniums, even the little groups of candytuft or alyssum gave one complete pleasure.

However, in the effort to be strictly honest with myself, I determined this season to try a change. Out came every bush rose—every one—and in their places were planted an Excelsa, Dorothy Perkins and an Albéric Barbier. These as a background to Coltness Gem dahlia, one or two clumps of nepeta (which overhang into the path), and masses of Viola Maggie Mott, that perfectly delightful bloomer which never fails me, and just an odd clump or two of erigeron.

Not an elaborate scheme, by any means, nor was it designed with the idea of competition with my neighbours' rose-beds; yet all my visitors are entranced, and their adjectives of praise confirm my own opinion.—A. BLYTH, *Burnage, Manchester*.

CONSTRUCTING A LILY POND.

SIR,—With the approach of autumn many will shortly be planning garden reconstruction or alterations, and as the lily pond is finding favour in many schemes—and certainly this gives a touch of quaintness and is a pleasing feature—I give the details of one I have constructed by what I consider the cheapest and quickest method. It has proved quite satisfactory. My pond is 12ft. by 6ft., with curved ends, and 2ft. 6ins. deep, and is surrounded by grass.

First of all I procured some stone slabs 18ins. by 9ins., which were bedded down to the shape of the pond and sunk 3ins. below ground surface and tested with spirit level. The pond was then excavated so that the slabs overlapped the cavity by 3ins. Some wire netting 3ft. wide was fastened to the sides by means of 12in. iron stakes with hooked ends. The spare 6ins. was bent over under the slabs on which a layer of cement and sand, 3ins. thick, was put to raise the slabs to proper level.

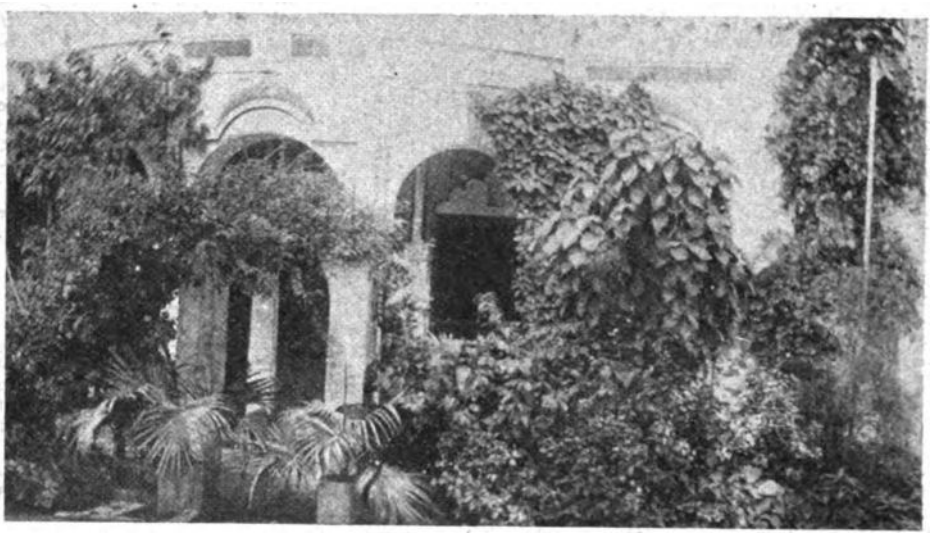
The sides were then floated 2ins. thick with a mixture of two parts cement, one part washed sand and one part pebble dash, a home made wooden float being used for this, which leaves a rough surface for the second coat. For this second coat, two parts cement and one part sand were used and applied with a steel float, which gives a tighter finish to resist the water. After this was dry a pure cement wash, made to the consistency of a thin cream, was brushed on and a second wash, made thinner, was again given after two days interval.

When dry the whole was lightly sprayed for a day or two.

This method dispenses with the laborious task of building staging for concrete and is equally effective as a brick foundation, which for a pond of this size would be expensive. The total cost was £2 and the loss of water is negligible and is compensated by the rainfall. To freshen and sweeten the water the hose is placed at the bottom occasionally and the pond allowed to flood the grass for a short time, of course, where circumstances permit, an overflow pipe would be better.—A. CUTHBERT, *Ilford, Essex*.

CLIMBERS IN AN INDIAN GARDEN.

SIR,—I am very glad to let you know that I am a subscriber of your most interesting and useful paper, THE GARDEN, and have long had a desire to send a photograph of my garden. It shows an attractive way of changing a barren, narrow platform, in front of a private residence, into a place of continual interest, by introducing several suitable plants. A narrow 1ft. wide border filled with

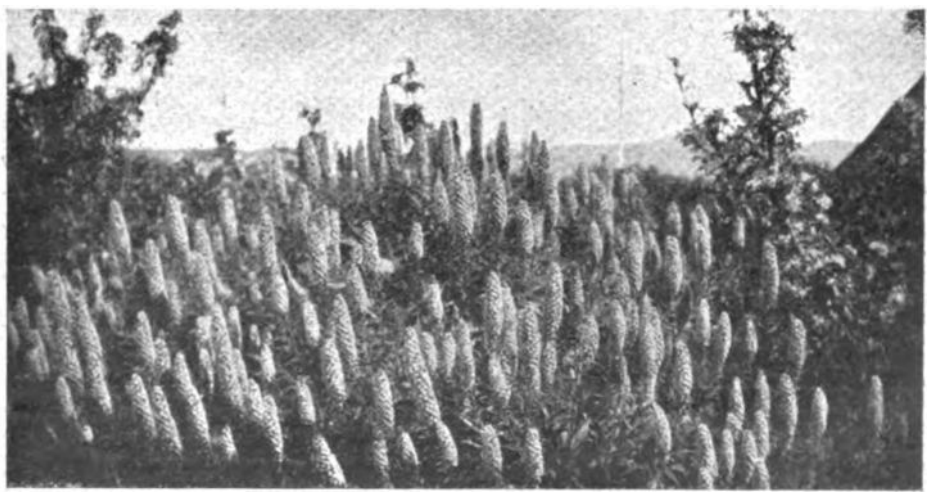


CLIMBING PLANTS DECORATING A BALCONY OF AN INDIAN GARDEN.

a rich compost, furnishes a comfortable abode to the magnificent poinsettia. The path to the building is guarded by two palm tubs, and on an arch is a jasmine plant. The perennial verbenas and choice mirabilises revel in luxurious growth along the platform's whole length. The building is draped with Quisqualis indica on its right and Hiptage madablota on its left, while Aristolochia elegans shows to full advantage on a middle arch.—BHAGWALI PRASAD, *India*.

A FINE ECHIUM TREE.

SIR,—I enclose a photograph of an echium tree which may be of interest to your readers.



AN EXCEPTIONALLY FINE ECHIUM, CARRYING OVER THREE HUNDRED BLOOMS.

It is growing in the garden at Coverack, Cornwall.

This spring the tree had 320 large cobalt blue blooms, which is stated to be a record, as 150 is the largest number of blooms reported on any tree grown in England. The tree measures 21ft. across and is 6ft. high.—A. F. CALVERT.

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FRUIT AND KITCHEN GARDEN

Present Treatment of Asparagus Beds.

ASPARAGUS beds are, generally, regarded with much interest early in the spring, because this choice vegetable is about to become fit for use. As the summer passes the beds are neglected, weeds are allowed to grow and ripen seeds, which are conveyed to other quarters, and so the whole garden becomes weedy. Large weeds in the asparagus beds take up much nourishment and exclude light and air. Asparagus plants require all the light, sunshine and air that can be obtained naturally throughout the season. Weeds found in the alleys between the beds may be hoed off, and afterwards the soil should be lightly forked up to ensure the free passing away of rain water—as the alleys get panned down hard during the summer months. All weeds found growing in the beds should be hand-pulled, taken at once to the garden smother and there burnt. It is a mistake to leave maturing weeds on the soil of beds, because their seeds soon fall and the result is a green surface of seedling weeds. The old asparagus stems are now hardening, but they should not be cut down before they are thoroughly matured. Some attention should now be given to the planning of the new asparagus beds. Select the site, prepare the manure and get the ground clear of crops in good time for the necessary trenching to be done.—HANTS.

Autumn-Fruiting Raspberries.

A FEW plants of one or other of the autumn fruiting raspberries should be grown by every amateur who is fortunate enough to possess a garden large enough to allow him to cultivate fruit. Given good weather during their fruiting season, they are excellent for dessert purposes, while in any case they form a most welcome culinary fruit. They are in season during October and November.

Planting may take place from November to March, taking care to prepare the ground well now by deeply digging and adding some well rotted manure and rubbish from the garden bonfire. The rows may be 5ft. apart and a distance of 2ft. between the plants will be sufficient; plant so that the roots are close to the surface, for all raspberries are of a shallow rooting habit.

If planted in the autumn the canes must be cut to within 2ft. of the ground at planting time and right back almost to ground level in the spring; while spring-planted canes will, of course, require cutting to ground level when they are planted.

The routine culture of the autumn-fruiting raspberries differs somewhat from that of the summer-fruiting section. In the case of the former class, all the canes are pruned back hard to ground level every spring and the fruit is produced near the extremities of the current year's growth. When the young growths appear after pruning they should be thinned out so that only four of the most vigorous are allowed to remain. A mulching of decayed manure placed about the roots at the beginning of the summer will be found to give highly beneficial results.

One of the best varieties I can recommend for trial is the Hailsham Raspberry, a very consistent fruiter, the fruits of which are good flavoured, well coloured, large, profusely borne and luscious, while the plant itself is a good doer. Another good variety is one known as November Abundance.—T. H.

Points to Consider when Ordering Fruit Trees and Bushes.

PRIOR to placing an order for fruit trees it is necessary to estimate correctly the exact number required. All too frequently too many are ordered, and, disliking to waste the surplus, the amateur grower plants them too thickly, with disastrous results.

The approximate space required by different types of fruit trees and bushes is as follows: Apples, pears, cherries, plums, etc., grown in bush form, should be allowed 10ft. in each direction. Half-standards require 15ft. each way, and standards 20ft. or 21ft. Fan-trained trees need 15ft. of wall or trellis space, and horizontal espalier 12ft. Single cordons may be planted 2ft. apart, but those with more than one branch will require up to 5ft. of space.

Bush plants of the stronger growing varieties of currants and gooseberries should be allowed 6ft. of space in each direction; but the less vigorous kinds will only require from 4ft. to 5ft. of space. Single-stemmed cordons may be planted 12ins. or 15ins. apart.

Raspberry canes may be planted in rows 5ft. apart, and, allowing a distance of 1ft. to 15ins. between the canes.

Loganberries and the American blackberries require at least a distance of 6ft. between the clumps.

Strawberries are planted in rows 2ft. 6ins. asunder with a distance of 1ft. between the plants.

In most cases it is not advisable for the amateur to purchase "maiden"—that is, one year old—trees. By planting older trees he obtains the dual advantage of having the trees come into bearing sooner and having the foundation of the tree laid by the correct pruning of an expert. Of course, maiden trees usually transplant best, but as most reputable nurserymen transplant their young stock frequently, this is not of very great importance.

The following may be taken as suitable ages at which to purchase the various types of trees:

Standards and half-standards, four or five years old. Fans and espaliers, three or four years old. Bushes, two to three years old. Cordons, two years old.

Gooseberries and currants are best planted when two years old, and raspberry canes as young plants of the current year's growth. Newly rooted runners of strawberry plants are correct for planting.

Most important of all is to go to a reputable British nurseryman for the stock; if it is possible to inspect the trees before purchase, so much the better. So-called "cheap" trees bought in auction rooms and similar places frequently turn out dearest in the end.

When making a selection of varieties of apples, pears, plums and cherries, it must be borne in mind that certain varieties are self-sterile and will not set crops of fruit unless trees of another variety are planted close by to ensure a supply of pollen necessary for fertilisation. It is always advisable, therefore, to plant two or more varieties of these fruits in proximity, or, alternatively, to ascertain that it is a self-fertile variety which is being planted. The bush fruits are quite self-fertile and do not require interplanting with other varieties.—T. H. E.

APPLE PICKING and STORING

THE best criterion for deciding whether apples are ready to gather is the easy separation of the fruit at its junction with the spur. If the fruit requires force to sever its connection or requires to be twisted right round to remove it is not ready. A slight upward, downward or sideways turn should be all that is necessary. If the apple separates readily by this motion it is in a fit state for gathering. As a general rule early apples should be gathered as soon as they are ripe. Late apples, that is those which have to be stored to reach maturity, should be left on the tree as long as possible, but picked before the severe frosts come.

All fruits should be gathered when quite dry and on a dry day. Each apple should be picked by hand and carefully placed in a basket or other container, which has been lined with paper, wood wool or some other soft material to prevent bruising the fruit. On no account should apples be shaken from the tree if they are required for keeping purposes, and in any case, with perhaps the exception of fruit used for cider making, the practice is bad.

The gathered fruit should then be sorted out, separating the small, injured and diseased fruits from the good fruits. The good fruits may be graded according to size and, if of sufficient quantity, stored in separate trays.

To ensure preservation of the fruit a low temperature, still atmosphere and darkness are essential requirements. The room in which the apples are to be stored, if a specially constructed room is not available, should have a northern or eastern aspect, with good ventilation, yet free from draughts. The fruit should be stored in trays and a convenient size for a tray is, length, 2ft. 6ins.; width, 1ft. 6ins.; and depth, 4ins., with upright corner pieces made of wood 1in. square and 5ins. in length. The corner pieces will project 2ins. above the level of the tray. Across the ends of the box on a level with the top of the corner pieces, two pieces of wood 1in. by ½in. by 1ft. 6ins. should be placed to form handles. This arrangement permits the trays to be stored one above the other and allows plenty of space for air circulation.

The sides and ends of the trays should be made of ½in. wood, and the bottom of ⅜in. wood in three or four pieces, with cracks between them.

The bottom tray should be placed on blocks of wood 3ins. square, 3ins. deep and not directly on the floor. In a normal room, 12ft. by 12ft. by 10ft., it should be possible to arrange two rows of boxes in the centre and one row along each side, leaving the doorway free and the window side free. If this gives too many trays, the centre trays can be dispensed with.

The trays should be lined with wood wool or with paper and the apples placed in a single layer upon this lining. If the apples are graded, all of one size should be placed together.

The temperature of the fruit room should be kept steady and as near 40 degrees Fahr. as possible, for the cooler it is kept the longer the fruit will last. At first there is a sweating period, *i.e.*, a period when the apple appears to sweat by the exudation of moisture. During this period, ventilation should be the maximum available, but on the termination of the sweating period air should be admitted only when necessary, and the room kept close, with drawn blinds.

Periodically the trays should be taken down and the fruits examined. Any that show signs of rot or decay should be at once removed. It is not necessary to handle the fruit in examining them, only suspected fruits should be touched, the less handling the better. The prompt removal of decayed or diseased fruit is an essential to successful storage, as fungus spores on bad fruits are rapidly and easily disseminated and may attack sound fruits, causing them to decay. Ease of inspection and prevention of spread of disease are two reasons why fruit should be stored in single layers in flat trays, rather than in boxes or tubs.

By a careful selection of varieties it is possible to obtain dessert fruit for the table over a period stretching from the end of July to the following May. H. D.

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AUTUMN WORK IN THE BORDER (see page 632).

A BOOK IDEAL

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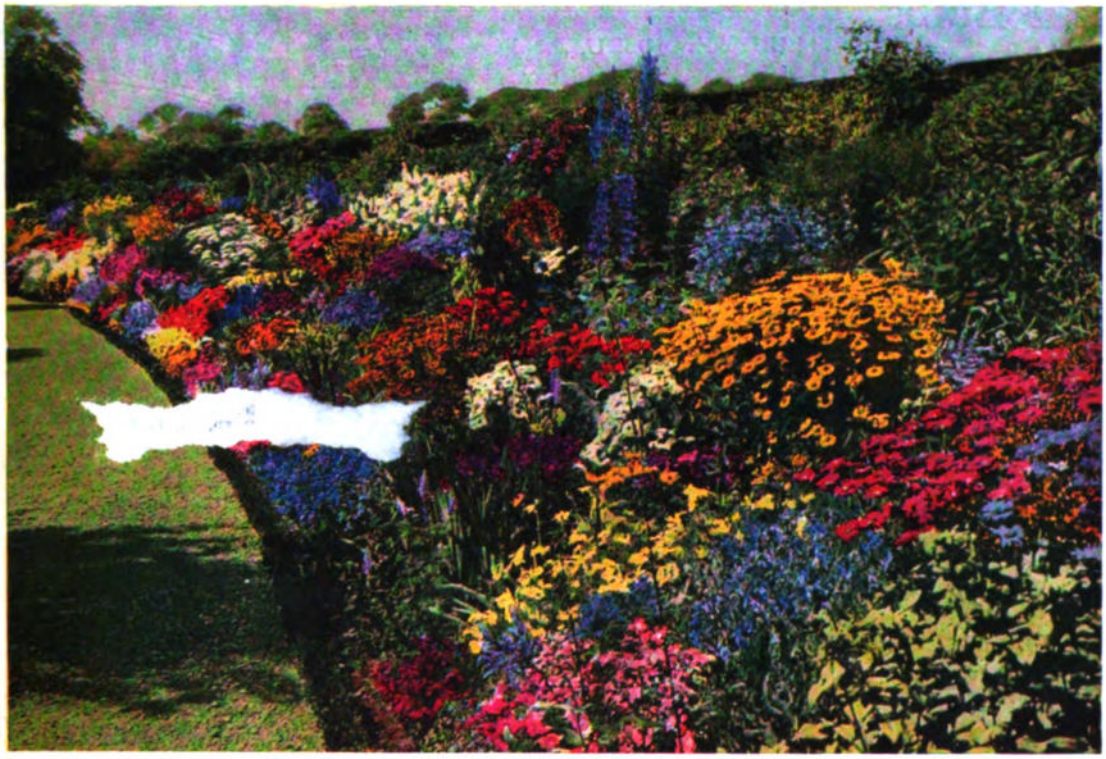

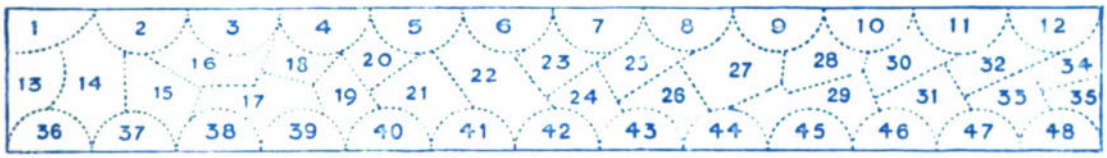

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SELECTING ROSES FOR NEXT YEAR

SELECTING roses for planting is similar to selecting books. It depends for what purpose they are required, and they should be chosen, either on recommendation or from a personal acquaintance. Most people who cultivate roses do so for pleasure; they do not aspire to exhibiting blooms, yet not infrequently we find that from superb flowers staged at some exhibition, they jot down the names and order accordingly, sometimes to find that, when in the garden, they fall short of expectation! While there are many sorts shown which, under ordinary treatment, turn out well, it is, we think, a mistake to be guided entirely by what the exhibition table provides. The main thing the would be buyer should satisfy himself about is whether the sorts upon which he may have set his heart are "good doers" and are suitable for the district in which he resides. One of the best means of education in the art of rose growing is to visit a nursery in summer when the plants are in bloom, and see them growing in dozens of one variety. By this method one may learn a good deal, and my experience of nurserymen is that they are pleased to receive visits from prospective buyers, and to give information and advice.

For Bedding.

In the case of roses for bedding, required, possibly, for a new garden of moderate dimensions, it is better to start with two or more of one variety, rather than have a couple of dozen, say, of dissimilar sorts, as one is better able to judge of their qualities for the particular locality. Beauty of form and colour often make the strongest appeal, but those noted for fragrance ought not to be lost sight of. The peerless white blooms of Frau Karl Druschki would be infinitely more valuable did they possess perfume; yet, notwithstanding this, it is a rose which ought to be included in a collection. Fortunately, among hybrid teas one has a choice of many sweet-scented varieties, and the following list, which is given mainly for the benefit of the beginner, will enable him to select those which are noted for their beauty and sweetness too:

Betty Uprichard	*General McArthur
Golden Emblem	*Hoosier Beauty
*Ophelia	Los Angeles
Mme. Abel Chatenay	Mrs. Henry Morse.
Mabel Morse	*Richmond
*Caroline Testout.	Margaret Dickson
*Isobel (a charming single carmine of vigorous growth, delightful for cutting)	Hamill
	Gorgeous
	*Rev. F. Page Roberts
Emma Wright	Mme. Herriott
	W. F. Dreer.

Although the hybrid perpetuals belong to a race of roses very limited, yet a few of them are worth inclusion. Frau Karl Druschki has been mentioned. To this may be added *Hugh Dickson, a brilliant crimson and vigorous grower, and notable for its fragrance. Mrs. John Laing, a rosy pink, is also very sweet-scented.

All the foregoing have proved themselves suitable for general growing, and, given ordinary care in the preparation of the ground and planting, seldom fail to give satisfaction. The question is sometimes asked what are the dependable roses for growing in a cold, and perhaps bleak quarter, and the sorts for such a position among the short selection are denoted thus (*).

Climbers.

Much attention is being given to climbers to-day. They are brought into use for covering walls and fences; for pergolas and arches, and to block out unsightly objects. The Wichuraianas take the lead. Of these it may be said that the bulk of them are so strong and vigorous that one need not have any hesitation in planting them in an exposed position in a garden. There is no difficulty in choosing a variety of colours, as the following will illustrate:

American Pillar (single pink)
Hiawatha (single crimson)
Albéric Barbier (creamy white)
Emily Gray (golden yellow)
Evangeline (single white, tipped pink)
Leontine Gervaise (coppery buds, opening to rosy salmon)
Excelsa (crimson scarlet)
Troubadour (deep crimson red)
Minnehaha (rose pink).

Let not the intending planter of climbing roses forget the climbing hybrid teas that, every year, are becoming recognised more and give their flowers over a long period.

These embrace many well known sorts (included among them being teas and noisettes), such as Caroline Testout, Sunburst, W. A. Richardson, La France, Lady Ashtown, General McArthur, Reine Marie Henriette (the red Gloire). They are very sturdy and will do well in most positions. One of the very best hybrid teas among the climbers, blooms of which figured at not a few of the principal shows during the past season, is Mermaid. Flowers are of a sulphur yellow, with amber stamens and attractive foliage. It blooms for a considerable time, and makes a good drapery for either a wall or fence or pergola where it can festoon. It is a rose that will be seen more often in future. The flowers are single and very attractive.

This Week's Work

For Gardens in the South and Midlands.

Plant hyacinths, Dutch and Spanish irises, and daffodils in beds.
Transplant seedling biennials and perennials.
Lift and store beetroots, carrots and onions.
Put grease bands round fruit trees.
Make an autumn sowing of sweet peas in the open ground.
Prepare ground for rose or shrub borders.
Gather and store late varieties of apples and pears.
Make preparations for replanting the herbaceous border.
Finish taking cuttings of calceolarias, violas, antirrhinums and pentstemons.

This Week's Work

For Gardens in Scotland and the North.

Start digging vacant ground.
Transplant wallflowers and Canterbury bells in permanent quarters.
Lift and store carrots and beetroot.
Insert cuttings of calceolarias and pentstemons in cold frames.
Divide and replant herbaceous peonies.
Continue planting daffodils and hyacinths.
Propagate phloxes by cuttings of non-flowering shoots.
Clean and oil garden tools before putting them away for winter.
Store, burn or dig in fallen leaves.
An autumn sowing of sweet peas may still be made.
Order roses to fill up vacancies in beds.

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AUTUMN WORK IN THE BORDER

Now is the time to give thought to the management and replenishment of the herbaceous border. Whether a stereotyped plan is followed or one carried out according to personal tastes, the work provides much interest combined with instruction. The following article gives a few hints on what to aim at in the making and renovation of a border.

WHEN one reflects on the number and variety of plants which go to constitute what we term the herbaceous border, one cannot but be struck with the elasticity which is allowed in the selection of the inmates and in their placing and general arrangement. Borders are designed and laid out in a countless number of different ways, according to the purpose for which they are desired. It may be a spring, summer or autumn border. It may exist principally for a vivid and harmonious colour display over a short period, such as a blue border; or again, it may be arranged and its occupants so selected that the ideal border is obtained—that which supplies an array of bloom of all colours, size and form from the first weeks in May till the dawn of October. In such a border, the choice of plants must be a wide one. Hardy herbaceous perennials will probably predominate; while there will be the necessary addition of a few annuals, along with a number of more tender plants. Not only, however, should the actual plants comprising the border be thought of; attention to the background is just as important. Without a suitable background the actual border loses much of its beauty, while, if present, the appearance of the bright and gaily coloured ingredients is greatly enhanced. With the approach of autumn, gardening duties gradually increase till the pressure reaches a height by the end of October or November, and it is always well that the work should commence early on. During this month the gardener should carry out all renovations in the shape of transplanting all plants, including shrubs, division of existing plants and in the rearranging of his borders. With early planting the individuals removed are enabled to establish themselves more quickly and surely before the approach of winter than those planted later on. All the necessary changes which have been decided on during the early summer months to improve the colour scheme or the design of the border should be carried out as soon as possible. It may be the intention of the owner to try out new plants, and if so, now is the time to scan all the many catalogues. Amateurs cannot go far wrong if they but follow the instructions given in these handy brochures. Once all the material has been collected, the planning and placing can then be undertaken. This is entirely a matter of personal taste, depending on the degree of contrasting effects which one wishes. It cannot, however, be too often reiterated that the best effects are obtained by planting in masses or broad drifts. Blocks of sharp colour are then the cynosure of all eyes when hemmed in by two darker patches. By this method, also, the individuality of the plants is shown to best advantage, and when large-sized flowers appear, their elegance, size and form can be fully appreciated, and one finds enjoyment doubly increased by a visit to a border such as this. The occupants should have a position calculated to show them each off to distinct advantage, while at the same time they should harmonise with their environment.

A WELL DESIGNED BORDER WHERE THE PLANTING HAS BEEN CARRIED OUT EFFECTIVELY. *Each plant has been grouped in bold clumps, each bearing a relation to the other with regard to to height and colour, so that there is nothing harsh or incongruous in the general scheme.*

Now as to the actual inmates of the border. It is a difficult task to know where to begin and where to end in the matter of a selection of plants. To commence with are those which on no account should be omitted, such as phloxes, which probably rank first as the chief ingredient in all borders. They are eminently suited for the purpose, with their wealth and variety of colour and in the large trusses of well formed and shapely flowers. During the last few years these flowers have been improved enormously, and the varieties and their names are now legion, and certainly all tastes are catered for. It is impossible to mention more than a few varieties of the several scores that exist, but the following can be recommended: Frau A. Buchner and La Neige are good whites, Elizabeth Campbell a good pink with a white centre, Selma a fine tall-growing pink, Baron von Dedem scarlet flushed with orange, Iris a violet-blue, and Antonin Mercie with soft lavender blue flowers and a white eye which is particularly effective. The representatives of the composite family, such as rudbeckias, heleniums, gaillardias, marigolds and sunflowers, can be conveniently grouped together. These thrive in the majority of garden soils and are among the showiest of summer border flowers. When planted in the mass the most dazzling sheets of brilliant colour are produced during the summer and autumn months. They have the additional merit, also, of lasting a long time, and are suited for house decoration. The popularity of the dahlia as a border flower has returned during these last few years and certainly its extended cultivation is fully deserved. With its many shades of colour and its great variety of forms, both as regard height and sizes, the dahlia fits into any scheme with the greatest of ease. The dwarf single and mignon types are especially suited for a corner in the front of the border, while the taller decorative and cactus-flowered varieties call for a place in the rear ranks. If a touch of blue is desired, delphiniums cannot be surpassed. Not only do they provide a colour which is too often lacking in the garden, but they serve, when used as a background, to throw up their more dwarf neighbours into relief. Their handsome appearance, with their elegant spikes of clear blues and mauves, renders them desirable subjects. There are so many fine varieties on the market nowadays that it is difficult to make a choice. The following, however, can all be recommended: Blue Boy, deep blue single with a white eye; King Bladud, double and of a fine cobalt blue; King of Delphiniums, gentian blue flushed with plum; James William Kelway, an improvement on the foregoing; the well known Rev. W. Wilks, of a rich purple; the soft creamy white Beauty of Langport; the bright blue and violet, Lloyd George; Millicent Blackmore, blue and mauve with large black centre; and Nora Ferguson, semi-double, pale blue blended with soft pink. Of the Wrexham strain, where the spikes are longer and tapering, among the best are Coquette, violet with blue shading and a bee-like eye; Joy Bells, aptly named, for it has bell-shaped pips of a deep rosy mauve; Monarch of Wales, with guard petals of a bright blue and inner petals of a rosy mauve; and Violet Queen, deep violet margined with mauve. Michaelmas daisies are valuable for their late-flowering propensities and should be included. Antirrhinums and pentstemons are useful for planting between taller-growing subjects and provide a wealth and variety of handsome spikes of attractive flowers. Many campanulas, such as lactiflora, should find a place. They supply the more delicate tones so necessary to relieve the brighter shades. Patches of flame colour are obtainable by the judicious planting of clumps of red hot pokers. I say "judicious" advisedly, as, if discretion is not used, the result is apt to be overwhelming. Along the edge of the border more dwarf subjects can be employed, such as the brilliant double alyssums, the double white arabis, and the attractive candytufts. No hardy border is complete without irises. They seldom clash with the other occupants, and patches of them in their delicate shades of colour impart tone and form during the early summer months. Gladioli are most useful for providing colour in late summer.

Many shrubs and climbing plants can be utilised to distinct advantage if employed in border plantings. A definite association

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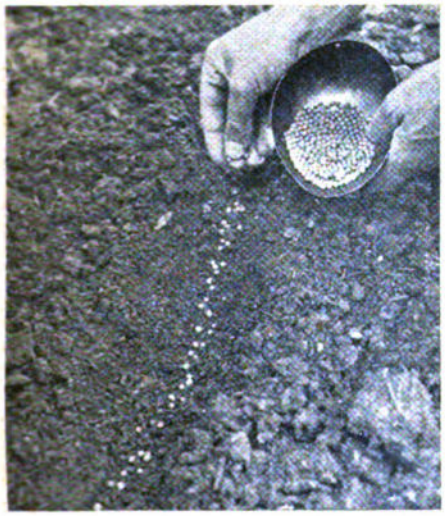
should be aimed at between the foreground and the shrubby background. Such shrubs as ceanothus look well with clematis and delphiniums. Hydrangeas are also useful and can be put to many purposes ; while shrubby veronicas are excellent in any arrangement. Silvery leaved shrubs should be planted, if space permits. They greatly enhance the appearance of all the yellow-flowered varieties. Sufficient has been said to show that the herbaceous border need not be stereotyped in its composition. Personal taste should be given free play, and the results are almost certain to be pleasant and satisfactory. But whether you prefer a border all of one colour or one of varied tints, so much has been done recently to improve the herbaceous border that plants are in existence to satisfy every taste.

SWEET PEAS FOR NEXT YEAR'S BLOOMING

Sweet Peas may either be sown now or in the spring. The following article conclusively shows that the best results are to be obtained if autumn sowing is undertaken. In this year's sweet pea trials it was emphasised that sowings should be carried out before the middle of October both in the north and south. Autumn sowing provides plants of a more robust constitution and which give blooms of a finer quality than is generally the case with those sown in spring.

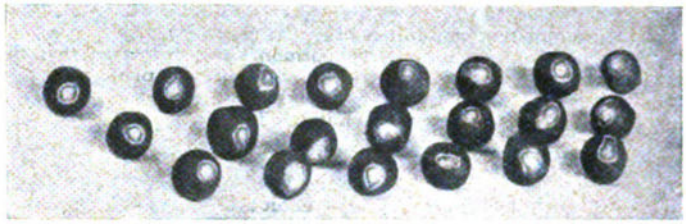
SWEET PEAS, like many other hardy annuals, almost invariably produce the best results when sown in the autumn. Each succeeding season the proportion of sweet pea seeds sown before Christmas to those sown afterwards steadily increases, as the advantages of the former method become more widely known. Comparing average results, we find that autumn-sown plants not only flower earlier, but often continue to yield good blooms after spring-sown plants have finished. The latter are never so robust at any stage of their growth, rarely give such good quality flowers, and are less able to withstand adverse weather conditions. Apart from this, autumn-sown plants undoubtedly are better fitted, through their stronger, hardier constitutions and more extensive root system, to combat the few ills with which sweet peas are liable to become afflicted.



SOWN IN DRILLS ABOUT TWO OR THREE INCHES DEEP IN THE OPEN GROUND.
Seeds may be sown fairly thickly and the seedlings afterwards thinned if found necessary. The work must be undertaken during the next fortnight for successful results.

It does not matter whether one intends to grow them on the "single-stem" or "cordon" system, or just in the ordinary natural manner, autumn sowing is certainly best, and I strongly advise all growers to sow at least some of their sweet peas before the end of October.

There are two methods of sowing in the autumn, the first being the usual procedure of market growers of cut blooms, namely, in the open ground where the plants are to flower. This is quite simple and comparatively safe, for the plants pull through the winter nine seasons out of ten. Well drained soil is to be preferred, and the position (chosen in advance) should be in an open situation unshaded by trees or buildings. Prepare the soil well either digging it over deeply, turning in a liberal dressing of well decayed manue, or, better still, bastard trench it to a depth of 2ft. to 2½ft., well mixing in animal manure and bone meal in the lower layer. Towards the end of September or early October (according to locality) make drills with a hoe about 2ins. deep, sowing the seeds fairly thickly to allow for possible losses by pests or the weather. If thought necessary the plants may be thinned out in the spring. After covering in the seeds, dress the surface of the row with soot, then leave the plants to take their chance. It will afford them no little protection if short twigs are placed against them about the end of November. Often enough the inexperienced grower will think that he has lost all his sweet peas, but it is surprising how quickly they will recover at the first sign of warm weather even if they have to all appearances been destroyed by frost. Try a small row of mixed Spencer varieties sown in this way, the loss will be immaterial should they fail, for a really good mixture costs no more than 1s. per ounce, and this quantity will be ample for an 8yd. row.



SEEDS READY FOR SOWING.
In order to assist germination of black seeded varieties the seed should be chipped in this manner before sowing.

The second method, practised by nearly all exhibitors, is that of sowing the seeds in pots in a cold frame. It is much more economical and much less risky than sowing outdoors. In the first place, the seedlings are quite under the grower's control and it is a simple matter to give them protection from the weather when necessary. Pests, too, which might cause serious losses in the open ground, birds, slugs, mice, etc., may easily be guarded against. Pots of any size between 3in. and 6in. diameter at the top are suitable. Crock their bottoms and fill them to within half an inch of the rims with soil. There is no need to bother about a specially prepared potting soil, for any ordinary garden soil will do if it is fairly porous. Th addition of silver sand will lighten a heavy or "clingy" soil, and a rich compost is quite unnecessary. Vary the number of seeds in each pot according to its size, roughly allowing 2 sq. ins. of surface space to each seedling. Then fill the pots to their rims with soil and water at once if this is on the dry side, avoiding a further watering, if possible, until the seedlings appear through the surface. Correctly label each pot or batch of pots with the names of the varieties and then plunge them to their rims in the frame with soil, ashes, peat or fibre. This latter not only gives the roots protection from the frost, but conserves moisture. As soon as the young plants make their appearance remove the glass frame lights entirely and never replace them except during very frosty or wet weather. Throughout the winter grow the seedlings along slowly and very hardily, for this is the one and only way to obtain strong, healthy plants for transplanting in the spring. The frame should face the south and should not be shaded, or spindly drawn-up specimens may result. As soon as the pots are in position in the frame it is a wise precaution to set a few "break-back" traps for mice, while later on, if birds commence to nip out the tender tips of the plants, check their depredations by throwing fish netting all over the frame or by stretching strands of black cotton just above the seedlings. Water sparingly, and insert a few twigs to hold them upright when they are about 3ins. high. It will do no harm to pinch out their extreme growing

SOWING SWEET PEAS IN POTS.
About five seeds are necessary to fill a five inch pot. After sowing, the pots can be filled almost to the rim with soil and placed in a cold frame or small greenhouse.

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tips when they have made three pairs of leaves, but this is not really necessary if they are sturdy, for then they will naturally throw out strong basal side shoots without this treatment. Many successful growers, however, always "pinch out" to make certain.

The best time to sow in pots in a cold frame varies with the locality from the last week in September in Scotland to the last week in October in the south. Mid-October is a good average date.

AN AUTUMN AND A SPRING SOWN PLANT. *The larger specimen was sown in October while the smaller was sown in February. The difference in size of root systems can be clearly seen. The former has been pinched and has thrown out basal side shoots.*

Although one may procure the best seeds it is possible to obtain, an uneven germination is sometimes experienced with black-seeded varieties. A proportion of these will often remain dormant in the soil for weeks, quite impervious to moisture unless their hard seed-coats are "chipped." This operation is simply the removal of a very small portion of the seed-coat with a sharp penknife or file on the side away from the "eye." On the other hand, white-seeded varieties as a general rule have very thin seed-coats and sometimes rot during germination if this is protracted by cold weather or if the potting soil is too moist. It is quite a good plan to sow white seeds in a thin layer of silver sand to avoid this.

For the benefit of those readers who may be unfamiliar with the great number of varieties I will give an inexpensive selection of really first-class kinds, suitable alike for exhibition purposes or for ordinary garden and home decoration, indicating with an asterisk the black-seeded ones which may need "chipping." Model, Avalanche and Constance Hinton, white; Ivory Picture, old ivory; Powerscourt, lavender-lilac; Mermaid and Gleneagles, blue-lavender; *Sybil Henshaw and *Charity, crimson; What Joy and Matchless, cream; Chieftain and Royal Mauve, mauve; *Warrior and *The Sultan, maroon; *Youth, picotee; Picture, deep cream-pink; George Shawyer, orange-salmon; Mammoth, orange-scarlet; Charming, Centaur and Coralline, cerise; *Lilac Queen, lilac; Dainty Maid, blush; *Sunset, rose; Twinkles, striped; Gold Crest, salmon; Venus and Mary Pickford, light cream-pink; Olympia, Purple Monarch and Royal Purple, purple; Mrs. Horace Wright and Queen of Roumania, flushed; Grenadier and 2LO, scarlet-cerise; Mrs. Tom Jones and Heavenly Blue, mid-blue; Magnet, W. J. Unwin and Miss California, salmon cream-pink; Renown, carmine; Wizard, Colorado and Royal Sovereign, orange; *Hebe, *Supreme and Mrs. Chas. W. J. Unwin, pink. C. H. A. S.

STONE PATHS for BEAUTY and UTILITY

A further article on the making of stone paths by one of our readers who has found the method, herewith described, to work out extremely well in practice. This is a variation of the methods already described by former contributors in THE GARDEN, *in the issues of March 26th and June 18th.*

A VERY "difficult" narrow passage, along the north side of a semi-detached house (built on Essex clay), leading to the back door and garden, was for three winters a hard problem. First of all sand, then ashes from a boiler fire, hoggin, and ordinary crazy paving were tried in turn; but the path was always more or less of a quagmire after a shower of rain and practically during the whole winter, with results to linoleum and carpets which may be left to the imagination! This has now been "paved" in the following manner, and for the first time can be kept both firm and clean.

The same proportions as previously recommended, 4 parts of sand to 1 of cement, were used; but a variation was introduced by using 1 part of cement to 2 each of sand and ashes, the latter collected from a Beeston boiler. This not only effects a certain amount of economy (because where the sand has to be brought a considerable distance and then wheeled in the cost soon mounts up), but results in a mixture which is easier to handle, ashes being lighter than sand, and forms a better "mass," being in fact a form of concrete. The cement and sand were first of all well mixed together and reduced by means of water to a slush. The ashes were then added without distinction of size (they are the result of burning a 50-50 mixture of anthracite "walnuts" and small breeze, and consist partly of "dust" and partly of clinkers), and the whole thing was turned over and over until it reached the consistency of fairly stiff paste.

The ground was prepared in the usual manner—in the case of the passage, the house on one side and the border fence on the other provided the containing framework on two sides—and wetted. The concrete was then shovelled on, roughly levelled with the back of the shovel and a piece of straight-edged board, and finally worked quite smooth on the surface with an ordinary plasterer's trowel, care being taken to submerge any bits of clinker that came to the surface. The passage is more than 30ft. long and was done during week-ends in 6ft. to 7ft. lengths at a time, a lath of wood being placed across it and pushed up against the semi-liquid concrete as soon as the section under treatment had been laid down, thus retaining it in position until it was set, and preventing spreading with consequent loss of uniform thickness.

Normally, the concrete, after the smoothing process, was covered with strips of three-ply wood (ordinary planks will suffice, but their greater weight is apt to make indentations), which serve the double purpose of protecting the surface from weather (and cats and dogs) and enabling it to be walked over within two or three hours of being laid. It was then left for forty-eight hours. At the end of that time the protecting boards were removed and, with the aid of an old chisel (broken off at about an inch from the handle) or any convenient straight-edge, lines were scored deeply in the surface, but *not* to the full depth, of the partly hardened concrete. These lines can be either parallel and straight, with cross lines at different intervals in alternate lengths, thus giving the effect of rectangular paving, or in any desired directions, thus giving the effect of crazy paving. The loose material thus scraped out was brushed away with an ordinary yard broom which had the quite charming effect of leaving the edges of the cuts a little rough and uneven, thus completing the illusion.

Drainage has been provided by making small holes about 1in. in diameter every here and there at the intersections of the cross-cuts. This can be easily done with any sharp-pointed stick before the concrete is quite set. In the pavement above described, the sticks were driven down about 3ft. into the sub-soil and withdrawn, and lengths of ordinary brass casement rod inserted. Two longitudinal gulleys were also left when laying the concrete, sloping into drains.

Finally, when the concrete appeared to be fairly well set (about five to seven days after laying, according to the weather), half a dozen trowelfuls of cement were put into a bucket and mixed with plain water until it reached the consistency of Devonshire cream. This was then "slapped" on to the surface of the concrete by means of a 4in. flat distempering brush, and when dry—that is to say, from twelve to twenty-four hours later—gives the appearance of old weathered stone.

Two hints may be useful in connection with this final process: (1) keep your liquid cement well stirred up all the time—it settles very quickly; (2) use the brush edge-wise when applying cement to the channels cut with the chisel. The latter should be done first, and then the flat portions treated with the broadside of the brush, inwards (*i.e.*, *away*) from the indentations. This avoids the latter filling up.

A couple of pedestals for sundials or vases have been manufactured by exactly the same process, and—apart from the design, which is admittedly crude and amateurish—are quite efficient. In this case, however, the concrete naturally takes much longer to set, especially in the upright portion. Two hints may also be of use here: (1) do your casting on the spot where the ornament is eventually to stand; as these things are very heavy. (2) Make the container-forms for the upright (column) portion strong, and lash them round the outside every 6ins. with strong knotted box-cord; otherwise, the pressure of the semi-liquid concrete, which in this case has to be poured into the top of the form, will burst it apart before it has time to set. H. E. T.

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FOLIAGE EFFECTS IN THE ROCKERY

IN many places the rock garden is a neglected feature during nearly half the year, and only visited at that time by the keen enthusiast or the man who is paid to look after it. When the glory of spring and early summer has departed there is little for the casual visitor until the call of the early-flowering bulbs and cushion saxifrages again becomes urgent in the spring. But when plenty of plants with evergreen foliage are used, and these are properly arranged in bold contrasting masses or clumps, the rock garden becomes interesting and beautiful all the year round. And in a land where much of the colouring is grey and green during a long season it is well to educate our vision to see beauty in quiet things.

To get the best foliage effects during the dull season it is desirable to plant in bold masses, and to get strongly contrasting colours in juxtaposition. It need hardly be said that pretty silvery or grey-green foliage looks much brighter when contrasted with dark green or bronze green. A certain portion of rock showing gives another interesting contrast, and it is always desirable to keep the plants from entirely hiding the rocks. Plants hanging down the rocks and partly covering them, or little creeping subjects ascending over them, is quite another question, and these should be encouraged in reason. There is a happy mean to be attained in this business, and a rock garden should show some order and arrangement, and yet not look as if it has been groomed as well as gardenered.

To mention a few of the plants with silvery evergreen foliage, there are the encrusted saxifrages, and it matters little if these have large or small rosettes provided there are enough of them in one place. For foliage effects those having the greatest amount of silvery bloom on them should be grown. Several of the Aizoon type of saxifrage are beautifully silvered, notably S. aizoides, S. Aizoon, S. cochlearis, S. crustata, S. lingulata and S. paradoxa.

For a place near the top there are several helianthemums with grey foliage, some of the best being H. apenninum, H. incanum, H. præcox, H. Golden Queen and H. White Queen. When quite happy these grow into tiny bushes, and in addition to their other uses help to redeeem the rock garden from monotony in the size of the plants.

Some of the achilleas, A. argentea, A. Clavennæ, A. Huteri and A. umbellata, are quite silvery when well grown.

The acænas are also very pretty in winter, and the New Zealand variety puts on quite a bronzy shade of colour. The common santolina is not to be despised in a large garden, for the foliage is very pleasing, and it can easily be cut back in the spring if it shows signs of taking up too much space. The dwarfer kind, S. incana nana, is more suitable for small gardens.

Thymus lanuginosus makes a delightful patch of silvery grey, and is happiest and seen at its best when planted so that it can droop over a rock face. Other thymes are capable of giving a nice patch of deep green, and the shrubbier silver and gold kinds are useful in this connection.

Those joyous weeds the antennarias, if grown in poor stony soil, make pretty silvery carpets, and are dwarf enough to have more important things rising among them. And there are several sedums, veronicas and cerastiums that will be helpful, so also will Raoulia australis, if you can get it to spread into a good carpet.

Any attempt at naming the evergreen things contrasting well with the silvery subjects mentioned above would result in a very long list, but a few of my own favourites are the mossy saxifrages, the green thymes, sempervivums, the larger Aizoon saxifrages, the smaller armerias, Acantholimon glumaceum and the green-leaved sedums. Pentstemon Scouleri looks like a dainty little shrub in wintertime, with dark green foliage.

Things giving bronze and purple shades are not so plentiful, but Ajuga reptans purpurea gives a nice patch of beetroot colour. The variegated kind is worth using, and when in good form it shows a lot of white. The Megasea saxifrages often put on a good bronzy colour, and one mossy kind, S. decipiens, turns nearly crimson in the autumn. Sedum spathulifolium purpurea is delightful at all times, the purple foliage being touched with a silvery bloom. The typical plant, S. spathulifolium, should be grown for its silvery effect. Both are sometimes a little difficult in the winter, but not when put on a very stony soil, something after the manner of a moraine. Limestone helps to bring out their beautiful colour.

A few of the charming cushion saxifrages, especially S. apiculata and S. a. alba, are quite free growing, and soon make a good carpet and, in addition to the cheerful foliage, they provide very early flowers. The autumn-flowering cyclamen send up marbled foliage that is effective all the winter, especially when the plants have a mossy creeper beneath them.

Some of the arenarias are beautiful all the year round, and A. balearica keeps growing until hard frost intervenes. To see it at its best it should be given a rocky place that is cool and shady. Arenaria cæspitosa is capable of making a rounded cushion 2ft. or 3ft. across, but it does not like damp soil, and I have found it at its best when planted in a little heap of broken rock with just enough soil to start it. The golden variety, A. c. aurea, is rather more difficult to manage, but it is capable of giving a very bright bit of colour all the winter.

The sempervivums deserve note in this connection, for they put on varying shades of green, purple and bronze as the foliage ripens, and all the cobweb varieties look well clustered among the rocks.

The little evergreen mountain trees and shrubs capable of giving such relief to the large rock garden should not be forgotten, but their high price is against them and they are not needed in the small rock garden. Most people, myself included, desire that their rock garden should be a comparatively inexpensive hobby.

It may be thought that planting drifts, large pockets or ledges for foliage effects is expensive work, but this is by no means the case when one has acquired a moderate stock of plants. One little encrusted saxifrage planted in the spring becomes a dozen or more by the autumn, and if these are divided in September or early October and planted from 3ins. to 5ins. apart, according to the size of the rosettes, they will soon give the desired effect. Little pieces of mossy saxifrage, sedum and sempervivum dibbled in in the same way soon become cushioned masses. Everything becomes stronger by this dividing, and the plants are likely to flower much better the next season. It is often desirable to mound slightly a flat pocket without a good slope to it, for so doing makes the new planting far more effective. Any of these foliage plants if planted now will give a good display by next autumn.

T. H. W.

ROUNDED CUSHIONS OF ARENARIA CÆSPITOSA.

This sandwort, together with the decorative cobweb varieties of house leeks, make a happy and effective foliage group in the rockery. The former plant is especially useful for fringing the rockery paths.

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THE BUSY MAN'S PAGE

Reminders for October.

COMPLETE the gathering of the late varieties of apples, pears and plums.

Remove old and useless fruit trees and bushes and prepare the ground for replanting. In many cases it is a good plan to change the soil, if possible working in some good turfy loam. Bear in mind that lime is necessary for stone fruits, and if it is not present it should be added.

Where root pruning is carried out, the present month is a good time to begin.

At the end of the month insert cuttings of currants and gooseberries.

Remember that the winter moth is now active, and grease-band the fruit trees at a height of about 3ft. from the ground.

Cut down the stems of asparagus, and the soil over the crowns may be forked down level, finally adding a good mulching of well decayed manure.

Roots of carrots, parsnips and beet may be lifted as required, but, unless it is desired to clear the ground, there is no particular object in raising the whole crop just yet. In fact, parsnips are all the better for being left in the soil until wanted for use.

Cabbage plants may still be put in, and onions should be stored in dry, frost-proof places.

Earth-up celery on fine dry days.

Transplant young cauliflowers in frames and bend over the heads of those in the open to protect from frost.

To lift beetroots and carrots a fork or spade should be used, thrusting it into the ground a few inches from the root.

The method of arranging beetroot in a cool shed, cellar or out-of-doors.

Any potatoes that have not been lifted should now be taken up.

Keep a sharp look-out for weeds, which will often grow vigorously in the autumn.

If the weather is dry, use the hoe between growing crops.

In the flower garden clear away all dead vegetation and place this on the compost heap so that it may decay into useful material.

All the spring-flowering bulbs may be planted, choosing dry weather for the business. Also plant daisies, wallflowers, pansies, primroses, etc.

Herbaceous perennials may be lifted and the roots divided, but, in order to prevent confusion, everything should be carefully labelled.

Cuttings of ripened shoots of roses may be inserted this month, and also slips of many ornamental trees and shrubs will root well.

Violets may be planted in gritty soil in frames for winter flowering.

In greenhouse and frames continue free ventilation, and do not close too early at night or a very damp atmosphere will be the result. Any watering that is needful should be carried out in the morning.

Complete the potting of any bulbs that are to be brought into early flower and bring all the indoor chrysanthemums under cover.

Lifting and Storing Beetroots and Carrots.

BEETROOTS should be lifted as soon as the leaves are touched with frost, and this may be an accomplished fact at any date after the early days of October. No time should be lost in preparing the necessary storing accommodation, so that the roots may have protection when required.

There are many places where beetroots and carrots may be stored quite successfully. A cool shed will answer the purpose admirably. Cellars are better, however, or failing these, any outhouse where, with a slight covering, the beetroots in particular may be protected against frosts. Those who have no such accommodation, however, may very easily make a clamp wherein these roots may have the necessary protection. On no account should the roots be pulled out of the ground. Beetroots are very tender, and unless they are lifted intact, the tap root may be broken or bruised. Bleeding will be the result, and as a consequence the deep colouring, which is an essential part of the beetroot, will be spoilt. When lifting beetroot preference should be given to the use of a spade, as a fork may slip or break through the soil and pierce or damage the roots.

Carrots of the stump-rooted and intermediate types may be pulled up with little or no trouble, but the long-rooted kinds are lifted more satisfactorily when a spade is used. Beetroots after lifting should have their leaves twisted off a few inches above the crowns. On no account should the leaf-stalks be cut through, as this causes bleeding. In the case of carrots, cut off the tops close to the crown.

If the roots are stored in a shed, cellar or outhouse, first place a layer of sand on the floor, and then arrange them with their crowns facing outwards. Cover each successive layer with a layer of sand, and continue in this fashion until all the roots have been properly dealt with. If the roots are stored against the walls, arrange them as just described; but when they are placed in other positions, arrange them in the manner shown in the illustration.

When making a clamp outdoors—which is a most convenient method of storing most roots—place them in a circular heap in layers, still observing the rule of keeping the crowns pointing outwards. A clamp of beetroots outdoors when ready for the final covering is also illustrated. Finally, cover the clamp or mound with straw, bracken, or any other material that will answer the purpose of

A small clamp of beetroot arranged ready for covering with straw and earth.

The clamp completed for the winter.

preserving the roots against frost, and complete the operation by digging a trench round the clamp about 1ft. or 18ins. in diameter, utilise the soil thus removed to cover the clamp, and in this way render it frostproof. By these means the roots will be maintained high and dry above the ground-level. Six inches to 9ins. covering of soil suffices to exclude frost in most localities, and if the soil is made firm by using the back of a spade, rain is carried off quite successfully.

Those Untidy Rambler Roses.

FEW kinds of plants become more untidy in the course of the summer than rambler roses. If some of the shoots of these roses are to be inserted as cuttings they should be selected from firm, not very sappy, unripe wood. Such cuttings may vary in length from 10ins. to 14ins. Quite half the full length of stem should be inserted in the trench and some coarse sand placed round the base of each one. Make the soil, which is replaced, very firm by treading, then apply water freely. The best border for these cuttings is one facing the north—on the north side of a wall or fence, but not in a border filled with the roots of trees or hedge plants. Practically, all the old wood should be cut out, three or four strong shoots of the current year's growth being retained and loosely tied into position. The extreme tips of these shoots must be cut off, then the ramblers will be neat and out-of-the-way during the whole of the winter. Only one little matter will call for attention in November, the surface mulching of the plants with half-rotted manure and a coating of ordinary soil as a finish.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

What is an Ideal Pergola?

IN the gardens near Rome, Florence and Naples, there are excellent examples of the pergola, as the creeper-shaded walk is called. They are ornate structures, the supports of which are massive columns of stone, round which wistaria, Banksian roses and Passion flowers are trained to form cool retreats on hot days. The idea has become exceedingly popular in this country, especially as a means of training roses and clematis. But there are several points which should be borne in mind when erecting a pergola. First, our climate is less sunny than that of Italy, and a densely shaded walk is depressing in wet and cloudy weather. The pillars, therefore, should be sufficiently wide apart to allow light and sun, to a certain extent, to reach the path. The second vital consideration is the size of the pergola, which should be proportionate to the size of the garden. The example shown in the illustration is from a garden at Surbiton. It has dignity and proportion, and it *leads somewhere*, in this case to a well kept lawn. Which brings us to the third principle in the construction of an ideal pergola. It should divide one distinct portion of the garden from another, it should not shut off a line of view, nor should it be placed near big trees. In structure it should be simple. Straight planed square timber is better than unpeeled larch poles. Peeled poles are suitable if they are given a good coat of creosote a few weeks before any planting is done.

A danger to guard against is flimsiness. When larch poles are used, this is avoided by putting two together about a foot apart. A pergola need not be long drawn out as is usual along paths, it may take the form of a square for the terrace, wherein meals may be served in clement weather. Or it may be circular or semi-circular according to the garden design. During the erection of the pergola, thought should be given to the planting, which will be done later. Be sure to ram back the clay before you fill in the soil. The excavations can be extended round the site of each climber, so that the bottom soil can be thoroughly broken up. Allow the soil to settle and creosoted timber to dry for a few weeks before doing any planting.

New Lawns.

A WELL kept lawn is always pleasant to look upon, and particularly so in towns where the sight of green fields is missing. Green is a colour with which any and every colour of flower harmonises, hence a lawn is an admirable foreground for a flower border. Early autumn is a good time to sow new lawns or to repair old ones. The drought of early summer causes many bare patches to appear on lawns and now is the time to repair the damage. It is not necessary to dig the bare patch. Simply prick it over with the points of the fork and then rake the surface. Sprinkle grass seed over and cover it with fine soil. Make this smooth with the back of the spade or with a light roller and protect it from birds until it has begun to grow. A new lawn, or a resown patch, should not be walked on until the grass is 2ins. high.

Where a new lawn is to be made, the soil must be deeply dug, at the same time removing all stones, bricks, weeds and rubbish. If the soil is poor, a dressing of manure should be worked in. Fowl manure is excellent for lawns, so also is soot or flue dust. Should the soil be very stony, the top layer must be passed through a half-inch meshed sieve. The sifted stones can be buried in the trench as the digging proceeds, and a little of the sifted soil should be put on one side for covering the seed. After digging, rake the surface level (a piece of straight board is useful for levelling purposes), and roll it once. After this rolling, hollows will show themselves, and the rake must again be used to level the surface. Scatter the grass seed evenly on the surface. An ounce to a square yard is sufficient, but if you desire a thick lawn immediately, 2 oz. can be used. Cover the seed lightly with the sifted soil reserved for the purpose, and again run the roller over the surface. If only a small patch of grass is sown, the back of the spade, or a piece of flat board, will do instead of a roller to make the surface firm. Birds can be kept off while the seed germinates by stretching black cotton across attached to small wooden pegs.

It is essential to sow when the soil is dry enough not to cling to the tools. Another important thing is to buy good seed. The soil is warm, and the seed should germinate very quickly, so that before the winter comes, you should have a fine green lawn to cheer the outlook on dull days. No cutting will be required until next season. Lawns sown in autumn are less likely to be troubled with weeds than those sown in the spring.

OCTOBER IN THE TOWN GARDEN.

WHAT TO DO THIS MONTH.

1. *Insert cuttings of calceolarias in cold frames.*
2. *Clear away withered annuals, fill up the blank spaces with seedling forget-me-nots, wallflowers, honesty, Canterbury bells, etc.*
3. *Lift all summer bedding plants and remove them to their winter quarters.*
4. *Finish bulb planting as soon as possible.*
5. *Plant out double daisies, pinks, arabis, aubrietias, violas, etc., on border edgings.*
6. *Renovate herbaceous borders. Lift and divide where necessary, except in inner town districts, where division should be left until spring.*
7. *Divide and replant herbaceous peonies.*
8. *Put grease bands on fruit trees.*
9. *Remove raspberry suckers and plant them out to form fresh plantations.*
10. *Cut down asparagus stems, top-dress the beds with manure. Lift and store beet, carrots and horse radish.*
11. *Plant out cabbages. Earth up celery and leeks. Lift, dry and store onions. Plant out winter lettuce.*
12. *Watch bulbs planted in fibre and remove gradually to light when the growth commences. Water moderately.*
13. *Order fertilisers, soil fumigants and lime for winter digging.*
14. *Renew faded labels on herbaceous plants before cutting away the tops.*

A SIMPLY DESIGNED AND WELL BUILT PERGOLA IN A SMALL SUBURBAN GARDEN. *Not only does it add to the appearance of the garden but it serves a useful purpose. It leads to a cool green lawn and provides a refreshing vista in limited space.*

Bulbs in Bowls.

"OUT of sight, out of mind," is a saying which we should remember when growing bulbs in bowls. When they are put away in a dark place to encourage root formation, we are apt to forget that the fibre gets dry. Have a peep at the bulbs once a week, and if they need water, try to keep to the happy medium of not too much or too little. When the tops are an inch high, bring the bulbs into the light. Crocus and snowdrops are only successfully grown in a room without a fire or gas. Other bulbs—hyacinths, daffodils and tulips—do not mind warmth.

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PLANTS IN RE

There is little doubt that our Photographic Competition, which closed in our issue of September 17th, greatly helped in establishing a personal bond among our readers, and in our desire to foster this spirit still further we are publishing in these pages photographs of various plants which are growing in several of our readers' gardens and which have been sent in as being of general interest. These illustrations are instructive as well as interesting, and may serve to give readers ideas for this coming season. We hope that, although our Photographic Competition

ANEMONE JAPONICA, A SHOWY AND HARDY AUTUMN FLOWERING PLANT.

THE accompanying illustrations show several plants that have flowered successfully this year in a number of our readers' gardens, and they have been selected as being worthy of the attention of others by reason of their merits. They are all plants that are easily obtainable, but not always met with in the majority of amateurs' gardens, and it is hoped by showing their decorative value in the garden, that others who have not as yet given them a trial, may be induced to grow them next year. This is the season when thought is being given to next year's display. How improvements can be carried out, and what new plants can be added to lend beauty and interest to certain parts of the garden. This past summer has been an unfortunate one for most gardens, except those in the north of Scotland, and no doubt many amateurs have been disheartened over the poor flowering display they have had and the number of failures of new plants they were trying out for the first time. But do not be discouraged by adverse conditions. There is always the consolation that next summer is certain to prove better than the past one, at least, it seems unlikely that it could prove more unkindly. That some plants have come through the ordeal of bad weather with flying colours is evidenced by these photographs, and on that account, they are worthy of consideration by all amateurs.

The picture of Anemone japonica, the Japanese windflower, shows what may be achieved by a gardener in the heart of London, and, in addition, illustrates the value of this anemone as a plant for the town or suburban garden. The clump has been grown on from one plant, which was broken up and replanted about four years ago. The plants are not fastidious in their requirements, no manure of any kind being given this year, and the result has been particularly gratifying. It is a most handsome plant with its decorative white blossoms and its elegant foliage. Every amateur should make a note of this windflower for including in his garden scheme if it is not already grown. It thrives in a partially shaded situation and is valuable on account of its late flowering qualities.

The red-hot pokers form another useful class of plants either for placing in clumps by themselves or for planting in the herbaceous border. They are at their best during August and September and even well into October, until the frosts and the winter rains put an end to their beauty. There are a number of excellent varieties of rich and vivid colouring which the amateur would do well to note at the present autumn shows. The one illustrated is Tritoma nobilis, which flowers earlier than the majority of the species. This plant has produced upwards of thirty spikes and has been a decorative feature of the garden for many weeks. The red-hot pokers take kindly to conditions in

THE ELEGANT SPIRES

A WINDOW BORDER OF MAUVE AND WHITE STOCKS.

An admirable idea for adding beauty to the house surround and providing fragrance in the living-room.

A FINE CLUMP OF THE JAPANESE PIN
HARDY THAN IS

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ADERS' GARDENS

is ended for this season, and that less favourable photographic weather is at hand, readers will not be deterred from forwarding photographs of their gardens or of any constructional work that is being undertaken so that others may benefit from their publication. It is our desire to forge a personal link among our readers and to bring interesting personal experiences before the notice of all, so that every reader may benefit by the exchange of ideas. As has been stated previously, payment as for the competition will be made for all photographs published in this connection.

THE RED-HOT POKERS.

MARGUERITES BORDERING A GRAVEL PATH. SIMPLE BUT EFFECTIVE.

town gardens, and the only point the cultivator must guard against is the frosting of the young growths in spring. One way to prevent this is by tying and bending over the old leaves over the central portion of the crown.

Almost every amateur knows the ox-eye daisy or marguerite. It is a plant that needs no description or praise. Its worth as a border plant is well known, and in the accompanying illustration it is shown bordering the gravel path up to the house. Not only is it a useful and decorative plant in the garden for filling up odd corners and for clumps in the border, but the flowers have a certain value for house decoration. It is an old-fashioned plant whose merits and utility should not be lost sight of.

Though not usually regarded as hardy, the plant of Japanese pink, Dianthus Heddewigii, shown in the garden of one of our readers in the north of England, stood the winter perfectly. It is growing in a fairly dry situation and in one sheltered to some extent from the wind. Seeds were sown in early summer in boxes and the seedlings transplanted after the May-flowering tulips had been lifted. This early planting enabled the plants to become well established before winter set in. The plants were assisted by a spring mulching of well decayed manure, lightly forked in. Flowers are produced in profusion and it provides quite a bright splash of colour during the summer months. Other readers who have failed with this plant should give it another trial, following the method advised.

At bulb planting time one is always on the look-out for novel arrangements. Here is one sent in by a reader. A happy combination of hardy cyclamen and autumn crocuses or colchicums, planted round the base of an old tree. The effect is all that could be desired and is easily capable of imitation by those who have a similar position in their gardens which they wish to beautify. There are many more suggested planting schemes with bulbs which might be tried. One, in particular, which makes for spring beauty is by planting Glory of the Snow (chionodoxas) or the grape hyacinth (Muscari Heavenly Blue) round the base of spring flowering cherries or almonds. The two flower at the same time and the association is most charming.

It is often a problem to know what to plant in a narrow border beneath a window of the house. That the difficulty has been successfully met by one reader, who sends in this illustration of a border of mauve and white stocks, we think all will agree. It has provided beauty and fragrance to the border all through the summer, while in spring the border can be planted up with spring flowering bulbs, thus making it serve a dual purpose. Wallflowers and polyanthus primroses would also look very well in such a situation, and provide colour over a long period in the spring.

DIANTHUS HEDDEWIGII, WHICH IS MORE ENERALLY SUPPOSED.

A WELL ESTABLISHED DRIFT OF AUTUMN CROCUSES AND HARDY CYCLAMEN.

A useful form of garden decoration which should be carried out by many amateurs to brighten a dull corner.

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NOTES ON THE FLOWER GARDEN

A Dual Purpose Plant.

Polygonum affine.

THIS is one of the most useful species of the Order and flowering in autumn, when the majority of alpines are past, it supplies a wonderful wealth of colour which is more than welcome at this season.

It is a native of the Himalayas and invaluable as a rock garden plant. By division it can easily be increased for covering ledges or mounds and being of a dwarf, compact and somewhat creeping habit, it soon forms a dense mass. The flowering period extends for some weeks in the autumn, during which a succession of beautiful spikes of white flowers are produced. As the flowers mature they assume a deep rose colour, which persists for some time, and this, contrasting with the young flowers, gives the plant a unique and very attractive appearance.

It has been grown successfully as a bedding plant and when planted *en masse* presents a pretty picture in September.

Although an old plant in cultivation, it is yet too uncommon in our gardens and ought to be better known if only because of the season at which it flowers.—A. MCCUTCHEON.

POLYGONUM AFFINE IS EFFECTIVE AS A BEDDING PLANT.

IT IS ALSO ONE OF THE MOST VALUABLE OF AUTUMN FLOWERS FOR THE ROCKERY.

How to Grow Tuberous Ranunculi.

THE soil best suited to these so-called bulbous plants is a rich, cool and yet well drained one. Many gardeners, to ensure best results, make up borders for them, using loam and a little, well broken up, old manure, particularly when the ground is a heavy and retentive clay. The tubers or bulbs are planted in this, with the claws downwards, 2ins. deep and 6ins. apart; some go the length of dropping sand and charcoal over the tubers before they are covered up. They may also be grown in pots for conservatory and greenhouse decoration. The time of planting is all-important, and it varies according to circumstances; in the colder north and where the soil tends to the heavy side, February is time enough, although they may be planted, too, as late as the end of March. In the south, no doubt, tubers will be planted out soon, but when early planting is adopted it is well to watch that the plants will be sheltered. The French ranunculi are probably best for outside decorative purposes, but it cannot be denied that the Turban and Persian kinds are more refined and dainty. The Giant Ragionieri kinds are more expensive but make a wonderful display, and some of those I had direct from Italy last year had flowers as large as 6ins. in diameter, almost like double begonias. —LANARKSHIRE.

A Good Evergreen Shrub.

Desfontainea spinosa.

THIS very beautiful evergreen shrub is peculiarly holly-like in appearance and, indeed, when not in flower may easily be mistaken for that ubiquitous subject. The shiny terminaal flowers are produced in summer; the corolla is scarlet with a yellow limb, tubular, and with the deep green foliage as an admirable foil, a very pleasing and striking effect is presented.

D. spinosa prefers a peat soil and thrives amazingly in company with rhododendrons and similar plants. It is perfectly hardy except in the very coldest parts of the country, and may well find a home in many gardens where choice and uncommon plants are cherished. The average height to which a specimen will attain is 3–4ft. Cuttings root with fair freedom and form a ready means of increase. I think, however, that a little heat greatly accelerates the propagation of this lovely shrub.

Distributed over the Andes from Chili to New Grenada, D. spinosa was introduced so long ago as 1853. It is an excellent plant for a cool greenhouse.—R. E. A.

Transplanting Christmas Roses.

THESE favourite flowers are most welcome about Christmas, but to have a supply of first quality blooms, the plants will need attention at other seasons. The finest blossoms are produced on two year or three year old plants, so when they have remained undisturbed for several years, it is advisable to lift them for division. When this is done the roots ought to be pulled apart with two forks, and not chopped with a spade. Each divided piece should consist of two or at the most three crowns, with as many roots as possible. The work of lifting and starting new plantations is often suggested immediately after flowering, but the best time for this operation is in early autumn. When planting, never replace big clumps intact or they will be a complete failure, if divided as stated above, they will be quite a success. Christmas roses are not particular in regard to soil, but it should be deep, so that the roots will always be cool, this being an important point. Where the soil is light, a little clay could be added with advantage. The positions appreciated by this group of hellebores are those sheltered from keen cutting winds and also protected from hot sunshine during the summer months. In many gardens the ideal spot will be available, almost any western exposure will be a success, especially where tall evergreens would supply the distant shade, which they so much enjoy. At the same time anything approaching dense shade must be avoided. Wherever they are planted the site should be well drained. Deep planting is not suggested, but they ought to be sufficiently low for the new roots which issue from the base of the crown to take possession of the soil. Directly the flower buds are seen, it is a wise plan to cover the clumps with a cold frame or hand lights which will protect the flowers from rain, and dirt.

Furthermore, the stems will elongate and render them more useful for cutting purposes. If no lights are available a mulching of straw will prevent rain splashes, and also slugs

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must be caught, or these marauders will destroy many blooms.

About March a layer of partly decayed manure will be most beneficial; in addition to its food value, it will tend to keep the roots both cool and moist. Established plants will benefit by a weekly application of liquid manure during the growing period. Helleborus niger has white flowers when afforded protection as described above, and they may be had in quantity from the middle of December till February. There are several fine varieties, such as altifolius or major, also maximus, which produces large fine flowers and is one of the best; minor is smaller in all its parts, but has the merit of coming in flower earlier than the other forms quoted.—T. W. B.

Biennials: Planting Out.

WE have now reached the time of the year when it is needful for those who sowed seed of biennials last spring and afterwards transplanted them in nursery beds, to give them a shift into their final quarters. Upon this last removal, and the manner in which it is done, depends not a little of their success. Subjects like wallflowers, Canterbury bells, foxgloves, and honesty, deserve something more than being taken from the ground minus soil at their roots, as one notices repeatedly in the case of wallflowers in late autumn. It is not a matter for surprise that these beautiful spring-flowering plants show their resentment and dwindle off, especially during early frosts.

Having had their care all through the summer months, it is important that this last removal should be properly done with a minimum of root disturbance, and though it may be a lot of trouble to deal with each plant individually in transferring them to new quarters for blooming in spring, it is, I feel sure, the safest way to guard against failure and pave the way for strong established plants, and eventually the best show of flowers.

I would urge those who have biennials in hand to disabuse their minds of the idea that if the work is done next spring it will suffice. In nursery beds, owing to the wet summer, some of the plants mentioned have grown out of all bounds, and to leave them there would be a mistake. He is wisest who sets about the job and gets it completed by the first week in October, if at all possible, and that without disturbing the roots more than need be. Firm planting is essential.—CLAREMONT.

Transplanting Seedlings.

(*Perennials*).

IN these days seedlings of perennials are very precious and are, as a general rule, well treated by experts. These border plants occupy much space in our gardens and provide some of the most gorgeous displays of colour in our exhibitions. At home we find the various kinds of plants flowering over a long period.

Seedlings are greatly strengthened by judicious transplanting. If the majority are allowed to grow without being transplanted, they become lanky and do not possess fibrous roots in abundance before the flowering stage. Soils vary so much in different parts of the country, even in the same district, and transplanting should be done before the winter comes or deferred until spring, according to the condition of the soil in each case. Where everything is convenient for this work being done in the autumn, I strongly advocate it, as the young plants get established before the severe weather comes, then they grow and flower profusely the following summer. In the case of delphiniums, where clayey soils exist, I advise the retention of the young plants in their nursery beds, if transplanting cannot be done very early in the autumn, until the following spring, even where the border soil is light. Ninety per cent. of other kinds of plants can be safely shifted both late in autumn and early in the spring where the soil is light and open. Select the naturally moist borders for polyanthuses and primroses; fairly dry ones for pyrethrums and antirrhinums; two positions—if they are available—one moist and one rather dry for Michaelmas daisies to obtain a longer period for flowers. All the heleniums and helianthuses take up much moisture during the summertime while they are growing freely and, consequently, the best is not obtained from them when the plants are grown in a shallow, dry soil. The herbaceous phlox is a subject that does well in partial shade, not too near to the roots of trees, but in the shade of the branches, and then the best is forthcoming—good foliage and large blooms free from sun-scorch. Unflowered seedlings can be dealt with at an earlier date than those raised last autumn and retained in nursey beds until this. I have a nice batch of seedling Michaelmas daisies resultant from seeds sown in a box last spring. The plants are now developing their flowers, and it is very interesting watching the flowers open, as they are so varied and come from the finest collection in the country. Directly the full beauty of the blooms can be seen the flower-stems will be cut down and the young plants transferred to larger borders. The same treatment will be meted out to gaillardias, erigerons, Scabiosa caucasica, Coreopsis grandiflora and other favourites. Biennials are generally well treated; do not neglect seedling perennials, it pays to treat them well.—G. G.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

IT is useless to retain tomato plants in a cold greenhouse, as it is only on rare occasions that sufficient natural heat is experienced at this advanced season of the year to assist the ripening process of the fruits that remain. Besides, the ground is required for wintering border plants that require protection. The green tomatoes may be used in the preparation of chutney, while those specimens that are partially coloured should be placed at a window in a fire-heated apartment or on a shelf near the roof of the greenhouse. As a preventive measure in the spread of disease, burn the plants and sterilise the soil before being occupied by other subjects. When tomatoes are cultivated, as they frequently are, in pots and boxes it is a great temptation to use the soil for other garden purposes; but, rather than run the risk of disseminating disease by means of the spores in the soil, it would be better to consign it to the rubbish heap or bury it deeply in a part of the garden where root crops are not grown.

The autumn leaves are falling fast, and if the paths and beds are to be kept in a tidy condition during the next few weeks, time must be devoted to their collection. Leaves are particularly objectionable in wet weather, and when lying in layers they keep the surface of the ground in a state of excessive moisture and become a favourite protective resort for slugs and other insect pests. When the leaves are in that condition it is advisable to bury them; when they are dry, burn them and store the ashes in a dry place for future use, because mixed leaves, and particularly the leaves of shrubs and those of the plane tree, are not good for making into leaf-mould. The leaves of the oak and the beech are best adapted for that purpose, and as these trees are seldom to be found in small gardens the alternative methods of disposal are recommended. Leaves take a long time to decompose, and when buried in quantity in wet, heavy ground they are apt to produce vegetable acids that are detrimental to plant life. Decay may be accelerated by mixing the leaves with the soil, and the process will be further quickened by the addition of a liberal sprinkling of lime. When gathering up leaves on a walk, the work is quickly accomplished by using a wooden rake, but on grass an ordinary broom is the most effective implement. Never gather dry leaves into a heap and allow them to remain in that state, as they are easily scattered again by a slight breeze or other agencies. Burn them at once is the safe motto.

The new season's rose catalogues having been distributed, amateurs should act about the task of selecting the varieties that are required to make good losses, which have been exceptionally numerous this year, or for furnishing new beds in contemplation. It may not occur to a number of readers, but there are distinct advantages in placing orders early in the season. It is the rule in most nurseries to supply orders in the rotation in which they are received, and by that arrangement the early customer usually gets the pick of the stock, whereas the late-comer runs the chance of being supplied from the residue or, in the case of popular varieties that are frequently sold out, he has to be content with "bought in" bushes. It must also be kept in mind that, although orders are placed thus early, a month or more may elapse before the roses are in a condition to be lifted. In a mild autumn the trees may continue to bloom until the eve of winter, and it is only when the sap has almost ceased to flow and the leaves are in process of decay that they are in a suitable state for transplanting. Given a normal season, the work generally begins about the end of October or the beginning of November. But, apart from these considerations, it is advisable that autumn-planted roses should be transferred to their new quarters while there is still a little warmth in the soil, for they will root much quicker and become established before winter sets in. Hybrid tea roses are more hardy than some folks imagine, and even in our severe Scottish climate they survive both frost and storm without protection in the form of a surface covering of stable or farmyard manure. In the event of forming a new rose bed, no time should be lost in preparing the site by digging the soil two spades deep and enriching it with a liberal supply of old manure from farmyard or stable.

Although there is no necessity for putting in tulips before the end of the month, and good reasons might be advanced in favour of further delaying the work until the middle of November, the advent of October generally inaugurates the bulb-planting season out of doors. By that time the ground occupied by summer bedding plants will be vacant, and, provided it has been dug over and cleaned, the planting of hyacinths and daffodils can be undertaken when soil and weather conditions are suitable. The arrangement may either be a matter of taste or expediency, but only in exceptional circumstances should daffodils be planted singly in a straight line. Whether the available number is large or small, aim at setting them out in clumps. In a small piece of ground of narrow dimensions small clumps of three bulbs might be adopted as a minimum, but in a mixed flower border, and when established in grass,

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daffodils are seen to best advantage when grown in groups of half a dozen and upwards. Golden Spire, Emperor and other large trumpet varieties associate well with dark shades of wallflowers, and the pleasing effect may be emphasised by an edging of forget-me-nots. Of the other bulbs that bloom in the spring the beauty of the pretty little Muscari Heavenly Blue should not be overlooked. These grape hyacinths are as easy to grow as snowdrops, and when undisturbed they multiply and spread quickly. The clear blue flowers, which appear in March and April are clustered like miniature grapes at the top of the spike and, being cheap to buy, they deserve to be more frequently seen as an edging to the mixed flower border in spring. They are also suitable for the rockery or for growing in pots. Plant the bulbs in October about 2ins. deep and the same distance apart.

If not already done, wallflowers and Canterbury bells should have a final shift, as there is usually plenty of vacant ground available. As these biennials have to contend against winter storms, firm planting must be the rule. Tread the ground until it is fairly solid, and dibble in the seedlings in lines, allowing a space of 9ins. to 12ins. between each. It is a common mistake on the part of gardeners who do not take the trouble to raise their plants from seed, to purchase wallflowers in spring when the flower beds are formed. Autumn planting gives the best results, and to provide against the losses that occasionally take place a few of the surplus plants should be kept in reserve.

Main crop carrots and beet are now ready for lifting. A sunny day should be chosen for the purpose, as the roots require to lie on the surface for a few hours in order that they may be in a dry condition for storing in a frost-proof place. In digging beet care must be taken that the roots are not damaged in any way, otherwise they will bleed and lose colour, a condition that renders them unfit for table use. Unlike carrots, the tops of beet should be twisted off and not cut; but both vegetables are best preserved in boxes of dry sand if the crops are not large. When grown in quantity the roots may be placed in pits or clamps in the same way as potatoes.

Bedding calceolarias and pentstemons are herbaceous perennials, but it is customary to treat them as biennials by raising new plants each year from seed or cuttings. For the latter system of propagation a cold frame from which frost can be excluded is all that is required. Early in October select well-seasoned side shoots of pentstemon and, after detaching them carefully from the parent plant, remove the two lowest pair of leaves and make a horizontal cut just beneath the lowest joint. The rooting medium should consist of a light sandy loam, and the cuttings may either be inserted singly in small pots or half a dozen may be placed round the rim of a 5in. or 6in. pot. When this is done, water thoroughly, and place the pots in the frame, which should be kept closed and shaded from bright sunshine until the cuttings are struck. When growth begins air may be freely admitted, and in the event of a sharp spell of frost setting in protection in the form of a mat put over the frame at night is a necessity. Although calceolarias are almost hardy, the treatment of cuttings is practically the same as that given to pentstemons. Potting, however, can be dispensed with by inserting the shoots in sandy soil in a frame after the manner of treating pansy and viola cuttings. Being evergreen, the cuttings retain their leaves all the winter through, when damp causes more trouble than frost.

This is the time of the year when it repays a gardener to devote a little time and attention to his garden tools. Before they are put away for the winter the various implements should be thoroughly cleaned and the metal parts saturated with oil. This advice applies particularly to the mower, the neglect of which is frequently the cause of unsatisfactory working in summer. Dirt adhering to the blades should be removed with a hard brush preparatory to coating the steel with vaseline.

ST. MUNGO.

FRUIT AND KITCHEN GARDEN

This Month in the Fruit Garden.

IT is during October that the planting or transplanting of fruit trees may be commenced. A dry day should be chosen and the roots of the trees trimmed with a sharp knife before planting, taking care to spread the roots, on planting and not to plant too deeply. Soil should be worked in between the roots and after planting the ground should be made firm. Apples, pears, plums and small fruits may be planted.

Cuttings of currants and gooseberries may be taken this month. Remember to remove the lower buds from red and white currants and gooseberries, but to leave them on black currants.

Gooseberry and currant bushes may be pruned as soon as the leaves have fallen. Just thin out the weak shoots of the black currant and spur prune the red currant and the gooseberry.

Fruit trees may be given a spraying with lime-sulphur at winter strength, *i.e.*, one gallon of lime-sulphur, specific gravity 1.3, to 29 gallons of water. This will act as a cleanser and kill the young caterpillars of such pests as the brown tail moth, ermine moth and the codlin moth. To trap the moth called the mottled umber, grease bands should be applied by the middle of the month.

Such pests as the maggots of the gooseberry sawfly, pear slugworm, social pear fly, that hibernate in the soil during the winter and also the grubs of the raspberry weevil and cockchafer, can be got rid of by the application of a soil fumigant such as Napthalene, applied, after removing the top 6ins. of the soil, at the rate of one half a pound per 6ft. spread of tree and forking in is recommended. The soil removed should be burnt.—H. D. B.

October Work in the Vegetable Garden.

OCTOBER is the chief vegetable lifting month, especially in northern districts. The main-crop potatoes go into the clamp, which is well earthed over before hard frost sets in. Carrots and other roots go into the store heap as soon as they are ready to lift. Protection must be provided for such crops as require it. Cauliflowers that are ready may be lifted with earth at their roots, and placed in cold frame, shed or elsewhere out of the reach of frost. Lift lettuce and endive and treat similarly. Take care in lifting beet not to break any of the roots. These are best stored in moist sand or peat moss litter. Carrots keep very well on the floor of a shed with some sand or wet peat dust thrown over them. Parsnips must be kept in moist sand or earth; but these roots may, with advantage, be left in the growing plot, and be dug up as required.

A few of the August-sown cabbages may now be planted out in lines a few inches apart, so as to relieve the congestion in the seedling bed. Leeks may be fed with liquid manure during mild weather. Give celery its final earthing up before frost or the autumn rains set in. Heavy rain washes down the ridges, and it is often necessary to replace the soil after the rain.

Clear away and burn all such rubbish as potato haulm, and make preparations for the manuring, digging or trenching of all vacant ground.

Mulch, with littery manure, asparagus, rhubarb and seakale by the end of the month. —J. W.

Growing Tomatoes for Winter Use.

CULTIVATORS who possess warm greenhouses or other glass structures, where artificial heat can be maintained at about 58 degrees as a minimum night temperature, may succeed well in growing tomatoes throughout the winter months. Cuttings rooted in October or seeds sown forthwith, would answer the purpose. The best results are generally obtained from plants confined to pots and not grown in a border, though it is not absolutely necessary to confine them to pots. If cuttings are to be rooted, select some of the tops of plants now fruiting and unstopped. Also, insert several side shoots to bear fruits later on. Cuttings usually grow more stocky — sturdy — than seedlings. It is essential that the soil used be porous in nature and well firmed in pot or bed. In the case of seedling tomatoes two transplantings should be sufficient—one while they are quite small into 5in. pots, singly, and the other into 9in. pots, in which they should be fruited. The lightest position under glass should be selected for the plants from the seedling to the final stage and, if the plants can be kept from 3ft. to 6ft. from the roof glass there will not be any danger of weakening through being drawn up unduly. The compost should consist of fibrous loam two parts, rotted manure one part and leaf-soil and wood ashes one part. Leave room for several top-dressings and then very little extra feeding will be needed. As long as possible, while the weather conditions permit, ventilate rather freely, as in the depth of the winter very little ventilation is possible. Keep the atmospheric moisture down to the minimum.—HANTS.

How to Grow Mushrooms in a Greenhouse.

FINE crops of mushrooms may be grown in a greenhouse or similar structure without any harm being done to pot or box plants. Many amateur cultivators try to grow mushrooms every year in sheds and fail oftener than they succeed. If they pay close attention to the following hints they will not fail provided new spawn is used. The horse manure should be collected every day and spread out thinly in an open shed, being turned over daily, to allow the rank gases to escape. When sufficient has been collected in this way to make up into a solid bed about 6ft. long, 3ft. wide and 16ins. deep, form a conical-shaped heap in the shed, leave the manure so for a day and a night, then spread it all out thinly and you will see hot steam rising from it. In this way the manure is sweetened, that is, the rank gases are expelled and, when made up to form a very firm bed the heat engendered will be steady and lasting. I have made my mushroom bed under the plant stage placing boards between the bed and the hot-water pipes, with mats 1ft. above the bed and draped from the front of the stage. Thus, practically all steam was confined and used up for the benefit of the bed, as a regular atmospheric moisture is beneficial to the mushrooms. Place a layer of new loam 2ins. deep on the bed directly the lumps of spawn have been inserted just under the surface of the manure at 9ins. apart. Firm the soil with the back of a clean spade and cover the bed with clean straw to a depth of 6ins. Do not water the bed; directly young mushrooms appear—as they should do in about six weeks time—remove the straw and replace it with sheets of brown paper. The mushrooms will grow white and clean under the paper.—CHRISTCHURCH.

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PLANTING A HEDGE

How to Succeed and the Plants to Use.

ONE of the first things to consider when planning a new garden is the planting of hedges. Sometimes, even before the house is built, when the plot of ground is purchased, the boundary lines are marked out with a few posts and wire, and a hedge planted, so that when the house is built ready for occupation there is already a hedge forming at least a fairly good permanent boundary to the garden.

In addition to their use as boundary or dividing lines from neighbouring gardens and the road, tall hedges are often planted to form screens to shut out undesirable buildings, or to give shelter and privacy to one's lawn and garden. If the garden is

THE PLANTS IN POSITION FOR PLANTING.

situated on high ground and much exposed to cold winds on one or two sides, then it is desirable to plant shrubs which will form in time a tall hedge, to shelter the house and at the same time give protection to the flower-beds and borders, for, as most readers are aware, it is a heartbreaking business trying to garden on cold, wind-swept ground.

Though the planting of a screen or hedge to prevent a garden being overlooked is not so difficult as that of providing a wind screen, it requires some thought and care in the choice of subjects and planting, so that the whole may become, when finished, not merely a screen, but an attractive and pleasing link in the whole scheme, a background, perhaps, for flowering trees such as almonds or Japanese cherries, or for the herbaceous border

The subject of hedges, or dividing lines, between different parts of the garden may be under consideration at the present time in connection with alterations proposed in the garden this coming autumn and winter. A hedge between the vegetable garden and flower garden, such as a hedge of lavender or rosemary, sweet briar, or a free-growing rose like Gruss an Teplitz or Zephyrine Drouhin, round a formal paved garden, or surrounding a rose garden, add to the interest and attractive character of a garden.

It is very necessary to dig deeply and manure the ground 1½ft. to 2ft. deep previous to planting a hedge. When preparing for planting, place a line along one side and dig out a trench 6ins. to 9ins. deep and 1ft. or more in width, according to the amount of roots the plants possess. The

Distance Apart to Plant

depends largely on the kind of shrub employed. They should be planted close enough to ensure the plants filling and thickening up at the base quickly. For such subjects as Lonicera nitida, shown in the illustration, privet and quick (thorn or May), 1ft. apart, is a suitable distance. As a rule, the taller the hedge required the wider apart should the bushes or trees be planted, as, obviously, an increase in height also means at least a slight increase in width. The fact of keeping bushes for hedges dwarf and compact by pruning with several leads usually induces plenty of fibrous roots, which are a great aid to quick and successful growth, when planted in the permanent positions.

Partially fill in the trench with soil as planting proceeds, treading the soil firmly with the heel before completely filling the trench. Tread again, and then leave a flat channel with a ridge of earth on either side, so that when watered the water will soak in round the plants.

One very valuable use of hedges in a garden is that, in addition to seclusion, the garden cannot be seen all at once. In wandering round and coming unexpectedly on first one feature and then another, it makes the garden appear more extensive than it really is.

The number of close-growing trees and shrubs suitable to plant as hedges and screens is much larger than is generally known: at least, it leads one to think so from the frequent use of privet, yew and one or two other shrubs. In many positions flowering shrubs could very well be planted instead of the closely clipped, uninteresting privet, yew and holly. Quite a number of shrubs, other than those commonly planted, including a number of flowering shrubs, can be pruned to form most attractive hedges. In pruning flowering shrubs the best time to prune should be guided by the flowering season in the case of early-flowering shrubs like the Berberises Darwinii and stenophylla. Late-flowering shrubs, represented by the New Zealand daisy bush, Olearia Haastii and Veronica Haastii, are best hard pruned in April, sacrificing, if need be, one season's flowering when the bushes are growing beyond the limits of a useful hedge.

Everyone will be familiar with the fine old yew and holly hedges in old gardens which have taken many decades to attain their present size and value. The present day need

TREADING IN THE PLANTS FIRMLY.

is usually for something quicker in growth and cheaper to purchase.

The evergreen bush honeysuckle, Lonicera nitida, from China, makes a very neat, fast-growing hedge, and stands clipping with shears almost, if not quite, as well as privet. In addition to several evergreen flowering shrubs already referred to as suitable in these notes, the following are deserving of attention: The laurustinus (Viburnum Tinus) readily grows to a height of 5ft. to 6ft. or more, and does well in partial shade. The double-flowered gorse makes an impenetrable hedge for a garden bordering a field in which cattle graze. In the warmer parts of the country, Escallonia macrantha is effective.

THE COMPLETED HEDGE.

Hedges of roses are deserving of more attention by planters. The Scotch rose (R. spinosissima), the Japanese rose (R. rugosa), the sweet briar (R. rubiginosa) and the common dog rose (R. canina of the hedgerow) are all useful and attractive. As a dwarf, closely-clipped hedge the box (buxus) is very largely planted; the lavender cotton (Santolina chamæcyparissus) is also effective as a dwarf hedge.

As general utility hedges from 6ft. to 10ft. or more in height, the beech, hornbeam and Myrobalan plum are free-growing, and, with annual clipping, can be kept well furnished to the ground. For a cheap impenetrable hedge to plant extensively where cattle graze, the quick or hawthorn is unrivalled. A list of the best trees and shrubs to form quickly

Tall Evergreen Hedges

or screens includes the evergreen oak (Quercus Ilex), Thuyas plicata (Lobbii) and occidentalis, Cupressus Lawsoniana and, fastest in growth of all, C. macrocarpa, but the latter is rather tender and only really suitable for gardens in the south and west. Only this week I saw a hedge of the latter. Two years ago the plants were put out from 5in. pots; now they are from 6ft. to 8ft. high. The Lombardy poplar is a most useful tree for tall hedges and unrivalled to form a screen quickly. Trees 8ft. to 12ft. or even more in height can be readily transplanted, and, though not evergreen, the branches are so numerous and closely set as to form a very good screen in winter. A. O.

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USEFUL AND SHOWY SHRUBS FOR GREENHOUSE DECORATION

BULBS play an important part in keeping up the flower supply in the greenhouse after Christmas; while stocks, schizanthus, primulas and cinerarias also contribute largely to the gaiety of this structure in early spring. These are well-nigh indispensable, especially for low houses; but there are many greenhouses and conservatories with a centre stage which require rather taller subjects to make them useful and attractive before the flowers outside appear in quantity. Fortunately, we have plenty of material to choose from in the shrub line, and, moreover, inexpensive if they are home-grown on a spare piece of ground, lifted, and potted as required. Many of them can be kept in their pots for several years if placed outside during the summer and autumn, fed occasionally with liquid manure, and kept well supplied with water. One of the first to notice are the deutzias, all of which are white; but, nevertheless, they show a good deal of variation. D. gracilis is a popular species, and a number of Lemoine's hybrids, especially D. Lemoinei, is a beautiful shrub when flowered under glass. After flowering, a little pruning is needed, which consists of cutting out the old wood. It is advisable to encourage new growth before the plants are hardened off in readiness for their summer quarters.

The numerous varieties of Azalea indica and A. mollis are very showy, and the same remarks apply to rhododendrons, which can be obtained in various sizes. Well budded examples should be chosen, and the rooting medium is largely made up of peat. It is not so easy to keep up a stock of these plants for pot work, but with care the varieties of A. indica can be kept in good health for a number of years, especially if they are not neglected during the summer months when making their buds. The rhododendrons can be planted out in the borders, when finished, or too large for the greenhouse. One of the best plants for our purpose is Forsythia intermedia spectabilis, the finest of the family, and can be relied upon to furnish an early display. It strikes readily from cuttings, and when rooted they should be planted out in the open, where they will, in two or three years, make excellent specimens for pots and the greenhouse. Among the prunus will be found the large semi-double pink P. triloba and the flowering almonds and peaches. In the Japanese cherries we have a glorious selection, and the large double rosy pink form known as J. H. Veitch is one of the best, closely followed by Watereri, a slightly deeper rose than the former.

The sweet-scented Viburnum Carlesii is now well known, but, protected from heavy rain and wind, it is indeed a glorious plant. V. fragrans is also a fine companion to the preceding. The lilacs constitute a charming group and may be had in great variety, and, after being employed for a few years in the cool greenhouse they would enrich the shrub collection outside. Among the double-flowered will be found the pure white Miss E. Willmott; C. Joly, very dark red; M. Buchner, pale lilac; and many others; and in the single-flowered group we have Hugo Koster, reddish mauve; Marie Legraye, cream white; S. de L. Spath, dark red purple; and Charles X, rosy purple; while a fine white is alba grandiflora. The common laburnum is very useful and always produces a good show, although the chains of yellow blossoms are not always so long as those outside.

Staphylea colchica or bladder nut is largely employed for the greenhouse where its white flowers in terminal clusters are always admired. A popular subject is Hydrangea paniculata, but to obtain large heads the plants should be pruned hard after flowering, and then induced to make strong growth by liberal feeding of the roots. Jasminum primulinum, if well grown, will be a most beautiful shrub for the greenhouse, and it often blossoms more freely if grown in pots than outside. The dwarfed forms of Wistaria sinensis, with their large clusters of mauve-blue flowers are always appreciated, and they readily respond to greenhouse treatment when well rooted.

There are other shrubs suitable for early work in the greenhouse, but enough have been mentioned to show what a large number of plants can be had in bloom a few weeks earlier than those outside, with very little trouble. Those plants intended for the greenhouse should be lifted during the autumn and placed in pots which will just take the roots after these have been reduced to reasonable proportions. Plunge the pots in ashes, and take the plants into the greenhouse at the beginning of the New Year. Fibrous loam and a little leaf-mould will be found an excellent rooting medium. T. W. B.

THE CULTURE OF RASPBERRIES

There is no more profitable fruit than raspberries, but to obtain the best results they need to be treated generously. The difference between a bountiful crop and an indifferent one may be summed up in the word "culture," not only preceding the fruiting season, but in the attention the canes receive immediately fruit has been gathered.

TO grow raspberries well, preparation o the ground should be the first consideration. It is scarcely possible to make it too rich, or deep, or moist. Stiff clay alone is not helpful, and where this exists it must be broken up, and rotted manure, leaves or road scrapings incorporated, in order to provide humus for the roots to ramify. If this is arranged for, say, 3ft. deep, the best of the manure being kept within a foot or so of the surface (for raspberries are surface feeders), then one will lay the foundation, so to speak, of success for heavy baskets of fruit. The work of preparing ground should be undertaken in early autumn.

Situation for Planting Canes.

If it is possible to make a selection where planting should be made, then a sunny site should be chosen; but, as already intimated, it is not a fruit which depends on the sun to bring it to maturity, as—other things being satisfactory—good crops can be secured from canes growing in partially shaded positions, as on the north side of a garden. It is useless to expect good results in dry, shallow soils, having regard to the fact that the roots of raspberries do not lie very deep.

Planting.

While planting may be done up to March, it may be pointed out that October and November are the best months for removal and planting of canes, as then they are more likely to become established. Six feet ought to be allowed between the rows and 4ft. between the stools. Any less distance allowed than this is likely to lead to overcrowding and confusion before long; indeed, there is nothing lost in giving raspberries ample space for growth, and to enable one to get among them with a degree of comfort. More especially is this so with vigorous growing sorts.

Training.

Raspberries are very accommodating in the matter of training, and various methods are open to the grower. For example, in the case of some varieties, they may be trained over wire arches, pergola fashion, or planted in clumps about a garden suitably staked with stout poles; but in a general way it will be found the better plan is to stretch strong wire, fastened to strong supports at either end of a row, with stakes provided at intervals as may be necessary; or it is open to the cultivator to make a framework of laths or oak rods, which give much more support to canes, and to these the growths can be tied out from time to time. There is nothing, in my judgment—after many years of experience—to beat a framework, commencing with the first laths about a foot from the ground, and so prevent canes being blown about by rough winds, which is rather important from the sucker stage before they reach the nut brown state and begin to stiffen and are less liable to snapping off.

Pruning.

As applied to raspberries, pruning differs from the method of other fruit trees, inasmuch as it consists of taking away all the old wood, as well as part of the new, every year; and, for the information of beginners—for which this article is mainly written—it may be observed that it is a rule which admits of few exceptions if one desires fruit of quality and to keep up a healthy stock. This pruning, to be effective, must be done in autumn, and the reason is this: When a cane has once borne fruit, it has fulfilled its mission and, so far as future use is concerned, may be ruled out of account entirely. It will be obvious, therefore, to the merest tyro that there is nothing gained by retaining useless shoots which only hamper the growth of young suckers fighting for existence among a forest of dying leaves and worn-out branches. On the contrary, there is everything to be gained by clearing this old material away at the first opportunity, and giving the new growths all the light and air possible. Until this radical removal of old shoots and branches has been made, the suckers (next year's fruiting canes in the making) cannot have the chance which is necessary for them. Having disposed of the fruiting canes of this year, attention should be turned to the many suckers which have pushed up from the stools. It will be found that they are most prolific, and because of this they must be reduced in number. A leaf from my own book will illustrate what is meant. At the end of July, when gathering fruit, I was struck with the almost abnormal growth made by suckers this year, and was curious enough to measure some of the strongest which had grown out of the sides of the rows as if searching for light, and found them to be well over 7ft. high; and at some stools there were as many as twelve suckers. These will be reduced to four or five at the outside, as from this number the finest fruit is borne. It will be thus seen, in so far as old-established stools are concerned, that by late autumn there is nothing visible but new growths which will not need to be shortened until the following February or March—3ins. or 4ins. It is not unusual for some of the most advanced suckers to produce some fruit in the autumn, particularly in mild localities.

Newly Planted Canes.

Where new canes are to be planted—say in November—and the ground has been prepared and supports put up, plant the roots up to the level of the crown, spreading them out, tying the canes to the supports so that wind will not unsettle them. After

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finishing, tread the soil well about the roots. The plan which some follow, of shortening canes at the time of setting them, is not to be commended, the reason being that during winter they are likely to become damaged either by frost, or soaked with water owing to the pithy state of the canes. It is enough if pruning is done towards March, taking away all the growth from 18ins. off the ground.

Winter Dressing.

The present season has been one of the best for raspberries in most places, owing to so much rain; and where the canes received attention last winter in the matter of dressings, crops have been heavy. It has been so in my own case, and not a little of this is due to the treatment the established stools had last year. At the time of clearing away the old canes, the rows were forked over, and received a dressing of bone-meal, and this was followed a few weeks later with rough leaves and road scrapings spread over to the depth of several inches, no manure being then available. Again in April, when, for a few weeks, the weather was dry, the rows were supplied with water and, after the fruit set, they had several soakings of liquid manure. This entailed labour, but it has been well justified, as I have never had better crops.

Varieties.

It is a point in favour of some of the oldest sorts that they still are noted croppers and are yet largely grown. Such are:

Baumforth's Seedling, bearing fine fruit of deep crimson.
Pyne's Royal, one of the largest.
Devon, a heavy cropper.
October Red, a reliable late in certain districts.
Superlative, perhaps the most popular of all, being reliable and a heavy cropper.
Yellow Four Seasons, a late bearer.
The Guinea, a yellow Superlative.
Lloyd George, a fine red-berried modern sort, coming both early and late, and is also a heavy cropper.

Where there is only room for one sort, I question whether, as an all round variety, there is anything to beat Superlative. Carter's Prolific, another red sort, lives up to its reputation as a heavy cropper, with large fruits borne on stout canes.

In planting October Red and Yellow Four Seasons, preference should be given to a sunny position, so that in the late autumn advantage may be taken of every gleam of sunlight.

General Remarks.

For suburban and small gardens, it would hardly be possible to point to a fruit more reliable or so serviceable as the raspberry, either for jam or for dessert, as, be the season what it may, it seldom disappoints so long as it is given right treatment at the proper time. W. F.

WHAT OUR READERS SAY

THE MYSTERY OF THE MUSK.

SIR,—One of the perplexities of the plant world to-day is what has become of the fragrance of the musk. Only a few years ago this little plant, famous for its delicious perfume, was to be seen in cottage windows throughout the length and breadth of the land. At the present time few people trouble to grow musk because its fragrance—which was three-quarters of its charm—has completely disappeared. A wide search carried out last year by a well known horticulturist did not discover a single specimen of the musk that still possessed the odour which one has always associated with the plant. Advertisements inserted in garden journals failed to bring any news of musk which had retained its fragrance. There seems to be no reason or explanation for such a remarkable change on the part of this plant, which now seems likely to go out of cultivation altogether. Curiously the last fragrant musk plants seem to have existed on the East Coast of England. The plant always grew particularly well in the bracing breezes that come from the North Sea. For long it was claimed that the most highly fragrant musk in the land was that to be found in the seaside resorts of the Norfolk and Suffolk coast. A single specimen would be worth a considerable sum to a dealer in plants. Even a few cuttings, or one or two seed capsules, would be of value, for the musk is easily propagated and it is likely that the new subjects raised would be the old-fashioned fragrant type. — S. LEONARD BASTIN, *Bournemouth.*

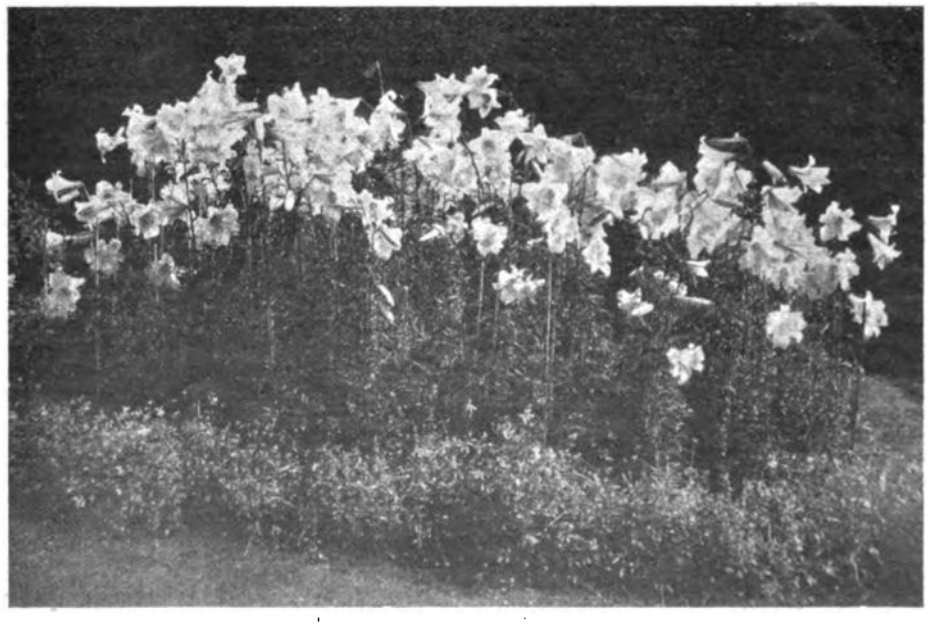
LILIUM REGALE.

SIR,—This splendid lily, a recent introduction from western China, has proved the easiest of all to grow from seed.

Six bulbs were purchased in 1924—they flowered in July of that year. The seed ripened well and was sown in boxes the same autumn. It germinated quickly, and the resulting plants were wintered in a cold frame. In 1925 they were planted out in the latter, and in spring of 1926 they were transferred to the open ground which had been well prepared with leaf-soil and sand. Several flowers appeared in July—less than two years from sowing—and this photograph was taken on July 10th, 1927.

The whole batch have flowered, as shown, in less than three years from the time the seed was sown. The stems are from 2½–4ft. high, bearing from two to six or more large trumpet-shaped white flowers flushed with primrose internally and shaded externally with deep pink, which, shining through the petals, gives them a soft pearly pink glow.

This lily is a glorious acquisition to our gardens, and any amateur who has a cold frame or, better still, a greenhouse can raise this grand plant as easily as an ordinary annual or perennial flower; but, of course, patience is required for them to attain flowering size.—H. VICTOR VOLES.



A FINE BED OF LILIUM REGALE GROWN FROM SEED.

OMPHALODES LUCILIÆ.

SIR,—Much has been written about Omphalodes Luciliæ, and various methods of treatment have been advocated and practised, but the plant remains a stumbling block to many gardeners who have loved, and too frequently lost this exquisite plant. I am not putting forward any method as being certain to command success with this notoriously difficult but fascinating subject; much depends upon the climate of the district in which the garden is situated. There is one thing, however, which sometimes proves a nuisance, and this is the havoc the slug will bring if it succeeds in reaching the omphalodes. All expedients tried have proved useless unless the slug was searched for and as carefully guarded against as possible. In this all teachers agree, but when we come to position, we have a greater diversity. The fullest sun is advocated, but one knows places where slight shade seems essential if this omphalodes is to live and succeed. A light, rich loam, with plenty of chips and broken mortar is also favoured, but I have seen it flourishing in a low moraine bed with about 3ins. of gravel above a few inches of loam, with ample drainage composed of stones below, and slightly shaded by neighbouring shrubs. No lime was supplied, yet no one could hope for healthier plants. This question of sun or shade is an important one, which, as already remarked, will probably depend upon the district in which O. Luciliæ is grown. In one with cloudy skies and heavy annual rainfall the sun will probably prove better, but in one with clear skies and a less abundant rainfall the shade will be likely to be beneficial. No doubt it is a crevice and sun-lover at home, but we have frequently to accommodate ourselves to changed conditions. Almost anything is worth trying to secure the health and happiness of this gem, with its wonderfully beautiful glaucous leaves and its still more exquisite porcelain-blue flowers. A little exchange of experience may help to elucidate the best way of cultivating the beautiful O. Luciliæ in various parts of the British Isles.—S. ARNOTT, *Dumfries.*

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with each enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Scab on Potatoes and Apple Blight.

Will you please tell me the remedy for the scab on the enclosed potatoes, and whether anything can be done for it at the present time or only when the ground is prepared? All potatoes on the same root are not affected. What is the remedy for the blight on the enclosed apple leaves, which was very prevalent about a month ago but is not so evident now? Is it the same as C. S., Marple, in your issue of August 13th? What can be done for large numbers of fungi (toadstools) in a lawn?—H. J. P., Birmingham.

Your potatoes are suffering from the common scab on potatoes, Actinomyces scabies. We advise you to avoid alkalinity in soil. Do not dress the ground with lime, but substitute with superphosphate of lime. Dig in grass cuttings in autumn instead of farmyard manure. The "blight" on the enclosed apple leaves is due to a leaf-curling aphis, Anuraphis roseus. Nothing can be done at present, but watch the affected trees in spring, especially after flowering, and spray them with nicotine soap wash as soon as aphides or leaf-curling and blistering is seen. When a number of toadstools occur on a lawn, water with ½lb. of iron sulphate dissolved in 1½ gallons of water at fortnightly intervals after rain has fallen. Rake over the surface prior to treatment to allow the mixture to penetrate.

Fruit Trees for a North Wall.

Will you tell me what bush fruits can be grown on a north wall? I read that the gooseberry season could be prolonged by this means, and if it is feasible I should like to try the plan with red and black currants also. Can barrels be used for growing fruit bushes, and, if so, what size should they be?—H. H., Darlington.

Gooseberries and red, white and black currants will do quite well on a north border. The gooseberries and the red and white currants can be grown as cordons quite well, but black currants do not usually succeed as cordons—not liking the "spur" pruning entailed—and are best grown as bushes just away from the wall. The berry season is undoubtedly extended by several weeks this way. Barrels are rarely used for fruit bushes, though there is no real reason why they should not be. The size of barrel to use is just a matter of convenience. The bushes do quite well in large pots, too, just as do apples, pears and plums, etc.

Transplanting Gentians.

I have a border of Gentiana acaulis 25ft. long, 1ft. deep, of very close growth, and healthy. There have been no flowers for the past two years. Can you suggest any means to remedy the fault? They are close to box edging (dwarf) which divides them from a gravel path. Would it be advisable to divide them? If so, should clumps be taken up, leaving the portions between undisturbed, or would it be better to thin them in their entirety? Please also say what time of the year it is best to transplant the gentians. —E. S., Peterborough.

We advise you to lift your gentian plants and divide them. Clumps might be taken up and thinned out and replanted, adding a little fresh soil to the border. This species requires fairly rich loam, and should be grown in a border where a trench has been dug some 2ft. deep and filled with well decayed manure. The plants respond particularly well to an abundance of lime. When transplanting, put the plants in firmly, and water round them if the weather is dry. Transplanting can be done at this time of the year.

Mildew on Vines.

The enclosed is from a vine about twenty-five years of age (cutting from Hampton Court) which has always done well, and never had mildew until now. I have dusted it plentifully with sulphur early in the season, but it seems hopeless for this year. The house is well ventilated; nothing else growing in it. Will you please tell me how to treat it to prevent a recurrence next year? Should I cut it all back now? The grass round about outside *has produced fungi lately which has never grown before, although surely there have been seasons as wet.—H. B., Worcester Park.*

In reply to your letter, the roots of the vines are, evidently, in a bad state; probably the border is not well drained and the roots are in a cold subsoil. In late autumn, remove the surface soil down to the roots and replace with good fibrous turves and bone-meal Of course, cold draughts on the vines will also result in mildewed berries.

Clover on Lawns.

Can you possibly tell me how to get rid o clover in a lawn? Two years ago we had the whole of the lawn taken up, because there was so much yarrow in it; and grass seed was sown. Now it consists principally of clover and yarrow. There was no clover in the first place, so I think that a mixture predominating in clover must have been sown. It is very disheartening after all the trouble and expense. I have been trying sulphate of ammonia on patches where they were not seen very much, and it has apparently killed the clover, but I do not know if it will be permanent. I should be glad to have your advice as to some really reliable remedy. Of the two I think yarrow is preferable to clover, but I do not want either—just fine grass only.—G. E. J., Loughton.

Clover will live on the nitrogen of the air, so care should be taken that any manures applied do not contain nitrogen. You cannot do better than apply, in November, a good dressing of sand and sifted soil, and in March 1lb. of sulphate of ammonia per 50 sq. yds. and 3lb. of rape dust. Do not use basic slag at any time. Yarrow is preferred in some gardens, as it thrives where grass fails. Sow freely, next March, seeds of Hardy Fescue grass, which is dwarf and reproduces throughout the summer. We also advise you to dress your lawn in spring with one of the special anti-clover fertilisers.

Manures for Heavy Soil.

Will you please advise me regarding the manuring of my garden? I have just taken this house and, so far as I can gather, the soil has never been thoroughly treated. The soil is very heavy and inclined to be damp, and there is a solid seam of clay about 2½ft. below the surface. Roses, lupins, coreopsis and pyrethrums seem to have done well. After rain, the ground, in parts, smells quite sour and is full of slugs and snails—also frogs, and I have found newts. I had thought of starting with a good dressing of lime. Will you please say which kind, how much per square yard, when and if I must put it on the lawn, which is fairly good? I should prefer to follow this with some kind of chemical manure.—H. W., Hale.

As much as possible should be thrown up into rough ridges early this autumn and immediately covered with lime—fresh—at the rate of 1lb. per square yard. Leave the soil ridged until next March, then level and surface dress with burnt soil and ashes from wood and rubbish fires. The best stimulant to growing crops, generally, next year, would be superphosphate of lime—2 oz. per square yard. Six ounces per square yard of ordinary lime would improve the lawn, if applied in November.

Treatment of Clay Soils.

Having recently taken over a new house at Kenton, I have accumulated a huge stack of solid clay lumps, and I should be pleased if you could offer me any advice on what use I can make of same. My own intention was to lay it down on a portion of my front garden, which I hope in due course to turn into a garage and drive. I was then going to let the winter frosts and rain break it up, if possible, and add road grit and wood ashes to it. Should you agree with this, what could I grow on same, or could you offer any other suggestion? This part of the garden faces due east, and gets some of the later-day sun.—W. A., Kenton.

Yes, treat the soil as you suggest. It should be left in a lumpy condition all through the winter, and not flattened out. In early spring add the road grit and wood ashes. In October sprinkle lime on the soil at the rate of 1lb. per square yard. Soil, so treated, would be suitable for practically any kind of crop, especially roses.

Malformed Pears.

I enclose a Louise Bonne pear which you will notice is malformed, the skin rough and the flesh granular in the malformation. Quite a third of the fruit on the tree is similarly affected. The tree was sprayed last February with Carbo-Krimp. I should be much obliged if you would kindly tell me what has caused this malformation, etc., and also what measures you would advise to prevent a like trouble occurring with next year's fruit.—H. B., Newton Abbot.

The damage to the Louise Bonne pear fruit you send has been caused by a small caterpillar or perhaps a garden chafer nibbling it when it was quite tiny. There is nothing else the matter with the fruit. If the tree is kept free from caterpillars and other springtime pests, you should have little trouble of this kind in future. The spraying with Carbo-Krimp—in January—we recommend you to continue for a season or two and it would help considerably if the tree were sprayed either with nicotine wash, or with lead arsenate shortly after the blossoms fall next year, as a preventive measure.

Grubs on Cherry Leaves.

Please find enclosed grubs on cherry leaves. During the last fortnight one tree in the garden commencing at the top, began to go brown and the brownness is getting lower, with every appearance of the whole tree being stripped; on examining we found grubs; hoping you will be able to name such, also giving a remedy to destroy them.—S. D., Leeds.

The pest attacking the cherry leaves is the plum and cherry slugworm. If left unchecked it will certainly spoil the tree. The remedial measures to adopt are as follows:—Spray the tree in July with arsenate of lead. Fork naphthalene into the top soil in autumn at the rate of about ½lb. to the square yard. If possible, let fowls scratch about under the trees in spring and late summer, and spray the trees in January with a tar distillate wash, such as Carbo-Krimp or Mortegg. If these measures are taken during the next twelve months you should get rid of the pest entirely. Should a slight attack occur after this, however, spraying with lead arsenate in July will check it completely.

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THE GARDEN

VOL. XCI.—No. 2914. OCTOBER 8, 1927. PRICE TWOPENCE.

GROWING FRUIT ON WALLS AND FENCES

WITH the increasing demand for fresh fruit anyone with even a very small garden can produce a quantity of fresh fruit if the right methods are adopted.

Most small gardens are enclosed by walls or fences of some kind, and instead of making these walls the most profitable, useful and interesting part of the garden, ivy and a few other climbers are promiscuously allowed to grow over them. More often than not they are sadly neglected and remain bare.

Nurserymen have reduced the training of fruit trees to such a fine art that different shapes of trained trees have been produced to give the maximum amount of fruit for the minimum amount of space required. These different shapes are known as fans, cordons and espaliers, and with a little commonsense on the part of the grower choicer fruit than is obtained from the usual bush or standard trees can be obtained.

Fan-shaped trees are generally used for cherry, peach, apricot or plum trees, but the three latter require a wall not lower than 10ft. in height. For the cherry a 5ft. or 6ft. wall can be used. Of these already mentioned the cherry and plum for home consumption are the most practical. If the cherries are Morellos, they grow excellently on a wall facing north; if the bigarreaus or sweet cherry, an east wall will suit them. Plums or gages, dessert or culinary, do well on the south wall. Fan-shaped trees of the foregoing fruits are planted not less than 15ft. apart, but the distance in planting is governed by the height of the wall in question. The border should also be as wide as possible in which the trees are planted, but excellent results have been obtained where the tree has been planted in a small border whose roots have run underneath a gravel path or lawn.

Single or double cordons are used for apples and pears, and are very suitable for the small garden. Single cordons are planted obliquely at an angle of 30°, facing towards the north so that the fruit can get the full benefit of the sun, and 2ft. 6ins. between the trees.

Double cordons, generally used for pears, are planted upright 3ft. 6ins. apart. Cordons are easy to prune if one realises the object is to produce a series of fruiting spurs the whole length of the stem. In July or early August pinch back the wood growths to the fourth or fifth bud, the sap of the tree is then concentrated into these buds, physiological changes take place within the buds, transforming them from wood to fruit buds. This shoot is the rudimentary fruiting spur. The quality of fruit obtained well repays the grower for the attention given to the production of the spurs.

Gooseberries can also be trained either as single or "U" shaped cordons or gridirons. The latter shape consists of two horizontal branches being taken from the main stem 1ft. above the ground and five or six upright cordons allowed to grow from the horizontal ones 1ft. apart. It is a very useful and suitable way of covering fences. Espalier trees are those from which several horizontal stems are taken parallel to and equidistant from each other from either side of a central stem. They are used for covering walls of any height, the distance for planting them being governed by the height, *i.e.*, for a low wall the length of the horizontal branches are developed, whereas on a high wall the main stem is developed and, consequently, more horizontals produced. Pruning is done exactly as for the single cordon, each horizontal stem being considered a single cordon.

The loganberry, Laxtonberry and other hybrid berries which, owing to the fan-shaped fashion in which they are trained, can be made to cover completely a wall or fence. They are very prolific and completely obscure unsightly places by their luxuriant growth. Pruning merely consists of cutting away all old fruiting canes not required and tying in the new suckers produced during the summer.

It is unnecessary to give here a list of varieties for any of the fruits suitable for training on the above methods, as any variety, dessert or culinary, will not only produce a larger but better quality of fruit. Moreover, lists of varieties to grow of the various fruits will be given in future articles on fruit later on in the planting season.

This Week's Work

For Gardens in the South and Midlands.

Make preparations for renovating herbaceous borders.
Lift and plant out rooted layers of border carnations.
Finish planting daffodils and hyacinths.
Remake lily of the valley beds.
Lift and store beetroots, onions and carrots.
Plant raspberries and grease-band fruit trees.
Lift and pot up chrysanthemums.
Lift bedding begonias and place in shallow boxes to dry off.
Finish transplanting wallflowers, Canterbury bells and other biennials.
Sow sweet peas in pots and germinate the seed in cold frames

Varieties of Sweet Peas for Garden Decoration.

THE Floral Committee of the National Sweet Pea Society recommends the following 24 varieties for general garden cultivation: Black Bess, blue-black; Bluebird, blue; Bonfire, bicolor; Charity, crimson; Charming, deep cerise; Delightful, pale cerise; Elegance, blush lilac; Grenadier, scarlet cerise; Ivory Picture, ivory; Joan Ryder, white; King Mauve, mauve; Magnet, deep cream pink; Matchless, cream; Miss California, deep cream pink; Mrs. Arnold Hitchcock, pale cream pink; Olympia, purple; Picture, cream pink; Powerscroft, lilac lavender; Sunset, rose; Supreme, pale pink; Warrior, maroon; Wembley, pale lavender; Youth, picotee-edged; 2 L.O., scarlet cerise.

This Week's Work

For Gardens in Scotland and the North.

Lift bedding begonias.
Grease-band fruit trees.
Plant raspberries in well prepared soil.
Protect vegetable marrow plants that are carrying fruit.
Lift rhubarb roots for forcing.
Feed leeks and Brussels sprouts with liquid manure.
Top-dress lawns and greens.
Transfer a few parsley plants to a cold frame.
Continue planting bulbs in bowls and borders.
Pot roses that are to be flowered under glass.
Lift and divide montbretia that is overcrowded.
Pot crowns of lily of the valley.

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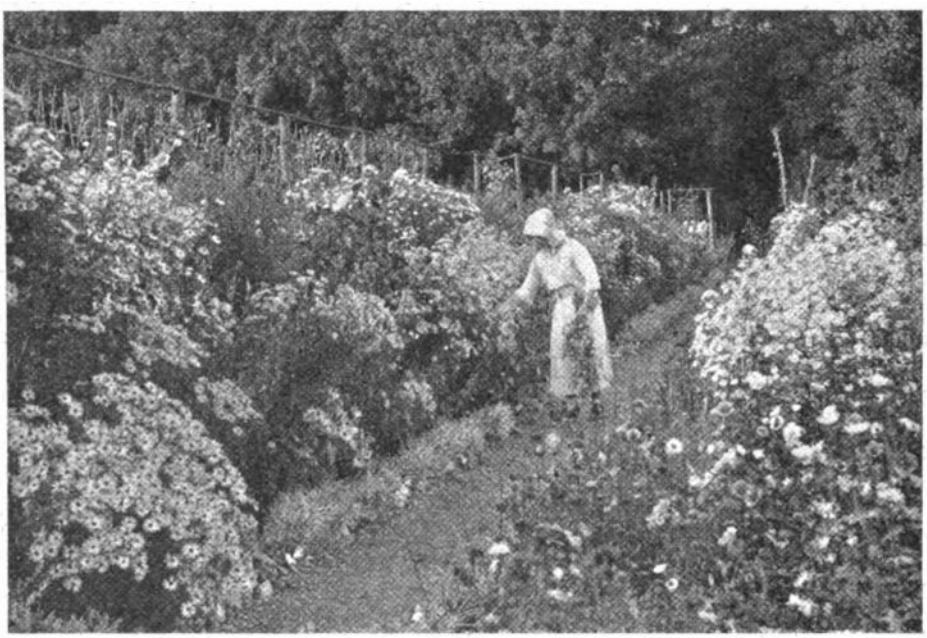
SOME OF THE BEST MICHAELMAS DAISIES

The Michaelmas daisies are now in full flower, and all amateurs should make notes of desirable varieties where they can be appreciated first hand. The following article describes a number of the newer sorts which are well worth planting during the coming weeks for blooming next year. The perennial asters are among the most decorative of our autumn flowers.

THE perennial asters, better known as Michaelmas daisies, are a group of hardy plants that ought to be represented in every garden. There are few more useful plants for an effective show of blossom in late summer and autumn no matter how they are planted, in beds by themselves or allied with other plants in the border. They are most accommodating plants and are little trouble to grow in almost any soil, so that even the veriest tyro in gardening can be sure of success with them. This year they are blooming well all over the country, and those who have been attending the autumn flower shows will not have failed to note the extraordinary advance which has been made in the production of new varieties. Not only has progress been made in improving the size and habit of the plants, combined with a more vigorous constitution, but the evolution of new colourings has been as wonderful as these are attractive. They, like many other new productions in other races of our garden flowers, stand as tribute to the great skill of our plant hybridists, who must possess taste as well as considerable knowledge.



A PICTURESQUE BORDER OF MICHAELMAS DAISIES.

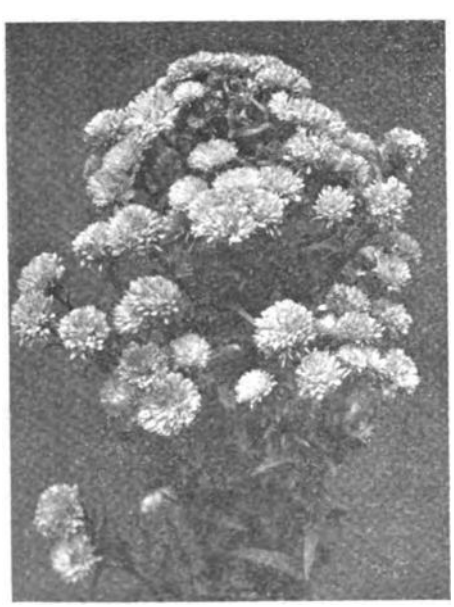
All amateurs should plant clumps of perennial asters to brighten the garden in the autumn months.

The perennial aster group comprises several sections, and any consideration of new varieties must consequently follow on such lines. One of the largest and one of the best sections of the group for general purposes in the garden is the Novi-Belgii. This section contains the majority of the large-flowered varieties, which are particularly robust and upright growers and very floriferous. Among the newer varieties which it contains are Nancy Ballard, which is of neat habit and carries rounded heads smothered with semi-double flowers of a rich purple to mauve colour; Anita Ballard, a very floriferous variety, of neat floral habit. The broad ray florets are of a delicate shade of cornflower blue and are beautifully incurved, which lends considerable attractiveness to the flower. Then come two of a similar nature, only differing in size. These are King Albert, a dwarf with semi-double lilac flowers, and King of the Belgians, of majestic stature and carrying large semi-double blue flowers. Two good whites in this section are Perry's White and Wells' White. Both are erect-growing varieties with pyramidal habit, and the large pure white flowers are of fine form. Sam Banham is another good white with the large flowers of Climax, of which it is a seedling. Occasionally the flowers may be tinged with pale pink. Of a more lilac tone there are two good sorts in October Dawn, of compact habit, only reaching some 2½–3ft., with lilac mauve blooms, and Queen of the Lilacs, growing to some 4ft., with flowers of a clear lilac blue. Two of the most charming Michaelmas daisies there are come in this section, and the one forms a companion for the other. The one is Little Boy Blue, the other Little Pink Lady. Both are dwarf growers, seldom reaching 2ft., and their dainty little erect pyramidal shoots are wreathed in neat button-like flowers of a bright blue in the case of the former and deep pink in the latter. They are, indeed, the miniature gems of the group and should certainly find a place in any representative collection of asters. One of the best pinks in this section and, in fact, in the family, is Ethel Ballard. The shoots are strong growing, erect and carry large single pink flowers all the way up. Queen of Colwall is a tall mid-season variety with large semi-double blooms of pale mauve.

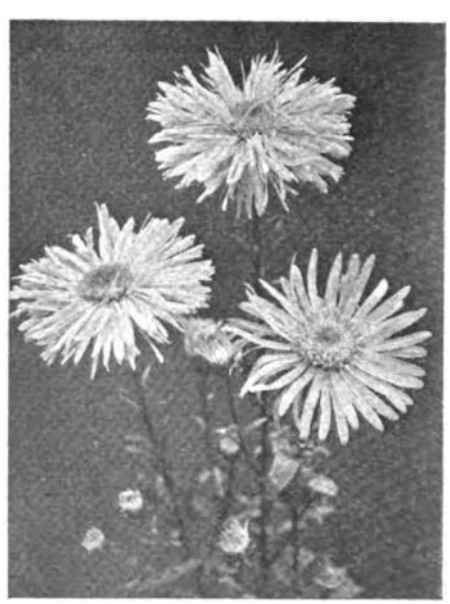
The finest aster of this group, however, is a newcomer by the name of Queen Mary, raised recently by Mr. W. Wells. The flowers measure some 3ins. across and are of a wonderful rich blue shade. They are carried in loose pyramidal trusses which are most decorative both for the house and the garden.

Another good garden section is the Amellus, containing such well known varieties as King George, the best violet blue yet raised, and the very dark blue Ultramarine. Beauty of Ronsdorf is another worth growing for its large lilac-pink flowers, but the best pink of the group is Wells' Favourite, an elegant variety and very free-flowering.

A few varieties of the ericoides section are worth growing in the garden for the sake of their attractive heath-like foliage. A selection of varieties of this section might include the following: Chastity, a late-flowering variety with mauve flowers; Coquette, of a pale lavender tone; Decoration, pure white; Enchantress, pale blue;



THE NEAT BUTTON-LIKE FLOWERS OF THE DAINTY ASTER LITTLE BOY BLUE.



THE GIANT ASTER QUEEN OF COLWALL WITH THE VIOLET BLUE A. AMELLUS KING GEORGE.

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Hon. Edith Gibbs, with lavender flowers; and Twilight, an attractive bluey white which, under certain lights, appears a beautiful silvery grey. There are many more excellent sorts in this group, but the above will be found representative of the range of habit and colour which is to be found in this section alone.

The only other section of garden importance is that of the Novæ-Angliæ, and the one variety of this division which every garden should contain is Barr's Pink, one of the most outstanding plants of recent years and which is illustrated on the front cover this week. With its gorgeous saucer-like blossoms of a deep rose pink colour enhanced by the bronze eye, carried on stiff, erect stems, it makes when planted in clumps in the garden one of the most effective displays to be seen during the autumn. It is not expensive and is now easily obtainable, and these two points, combined with its beauty of habit and flower, should recommend it to all garden lovers.

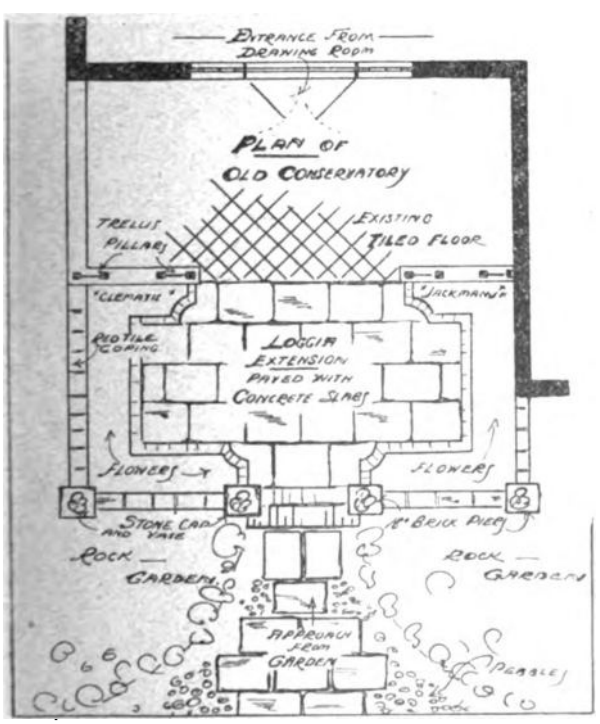
The only point about the growing of Michaelmas daisies in the garden that calls for special mention is the staking. The beauty of a plant can be made or marred by the method of staking. Do not insert one stout stake and tie all the shoots together in a bunch. The shapely habit of the plant is lost by this method. Use at least three stout stakes and place the raffia round the stakes, enclosing the plant at the same time. As growth takes place the foliage will soon cover over the raffia and hide the stakes from view completely, and, in addition, this method will preserve the artistic grace of the plant. Prepare the ground well for receiving the plants and insert them firmly in the soil. If the planting cannot be undertaken during the next month, then it is best to wait until March, which is both a convenient and a sure time to plant Michaelmas daisies. At least a few varieties of one of the various types should make a strong appeal to the gardener who wishes to add brightness to the garden border next autumn, and as planting time is now at hand a selection of these time-honoured but nevertheless beautiful daisies should be made at once. T.

A USE FOR AN OLD CONSERVATORY

MANY houses of the pre-war type, contained a small conservatory, which was usually arranged in conjunction with one of the sitting-rooms; many of these have unfortunately become obsolete for reasons which must differ in every individual case; probably the structure suffered in point of aspect, or of accommodation, bad construction, or a combination of each. However, such an abandoned structure can easily be transformed into a comfortable sitting-out place or loggia at a comparatively small cost, forming as it were a compromise between house and garden, thereby adding another attractive feature to the garden scheme.

The accompanying photograph and plan serves to illustrate the method employed in the reconstruction which is on very simple lines. The existing brick base is merely lowered to a height of 15ins. from the floor level, the central opening being enlarged to give a more airy appearance from the interior. Four pillars support the roof and are composed of square mesh trellis, 1½ins. by ½in., framed into 4in. by 3in. deal posts; these pillars are dowelled into a York stone coping, which, together with the dwarf wall already referred to, makes a suitable ledge for books or even a seat; the pillars, if painted white, look very attractive when clothed with the beautiful clematis of the Jackmanii variety which can be planted in the narrow border as indicated on plan.

AN OLD CONSERVATORY TRANSFORMED INTO A COMFORTABLE LOGGIA.



A SUGGESTED PLAN FOR UTILISING A CONSERVATORY.

The glazed end of the old conservatory can either be left intact, or altered to correspond with the new front; in many cases it will be essential to let it remain and act as a wind screen, in which case the glass can be simply stippled to give more seclusion.

The roof of a very dilapidated structure will probably need renewing; if a glass roof is still desired, one cannot do better than adopt one of the patent metal glazing bars now on the market; this system makes a durable and watertight roof; it has many advantages over the construction with wood bars, the chief being that no periodical painting is necessary either on the inside or out.

Leading from the loggia proper, an extension is often required, not only to accommodate more chairs in the open, but to complete the scheme by an arrangement of small beds for the reception of bedding plants near the house; the floor of this extended portion is paved with small rectangular concrete slabs, pre-cast in moulds and laid with an open joint; bricks laid flat forms the curb for the narrow beds, and this item alone leaves much to the originality of the owner in question. The weathered bricks that were removed from the base are used for the dwarf walls and piers forming the enclosure; 2in. York stone is used as caps for the brick piers and 1½in. weathered paving tiles as a coping for the low walls. This little extension judiciously planted with a few choice flowers produces a charming effect; personally, I like to include many fragrant flowers in the vicinity of the loggia, the amenities of which can only be judged when the air is redolent with the combined perfume of these delicate scented blooms; there is, however, a good selection of subjects suitable for both spring and summer flowering and are frequently referred to in the pages of this journal.

Hydrangeas in oak tubs placed on top of the stone caps should give just sufficient colour and a greeting of flowers at the entrance. This type of loggia or garden room situated in a favourable aspect, not only makes a comfortable retreat, but a delightful place for meals in the fresh air. As this method of transforming a disused conservatory is quite simple and inexpensive, it is well worth consideration for the future improvement of the garden scheme. G. W. H.

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ROCK PLANTS FOR EVERYONE

In this article a selection of plants that are most suitable and desirable for the small rock garden is given. All are bright and attractive and moreover easily grown. The majority like a sunny and open position. By planting clumps of a few of these this autumn you will have a fine display next spring.

THE rock-loving plants that yield the greatest measure of success with amateurs are notable sunlovers, and it is to this section that the beginner can turn with every confidence, their main characteristics being that they are perfectly reliable, generous in flowering, unquestionably hardy and not costly to procure. In small gardens, and with the plants that are named, there is never the same urgency to employ each kind in masses, although a few of the most effective should always be given this prominence; the majority, however, in time swell out and form a mass in themselves.

No rock garden should overlook the merits of Arabis albida fl.-pl., aubrietias, all varieties and Alyssum saxatile and its variety citrinum, and also the double form, their only drawback being that they are too common and, if I may say so, too easy to grow. Nevertheless, they are the glory of the rock garden and dry wall in spring, and their perennial and prodigal wealth of blossom will always command admiration and win for them a place of honour in our gardens.

The perennial candytufts (iberis) become perfect snowdrifts when in flower; Little Gem, Snowflake and correæfolia are three of the best. Erysimum pulchellum is a pretty, flat evergreen with flowers of gold, very freely produced during April and May. Chieranthus Allionii should be placed close to the last named, as the striking orange of its flowers shows to distinct advantage against the gold of erysimum.

Phloxes, like amœna and reptans for early flowering, and the forms of subulata for a later display, give a wide range of colours from white to deep rose, while there are several with flowers of a delicate lavender shade, such as G. F. Wilson (lilacina).

Androsace sarmentosa is one of the best and certainly the easiest to grow of this beautiful group; it throws out delicate runners like a strawberry plant, and if these are pegged down and nice gritty soil placed under the little plants they soon root and take up an independent existence.

Dianthus is a genus to conjure with; try a good strain of seed of D. plumarius and plant the seedlings in dry-wall, rock garden or sharp-pitched slope and the feast of colour will be a revelation. Among the species that can be recommended for a maiden effort are cæsius, deltoides or graniticus, neglectus, alpinus, arenarius and microlepis.

Campanulas are important and should include G. F. Wilson, pusilla, in three colours, and muralis for early summer, and Profusion, haylodgensis and varieties of carpatica to flower later.

Gypsophila repens (white or pink) and Saponaria ocymoides (rose) with its variety splendens (crimson) are glorious plants to drape over the face of a rock, and the flowers are massed in such a way as almost hides the foliage from view.

DWARF PHLOXES AND CANDYTUFT ARE TWO PLANTS NO ROCK GARDEN SHOULD BE WITHOUT.

DIANTHUS AND A FEW OF THE HYPERICUMS ARE AMONG THE BEST OF SIMPLE ROCK PLANTS TO GROW.

Several of the hypericums, with their Rose of Sharon flowers, are among the best of rock plants. H. Coris forms neat, erect, heath-like bushes, whereas repens and reptans are prostrate in growth; the flowers in each instance are yellow and the centres are quite filled up with the elegant filaments of the anthers.

Every rock gardener should attempt to grow Lithospermum prostratum and its variety Heavenly Blue. At first effort you may possibly fail; nevertheless try again, and ultimately succeed, for the gromwell (lithospermum) blue is in this instance faultless. Plant them very firmly indeed, for they are really hard-wooded shrubs, although so dwarf, and if the natural soil be limestone or chalk, remove it and replace with soil free from lime.

Lychnis Viscaria splendens and Œnothera riparia are useful and effective plants; the flower stems are borne erect, and this is of some value when placed among flat-growing plants. Many of the silver saxifrages are useful in the same direction; those that may be specially mentioned for beginners are SS. Aizoon rosea and A. lutea, Cotyledon pyramidalis, Hostii, lingulata and lantoscana.

Mossy saxifrages soon form dense tufts of foliage, and from April until June they produce abundance of flowers, which are either white, pink, yellow, or crimson. S. hypnoides is one of the quickest growing, S. muscoides atropurpurea has small pink flowers, and S. sanginea superba is, perhaps, the best red. Androsaces, if given an open sunny position, grow well and flower freely; Erinus alpinus is suitable for a crevice, and Polygonum affine (knotweed) is best for the rockery edge.

Tunica Saxifraga and Silene alpestris are very dainty for a crevice between stones; and Thymus Serpyllum (especially the varieties coccinea and alba) and T. lanuginosa are charming for their scent.

K.

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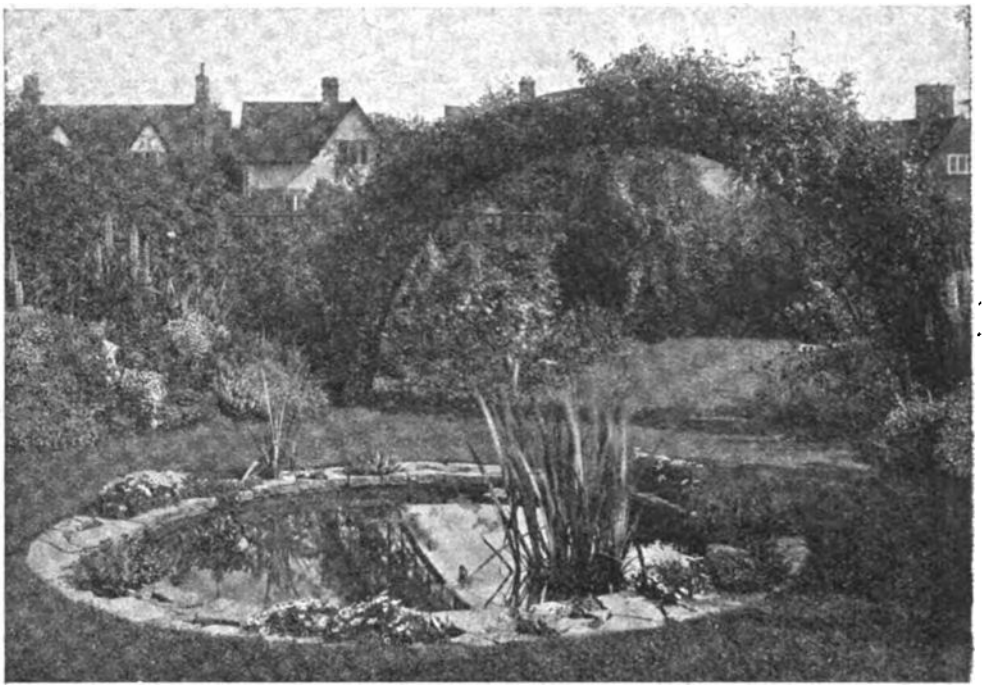
AN ATTRACTIVE GARDEN POOL

How one can be made in a simple and inexpensive way. A pool of even miniature size provides a certain amount of additional charm and interest in any garden.

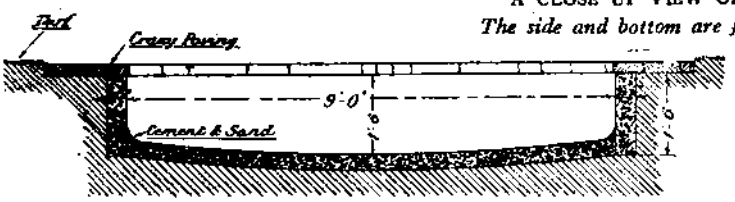
THE accompanying two views of my garden will, I think, be of interest to many readers who have just a small plot of ground, and who desire to make it attractive. Often a pool is desired, but the amateur experiences some difficulty in determining how to construct it himself at small expense. The manner in which I have constructed mine is very simple, and does away with a woodwork mould.

On the spot selected for the pool a circle 9ft. in diameter was scratched on the grass. This was done by sticking a peg in the ground and attaching to it a 4ft. 6in. length of string, with a small screwdriver tied to the end. A second, outer, circle was then struck 9ft. 9ins. in diameter, thus giving a distance of 4½ins. between the two circles. The turf was removed between the lines, and the soil dug out to a depth of 18ins. The space of 4½ins. allows just sufficient room for one's arm and a trowel or other garden implement suitable for removing the soil, and for making the sides and bottom of the trench as smooth as possible. The trench thus made was filled with concrete, and when set (after two days) the turf and soil within this concrete ring were removed. A 3½in. thickness of concrete was then placed in the bottom, as shown by the diagram. To make quite sure of the pool being watertight, a fillet of cement and sand was put round the joint, but I do not think this was necessary.



A CLOSE UP VIEW OF THE POOL BRINGING OUT DETAILS OF ITS CONSTRUCTION.

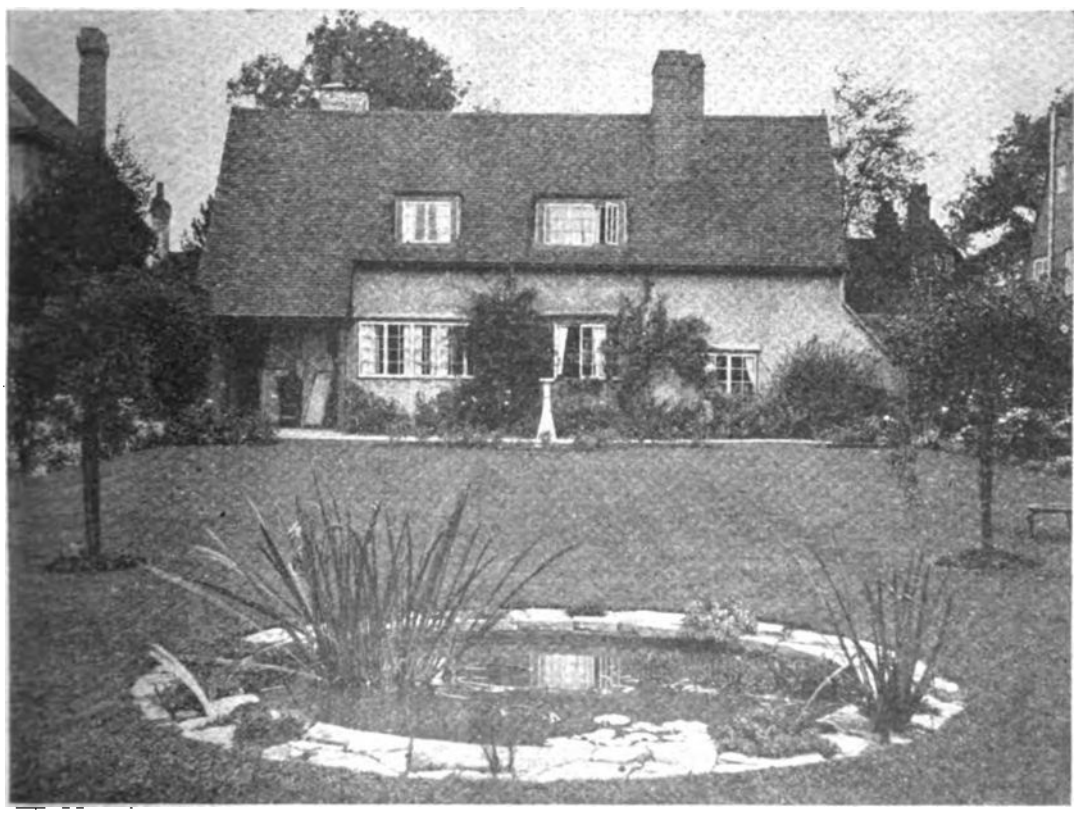
The side and bottom are formed with concrete, while the rim and edging are finished with stone planted with dwarf-growing subjects.



The concrete was made by mixing gravel with Portland cement, in the proportion of about 6 to 1. The amounts required for this pool were 1½ loads of gravel, and one-sixth of this quantity of Portland cement. A rough platform was made by nailing some boards together, and on this the gravel and cement were well mixed together. Water was next sprinkled on the heap from a watering can with a rose, and the whole turned over and over, until a semi-liquid mass was obtained. This was then put in place, finished off smooth with a trowel, and allowed to set. Afterwards the rim of the pool was completed with stones laid in cement, flush with the grass, spaces being left in which to put a little earth for the growth of rock plants, etc. Fish live and breed in the pool, and the lilies and irises grow in boxes filled with soil.

Quite a number of low-growing creeping and cushion plants were placed round the margins of this pool, and these are now well established. They provide a fine display of colour and blossom during the spring and early summer. As time goes on, additions may be made by planting one or two aquatics and other moisture-loving plants. B. C. D.

['This is an arrangement that many of our readers might like to carry out for themselves. It can be done in a small space and at little cost.—ED.]



THE POOL IN RELATION TO THE HOUSE, SHOWING THE BEAUTY OF A LAWN SURROUND.

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THE BUSY MAN'S PAGE

Autumn Digging.

CONSIDERABLE benefit is derived by exposing the soil—especially clay soil—to the action of the weather during the winter. The rougher the surface is left the better, so that the frost can get well in to pulverise the soil and produce a fine tilth for the reception of the seed in the spring. The birds also have a chance to get at the harmful grubs. Digging should be deep and thorough, and the subsoil broken up with a fork, but left in position. To do this successfully a wide trench is necessary. A practical method is as follows: Divide the piece of ground to be dug into two equal parts longitudinally. Dig out a trench at the top of one section, and place the soil at the top of the adjoining section. Proceed to the end of the first section and fill in the trench with soil dug out to get a trench on No. 2. The soil from No. 1 will then be quite handy to finish off without the need of a wheelbarrow.

By having a wide trench there is an opportunity for digging in leaves, stalks and other refuse that will rot and thus produce humus matter. For digging clay soil a fork is generally found more serviceable. Roots of twitch, cornbine, etc., should be carefully removed and burnt. Surface growth should be pared off and put on the bottom of the trench, but any weed about to shed its seed should be burnt.

Present Treatment of Border Carnations.

OCTOBER is the month during which it is customary to lift carnation layers with the object of planting them out or potting them up. Many growers are content to transfer the rooted layers direct to their permanent quarters outdoors.

It is sometimes a better course, however, to take rather more trouble and pot up the rooted layers as soon as they are ready to be dealt with.

A suitable compost may be made up of good turfy loam, leaf-mould and coarse silver sand or clean road grit. Of the first-mentioned ingredient take 3 parts, and of leaf-mould and coarse sand 1 part of each. These should be thoroughly mixed, and the prepared compost kept in a cool shed to maintain it in a good workable condition until it is required for use. Suitable pots into which to place the rooted layers are those 3ins. in diameter.

The plants should be transferred to a cold frame, standing the pots on a layer of sifted ashes or coke breeze.

CARNATION LAYERS ROOTED AND READY FOR LIFTING.

The frame should be kept close for a week or ten days until the rooting process has recommenced, when air should be admitted. The frame-lights should never be closed subsequently; the plants must always have air if they are to be maintained in a healthy condition throughout the late autumn and winter.

If the layers are to be planted outside directly then moderately firm ground is essential in the case of borders in the garden, but such firmness must not be obtained by treading. It should settle down gradually, and is all the better for being well prepared and left untouched several weeks prior to the date of planting. Any manure that is used should be buried quite 8ins. below the surface of the soil, so that the roots of the carnations will not come into direct contact with it before next spring, when they become very active. Well rotted manure and gritty soil, mixed, form a good food for the plants in all ordinary garden soils.

If the carnations are to be grown in beds, fix the line 20ins. from one side of the bed and carefully plant the row of carnation layers not nearer than 1ft. apart; then fix the line 9ins. from the edge of the bed and plant the row of layers at the same distance apart. Thus half the bed is planted without the planter treading on the soil of it; he stands in the alley. The two rows of plants on the opposite side of the bed can be dealt with in a similar way by standing in the alley on that side. The soil should be raked down finely before any planting is done, and at that time it should be fairly dry, so that some may be pressed with the hands firmly to the roots without injuring any of them. One application of water through a fine-rosed watering-can should be sufficient at this time. If there are wireworms in any part of the garden, take the precaution to dig in "Vaporite" before the carnations are planted.

Renovating Faulty Lawns.

THE present time is an ideal one for doing lawn improvement work. Turves can be lifted, cleaned and relaid where necessary; surface dressing may be applied and similar work done, and then there will be ample time for the lawn to recover before it is again required as a setting for summer flowers. The most faulty lawn is probably the one in which couch-grass grows. The more one mows such grass the more rapidly it spreads. Not only does the top growth spread, but the roots—or runners—under the surface. Finer grasses cannot compete with this coarse one, and, where the latter has become established, it is useless to attempt to improve the lawn by extracting the roots. This simply cannot be done. The only way is to take up all turf, dig the soil below it and extract the roots, every tiny piece, and burn them. When this has been done the soil should be levelled again, when it will be ready for new turves or for grass seeds next March. Do not wait until late in the winter to clean soil for new lawns of these weed grasses, as, when the soil is forked up now and bared, seeds of weeds in it will germinate, and in the seedling stage, be destroyed by using the Dutch hoe. By the time that grass seeds should be sown the soil will be quite free from weeds and their seeds.

A YOUNG PLANT READY FOR POTTING AND ONE POTTED UP.

Many lawns are simply too poor to support grasses in a healthy state. These should not be covered with organic manures, which often, in this form, do more harm than good. A mixture of good soil, leaf-soil, wood ashes, burnt soil and bone-meal, all passed through a ½in. mesh sieve, will prove highly beneficial if applied at the rate of one barrow-load to each square rod of lawn. The soil should form the greater bulk, of course; 1lb. of bone-meal per barrow-load and the other ingredients in proportion will do well. If the grasses possess plenty of roots but are pale in colour, inclined to yellow, a mere sprinkling of fine soot in powder form will do a lot of good. The mossy lawn may be improved by applying 4 oz. of powdered lime per square yard, now. The swampy lawn should be drained; there is no other remedy so efficacious.

Storing Dahlia and Begonia Roots.

A HARD night's frost blackens the foliage of dahlias and begonias, and this must be taken as a signal that they are to be lifted at once for storage. Carefully fork them up, taking care not to break or bruise the roots, shake much of the soil from them, and take under cover. In a few days the dry soil may be shaken away, the stalks cut and the roots laid aside for a further period. When quite dry, the begonia will part company with its stalk; but a portion of the stalk of the dahlia may be left and a label tied to it if necessary. After this the roots should be placed in a box and dry sand is then poured over and round them; this prevents excessive shrivelling and keeps out frost. Although frost is undoubtedly harmful to the roots, damp is frequently a worse enemy. The sand in the box, too, must not be allowed to get damp at any time; but should it by accident become moist, turn out the roots, let them dry, and rebox in sand once again until spring. The roots are generally safe anywhere under cover in the above way, and the best plan is to store them in a frost-proof shed.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Weeds on Lawns.

Hints on the Treatment of the Different Kinds.

A LARGE variety of weeds are found on lawns. They fill the lawn with leaves that are often more juicy than ordinary grass, and which consequently tend to soil tennis balls, etc., and so render the lawn less suitable for games of every description. The following are some of the most common of these weeds.

Buttercup.—Several kinds of crowfoots or buttercups are found on lawns, and all are difficult to eradicate. The best way is to spud out each plant when it is noticed. Frequent dressings of lawn sand will also rid the lawn of these weeds. Should a large patch be present, it is advisable to remove the turf entirely and replace with fresh.

Daisies.—Raking or grubbing the plants from the ground with patent appliances is sometimes advocated for this weed, but the plants when removed must be lifted out of the soil, not merely cut off at the top. A good preparation of lawn sand, which should be applied so as to cover the leaves completely, is the best for these weeds. If a bare patch is left after the application of the sand, it can be re-sown with grass seed, which should, of course, be protected from birds.

Dandelions, Plantains and Docks.—These are difficult to destroy unless the roots are removed entirely. A few drops of vitriol dropped into a small hole made in the root will destroy the plants, but care must be taken not to drop any on to the grass, or to get any on to the hands or clothes.

Bird's Foot Trefoil.—This trefoil has flowers tinted red and yellow. It is easily destroyed either by pulling up when the soil is moist, or by applying a little sulphate of ammonia, lawn sand or common salt to the root stump after cutting off the top.

Clover.—This is not always objected to, but is undesirable on lawns used for tennis and other games. To encourage grass and gradually eliminate clovers, sprinkle finely ground sulphate of ammonia, or nitrate of soda (half an ounce to each square yard) on the lawn every three or four weeks.

Moss.—Bad drainage or poor soil will either of them produce moss on a lawn. If not checked it will quickly ruin the grass. First rake out the moss with an iron toothed rake. Then give a good dressing of lawn manure, mixed with some fine fresh soil. Repeat this dressing once or twice until the moss is quite gone. Ground lime applied at the rate of two ounces to the square yard will sometimes destroy moss. If the moss is the result of bad drainage, lift strips of the turf, dig trenches, and put in clinkers or bricks to improve the drainage, and then replace the soil and turf. Each trench so made would drain the soil for about 6ft. on either side.

Fairy Rings.—These are the result of fungi, which produce circles of dark green grass, inside which are circles of dead grass, with inner circles of dark green. Copper sulphate solution, one ounce in a gallon of water, will destroy them, but is injurious to the grass. Sulphate of iron, followed by lime, is sometimes effective. A liberal dressing of lawn manure for two seasons will have a good effect.

Sorrel appears on lawns where the soil is damp. An application of lime, repeated if necessary, and followed by a dressing of lawn manure, will usually encourage the grass to choke out the weed, large plants being spudded out.

Mouse Ear Chickweed, Self Heal and Yarrow are weeds that are best killed by a dressing of lawn sand, unless they are few in number.

This season of the year is a good one in which to attack most of the lawn troubles. The soil is moist, and large weeds can be pulled out whole in many cases. Slow acting fertilisers applied now will benefit the lawn all through next season. They are of great importance. Few gardeners realise what an enormous amount of food value is wasted by the weekly cutting and clearing away of grass clippings. Unless this material is replaced in the form of fertilisers, the soil becomes gradually impoverished, and the finer grasses fail, thus allowing rank weeds to take their place.

A Well Filled Garden.

CLEMATIS, including the varieties Jackmanni and Henryi, as well as other climbers, are used with charming affect against a stucco wall in the garden illustrated herewith. Clematis is particularly successful as a town plant, and thrives even in districts where smoke will not allow roses to display their full beauty. A heavy loam is the most suitable soil, and to this should be added a liberal quantity of well rotted manure. The sub-soil should be well broken up before planting is done, bearing in mind that defects in the soil cannot afterwards be rectified without disturbing the plants. All clematis are lime-lovers and a liberal dressing should be applied before planting.

The pruning of clematis is important. Jackmanni should be pruned in early winter, cutting well back to the old wood. Varieties which flower on the wood of the previous season, such as montana, should be pruned in early spring, February or March, cutting out weak shoots, but not cutting back to the old wood as in the case of Jackmanni.

Montbretias that Deteriorate.

NO plant responds better to cultivation than do the montbretias. These popular flowers give the best results in a town garden if lifted annually, after flowering, and replanted. Left from year to year without care, the plants deteriorate and the flowers become but puny things. Large sprays of richly coloured flowers should be aimed at, and, to achieve this, lift the corms now, and replant them 3ins. deep and 4ins. apart. Groups or masses show to much better effect than single plants.

Plants for the Rockery.

"CAN you tell me," asks a reader, "the names of six easily grown alpine plants? They must be true mountain flowers, but suitable for brightening the little back yard rockery." Here are six gems of tufted habit, which will grow in the poorest of soils: Epimedium roseum (barren wort), Dianthus deltoides (pink), Campanula pusilla (blue or white bellflower), Sempervivum arachnoideum (cobweb house leek), Sedum (stonecrop), Saxifraga umbrosa (London Pride). Grey, woolly leaved alpines and encrusted saxifrages should be avoided in smoky districts, as they usually die off during the winter.

A GARDEN WHERE PLANTING HAS BEEN DONE SKILFULLY AND CAREFULLY TO PRODUCE A WELL FURNISHED EFFECT.

A Violet-Scented Iris.

A PRETTY little bulbous iris, which blooms as early as February in the open, is Iris reticulata. It is a dainty little plant, growing only to the height of 6ins., and is scented like the violet. The bulbs should be planted now, in clusters, a few inches apart and 3ins. deep. It is ideal in the rockery, lending colour when other flowers are rare. It will grow also in bowls or pots, if treated in the same way as the more ordinary bulbs.

Lifting Beets.

BEETROOTS are tender and spoil easily in the frost. They should, therefore, be pulled and stored early. Twist the leaves off, but do not wash off the soil. Pack the roots in sand or sifted coal ashes. Keep them cool and they will last all through the winter. Fully grown carrots can be treated in the same way.

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THIS WEEK IN THE FLOWER GARDEN

A Small Water and Rock Garden.

THE accompanying illustration shows a portion of a very small rockery in a North London garden. A cask sawn in two has been sunk into the ground about 12ins. and mould and stones placed round the two tubs. A lovely small pink water lily grows in one tub and a beautiful little white one in the other. Some of our native rushes have made themselves very comfortable in the water also.

Among the surrounding stones grow all sorts of beautiful plants, some small heaths, among them one from the Yorkshire moors and a delightful winter blooming one, which with the help of a floriferous Christmas rose makes the little rockery very interesting during winter. Some native ferns, thrift from the Mumbles, a yellow mimulus from the river Chess, are interesting reminders of past days in the country. Dwarf heaths, rock roses, Campanula carpatica, blue and white fuchsia, gazania, Persian tulips and many other bulbs and plants flourish in this small rockery.—E. M. SPENDER.

A MINIATURE POOL AND ROCKERY IN A SMALL SUBURBAN GARDEN.
It is an idea that many amateurs should try since it offers a wide field for experiment with many interesting and beautiful plants.

Planting Roses.

THE best time to plant roses is at the end of October or the beginning of November while the soil still retains some of its warmth. The ground for roses should be rather on the heavy side, a good clayey loam being ideal. For the best result it pays to trench the border, incorporating some well rotted stable manure with the bottom spit of soil. Trench the ground as soon as is possible, thus giving it a chance to settle before the actual planting operation is performed.

The trees for planting should have their roots trimmed with a sharp knife, cutting away any bruised or decayed portions. Dig out a hole sufficiently large to accommodate the roots and spread them out, working in among them good garden soil or a compost of loam and leaf-soil, with a 5in. pot of bone-meal added to each barrow-load of compost. Do not plant deeper than 1in. above the starting point of the root system. When planted, firm by treading, and cover the ground with a top-dressing of strawy manure as a protection against frost and loss of moisture. Bush roses for bedding purposes should be planted 2ft. apart each way, more for the most vigorous varieties. Standards should be planted at distances suitable to the requirements of the space to be occupied.

I do not advocate pruning at planting time. Pruning should be left until the commencement of spring, *i.e.*, about the end of March.

Standard roses will require staking. A piece of ¾in. iron pipe cut off to the required length makes an excellent stake and is everlasting.

Perennials for Poor Soils.

IT ought to be stated that the term "poor soil" is scarcely permissible among respectable gardeners, because it is, or ought to be, the aim of everyone to render the poor soil at least passably good. It must be admitted, however, that there are many gardens of poor soil; a porous, hungry and always dry loam may lie over a gravelly subsoil; a hard, granite-like surface may bespeak a humus-less layer underneath; or what was once a good loam may have been "cropped to death" and be now almost useless. Of course, the first idea is to make the poor soil better by digging, by working in as much humus-forming material as can be obtained by the judicious addition of lime, turf and leaf-mould, and in all the other regular ways. Then choice things will grow there and the border be no longer an unsatisfactory one. A poor soil reflects its poverty in the plants which grow in it, but there are some perennials of special merit which do very well in face of all the difficulties. Among the best are the perennial campanulas, dwarf kinds and tall; they may not grow very freely, but in season they clothe themselves in blossom to a remarkable extent. The androsaces are also splendid and very pretty when in and out of bloom; but so, too, are others generally classed as rock plants, of a similar nature, like several saxifrages, creeping linarias, Hutchinsia repens, Dianthus cæsius and D. deltoides, the arenarias, the smaller phloxes and hundreds of others, generally kept apart for the rockeries. Leaving these smaller kinds alone, however, I must mention some of the larger-growing perennials. The common galega is remarkably fine under such adverse circumstances; Zauschneria californica is quite good; the sunflowers of the rigidus type, moderately fine; Gentiana acaulis, if it can be got to settle, will bloom well; Erigeron speciosus is really qtite excellent; the platycodons have proved a great success; the Rose of Sharon makes a brave show; the more common heucheras are always passably satisfactory; red-hot pokers, if fed when about to come into bloom, are really pretty and fairly full, even when dwarfed in size; doronicums will do well in the moisture, which is generally more plentiful in spring; and one or two species of scutellaria. The bulbous plants must not be overlooked; true, we admit, the majority rapidly deteriorate under adverse conditions, but they will flower more than once, and many kinds can be introduced according to taste. One point I must bring out, after seeing my own results and the efforts of others; the old varieties are often the hardiest, and newer kinds, in some cases, prove disappointing. New varieties of plants, due in great measure to sporting, which may be stimulated by kindly treatment, either grow in a very forlorn fashion or fail entirely in poor soils; hardy old things, not easily obtained from modern nurseries, do well and give a show which in mass is always fairly good. These notes may encourage others who have a border which seems too poor to be worth much trouble, for every corner of the garden can be filled with some plant, and a bare border ought not to be allowed.—CLYDESDALE.

Some New Phlox.

DURING recent years, when the herbaceous border has become most popular, it is not surprising that the hybridist has taken advantage of this, with the result that new varieties of various hardy plants have been raised which are far superior to the older kinds.

The phlox is one of these, and the following few varieties represent an advance on others raised, not only in the enormous trusses of bloom, but also in the very large individual flowers.

The first to be noted, Mauve Queen, which gained an award of merit, R.H.S., 1926, is a very distinct bright mauve, with a large white eye, and is of splendid habit.

Pretty Posy, colour cerise salmon, with carmine eye, has enormous pips and trusses which are very broad, giving the effect of a "posy." It flowers early in the season.

Nutfield Cheer, colour rosy mauve, with large white eye, has very large pips and fine habit.

Hilda is white, with carmine-rose eye, and fine broad truss of enormous pips.

Short and Sweet is a soft salmon, with carmine eye, the truss being rather pyramidal in shape, and the pips finely formed.—H. H.

Ferns for the Rock Garden.

NATURE delights in dotting flowers amid the ferns in many a shady and semi-shady nook, and the rock gardener may copy her example with great effect in a suitable corner of his rock garden. As a rule he will find that semi-shade at least is desirable; with that and a soil composed largely of fibrous loam, liberally enriched with well rotted leaf-mould, he is sure to succeed, but the general effect must never be overdone, nor the too rampant kinds grown in excessive profusion. Certain species are evergreens, a fact which adds considerably to their value, but even those which die down in winter do not leave the site wholly "dead" in effect. Common native species are best obtained from a fern nursery where they are cheap; foreign

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hardy kinds may also be tried, though I do not consider them at all necessary for a small rockery; while the less hardy, like our native maidenhair, are well worth a little risk in attempts to bring them through each winter. As ferns cannot well be described, I merely give a list of names which the beginner can utilise in hunting up a catalogue, while the botanically inclined will recognise most, at least, as being common in our own country. First we have the polypodies, which in the refined forms of vulgare make delightful tufts; do not overlook here the beech fern, the alpine, the oak fern and the limestone polypody. In spleenworts (asplenium) there are the black maidenhair, the wall-rue, the scale fern and the black-stemmed. Filix-fœmina, the lady fern, offers a large choice of fine varieties; the hard fern, Blechnum spicant, is very good; the four or five species of cystopteris or bladder fern are all as good; the hart's tongue is ever a favourite and, when it grows well, is exceedingly attractive. Among foreigners one may select a few, not overlooking Lomaria alpina, Woodwardia cristata, one of the woodsias, and Adiantum pedatum. All should have a carefully selected and sheltered site.—H. F.

A Late Flowering St. John's Wort.

Hypericum Kalmianum.

THIS hypericum is especially valuable, flowering, as it does, when the majority of flowering shrubs are past. It commences opening its clear yellow flowers in July and continues for a period of a month or six weeks. As with most of the family, close spur pruning induces a more lavish display of flowers. It is in no way particular as regards soil, but enjoys an open position and an occasional watering when making its growth.—L. W. OLIVER, *Herts.*

[Our contributor gives the name of this hypericum as H. Kalmianum, but, according to Mr. Bean, this species is exceedingly rare in cultivation, and the plants under this name are generally H. prolificum. Both species are closely related and of similar habit, the main difference being that H. prolificum has a less handsome flower and a three-celled fruit, while H. Kalmianum true has a five-celled fruit.—ED.]

THE ALPINE VARIETY OF THE TREE HEATH, ERICA ARBOREA ALPINA.
A decorative shrubby heath for the rockery.

The Alpine Tree Heath.

Erica arborea alpina.

THE type of this attractive heath is a strong-growing plant, and will form a fine shaped bush 6ft. or 8ft. high, while it is also stated that it will make a tree with a well defined trunk and attain a height of 20ft. or more. Hence it is often referred to as the tree heath.

The plant illustrated is known as E. arborea alpina, a native of the mountains of Cuenca in Spain, and, if given a trim over with the shears after flowering, it can be kept within reasonable proportions, say, 3ft. or 4ft. high. During April it produces a mass of its nearly white flowers, which are very fragrant, and with age they assume a tinge of red. This species, owing to its beautiful green foliage, is a joy at all times, and especially in winter, when it is most conspicuous among deciduous trees or shrubs.

Signs are not wanting that heaths are becoming exceedingly popular, and when planting, the subject of this note should be included. It is ideal for "dot" specimens in close proximity to the dwarf kinds, while it is also valuable near the rock garden or in the shrubbery. Peat is not essential for many of the erica family, but most soils are improved by a liberal application of leaf-mould.—T. W. B.

A FINE AND LATE FLOWERING ST. JOHN'S WORT FOR THE SHRUBBY BORDER.
It is a shrub for the small garden, since it is one of moderate size.

Some Ornamental Fruiting Shrubs.

QUITE a number of trees and shrubs add to the brightness of the autumn garden by the brilliancy of their fruits. Practically all the crab apples are worth growing on this account. Those kinds which are especially effective are Pyrus prunifolia var. cerasifera, PP. Ringo, John Downie, Transcendent and Dartmouth. The Siberian crab, P. baccata, is also very effective when in fruit. Other kinds of pyrus which are worth growing include the white beam tree (P. Aria) with its several good varieties, all of which have fruits in varying shades of orange and scarlet; both the red and yellow fruited forms of the mountain ash (P. Aucuparia), and also the American mountain ash, P. americana. Among the thorns (cratægus) there are several very fine fruiting forms, such as CC. mollis, coccinea, punctata, orientalis, Crus-galli, cordata, etc. Most of the pyracanthas are also worth growing for the sake of their fruit. Another important family worth notice on account of its ornamental fruit is coton-easter. These shrubs will grow in almost any soil and are extremely easy to manage. Some of the best are included in the following list: C. frigida; C. rotundifolia, which grows to the height of 4ft. and retains its red fruits through the winter; C. Simonsi and C. horizontalis. Some kinds of roses are worth growing for the sake of their fruits. A charming fruiting evergreen is Pernettya mucronata. Other fruiting plants of interest include several of the barberries, Viburnum Opulus, spindle tree (Euonymus europæus) and Celastrus articulatus.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE weather conditions are deplorable. For three days and nights rain has fallen incessantly and hastened the end of autumn bloom in the open. Potato disease is spreading rapidly throughout the country, and in several of the principal producing districts the loss is estimated at 20 per cent. The trade are finding it difficult to procure seed, and it would not be surprising if retail prices are advanced in the coming season. Gardeners would therefore be well advised to lift any crop that still remains in the ground without delay and select sound tubers that may be required for seed. The sweet pea seed crop is also seriously affected, while at his lecture before the members of the Glasgow and West of Scotland Horticultural Society Mr. David Torrance predicted a heavy mortality among dahlias, as the abnormal moisture in the soil prevented the ripening of the tubers. The same thing may be said about roses, especially those of the rambler type, which send up long, sappy shoots which generally die back in winter when the new wood is not thoroughly ripened in autumn. The outlook is certainly depressing, but it is to be hoped that anticipations will prove to be worse than the realities.

The vegetable garden, which has produced good average crops in most districts, offers a more cheerful subject of discussion. In addition to the lifting and storing of beet, carrots and potatoes, referred to last week, there are several duties of a more or less routine character that require attention. Undeveloped fruits that remain on vegetable marrow plants will be the better for some protection in the form of a frame light or a little straw, and, unless the fruits are to be stored in winter, they should be cut while they are young and tender. In that case they should be allowed to get large and yellow, as they keep longer when pulled in that condition. Marrows require so much water that they are very susceptible to frost, and if there are indications of a low temperature at night, the prudent course to follow at this late season would be to gather all the fruits and take them indoors. Leeks and Brussels sprouts will benefit by an occasional application of liquid manure, and any spare space in a frame may be put to a good purpose by transferring a few plants of parsley from the open with the object of maintaining supplies in winter, when the outside stuff is not available. Plants may also be put in boxes or pots and a place found for them in the greenhouse.

Roses potted up in autumn as soon as maiden plants are available may be brought on and flowered under glass from March until May, when they may be removed to a sunny part of the garden to ripen their wood. Established plants can be forced into bloom earlier, but the amateur will find it more satisfactory to cultivate them in a moderate temperature of 45° or 50°, or even just sufficient to keep out frost. Under these conditions the plants come into bloom a little later, but the roses will be quite as good, if not better, than those produced in a warm atmosphere. A fine display is also possible to the owner of the unheated greenhouse who studies ventilation, and can take advantage of the increasing warmth of the sun in April and May by closing the ventilators about five o'clock in the afternoon. Use 7in. or 8in. pots, according to the size of the plant, and see that they are sufficiently crocked to ensure good drainage. Pot up the plants firmly in a compost consisting of two parts fibrous loam, one part well rotted manure and one part sand, with a little phosphate in the form of bone-meal added. After a thorough soaking place the pots in a cold frame and keep there until the end of January, when their removal to the greenhouse is advisable. While the plants are in the frame they must not suffer from lack of moisture, and plenty of air should be admitted during spells of fine weather. Many of the standard and newer varieties respond to culture under glass, but the beginner is recommended to make a selection from the following reliable sorts: Mme. Abel Chatenay, salmon pink; Mrs. Herbert Stephens, white; Ophelia, salmon flesh; Mme. Butterfly, blending of pink and apricot; Richmond, Courage and Hoosier Beauty, crimson; J. C. Mensing, rose pink; Sunburst and Roselandia, yellow.

When montbretia is undisturbed for a number of years the plants become crowded and the quality of the flowers deteriorate. To remedy this the corms or bulbs may be lifted and transplanted in October every second or third year, but some growers maintain that the best blooms are obtained by lifting the new shoots in spring when they are from 3ins. to 6ins. high and transplanting them in rich loamy soil in a sunny situation. Another alternative is to lift the corms in autumn and replant them in spring, a treatment that is not necessary from a weather standpoint, as montbretia is quite hardy. If the specimen grown in the garden belongs to the old smaller-flowered type, the amateur will obtain more satisfaction by discarding it in favour of the new and improved introductions that are richer in colour and larger in the size of the individual blooms.

Grass that is showing indications of tear and wear may be restored by a little treatment in the form of top-dressing in October. Impoverishment and neglect are responsible for most of the defects that are to be seen in lawns and greens, but if the troubles are not of long standing they are easily remedied. Used as a winter dressing basic slag possesses beneficial properties, and if the greens have only to be maintained in a satisfactory state all that they require is a little nourishment twice a year in the form of phosphate in winter and sulphate of ammonia in April. The presence of moss usually reflects a sour, wet soil, and after scarifying the patches with an iron tooth-rake a light surface dressing of lime should be applied a month or two before seed sowing. ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Wasps in Greenhouses.

It may not be generally known that wasps have a great liking for pitcher plants. Where they are troublesome in a greenhouse, particularly in houses devoted to vines or other fruits, a pitcher plant will trap every one. These plants are easy to grow in any greenhouse. They are most serviceable when grown in a pot that is suspended from the roof by a wire.—R. H.

How to Use All Your Outdoor Tomatoes.

Tomato growers have to be very careful at this time of year to save their crops from the first severe frost. The best time to pick the green tomatoes is usually from October 1st to 15th, but in a favourable season some may be left up to the end of October without harm.

Separate out those that are likely to ripen and put them in flannel in cardboard boxes (tennis-ball boxes are useful), then place the boxes in a warm cupboard in the kitchen, look at them every four days, and you will be surprised to see how many of them ripen.

The other batch, that are smaller and too green to ripen, can be used to make a most excellent green tomato chutney, as follows: 3½lb. each tomatoes, apples and Demerara sugar, 1lb. shallots, 3½pints vinegar, 3½oz. preserved ginger, 18 red chillies, ¾lb. sultanas, 2 tablespoonfuls salt. Boil vinegar and sugar in preserving pan, slice tomatoes and apples into this syrup (apples are weighed after peeling, coring and quartering them). Add other ingredients. Boil all well, stirring all the time, until mixture thickens and sets firm when dropped on a plate. Pour into hot jars, and cover when cool. Keep in a cool place.—E. W.

Conveyance of Leaves, etc.

Nearly every gardener has, at some time, a large quantity of leaves or clippings from hedges and shrubs to move. This is more often than not done by means of a wheelbarrow, buckets, etc.; but the ground is not always in a condition to use the former, and with the latter only small quantities can be moved at a time, and then bits drop *en route*. The most satisfactory and quickest method I have found is to obtain a piece of sacking 4ft. or 5ft. square; place it flat on the ground and pile the leaves, etc., on it, then bring each corner to the centre, and carry the whole to where it is required.

How to Waterproof Garden Nets.

Garden and tennis nets may be given a considerably longer lease of life than they usually have if they are waterproofed. This is how waterproofing should be done: Dip the nets in boiled linseed oil, then roll them up for about fifteen minutes. Then hang them up to dry. When they are dry repeat the process. Go through the same process again with this mixture: 7 parts of boiled linseed oil to 1 part of copal varnish. When not in use, store in a dry, cool place.—C. W.

Apple Rings from Windfalls for Winter Use.

Peel and core any windfall apples you may have and cut out all bruised spots. Next cut the apples into thin rounds. Put some rows of string across the inside of your airing cupboard door and thread the apple rings on to them. Leave them there for a few days until hard and dry. They will keep all the winter in a bag or jar and be found very useful for sauces, curry, etc. Keep in a dry place and, if necessary, soak in water before using.—K. W.

Bulbs Plunged in Ashes.

Readers who grow bulbs in pots of soil will be familiar with the annoyance caused by the ashes—in which the pots are plunged—sticking to the surface of the soil. To obviate this nuisance, the pots of compost should be given a fairly thick surface coating of sand. Ashes will be found to come off this cleanly and, in any case, the sand can be cleaned off quite easily.—D. S.

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PLANTING HARDY SHRUBS

Helpful Hints which will Ensure Success.

THE increasing interest taken in gardening as a hobby, and particularly outdoor gardening, during the last few years has resulted, among other things, in more attention being given to the preparation of the ground, and the planting of better selections of hardy shrubs. There is, however, still room for improvement, both in the preparation of the ground and the choice of interesting and showy flowering and ornamental foliage shrubs.

With regard to the preparation of the ground, the first thing to remember is that once planted in their permanent positions it is not intended to disturb the majority for some years. Thus, the future welfare of the shrubs may be said to a great extent to depend on the preparation of the soil previous to planting. If a border of shrubs is to be planted, trench the whole of the ground 2ft. deep, adding manure, also soil suitable to the plants, should the ground be very poor. Failing well rotted manure, there is a refuse heap in most gardens where vegetable rubbish is deposited — grass clippings, old flowers, weeds, leaves, etc.

In preparing stations for single or specimen shrubs, dig out circular holes 4ft. to 6ft. in diameter and 2ft. deep, according to the size of the shrubs. Prepare and manure the soil as for the borders.

The Time of Planting

is important. Evergreens as a rule are best moved in late September or during October while the ground is still warm and the temperature sufficiently high to encourage the making of fresh roots in the new positions without delay. This is important with evergreens, for throughout the year transpiration of the leaves is continuous. Failure of the roots to maintain sufficient moisture through loss of roots and general disturbance in transplanting may mean the weakening of a plant and the loss of leaves; or, if very badly hit, especially in cold weather, it may result in the death of the plant. When the autumn planting of evergreen is not convenient, defer the work until April.

A very good practice—one may even cite it as a necessary operation—is to shorten and thin the crowded growths of evergreens when transplanting, to balance matters, as it were, because of the loss and disturbance at the roots. In bad cases, when comparatively few roots are moved in proportion to the size of the shrubs, it is worth while reducing the tops by half. Far better to do this than be almost certain to lose the plant.

When planting shrubs always dig out a hole of sufficient depth to accommodate the roots. The top layer of turf, which is removed and which can be seen on the left of the illustration, should be placed grass downwards at the bottom of the hole and the finer soil on top.

With most deciduous shrubs, transplanting is easier, and pruning when planting not so vital; but even so the shortening of long shoots is often desirable. While early planting is desirable and November advised, as soon as the leaves turn yellow and fall there is not the great need for hurry, as there are no leaves on the plants requiring nourishment immediately planting is done. Thus, the planting of deciduous shrubs may continue through the winter, when weather and soil conditions permit.

The Depth to Plant

or to cover the roots is more important than generally understood. Taking a leaf out of Nature's book, we find the buttress roots of the trees in the woods protruding well above the ground, and in moving the loose surface soil we find plenty of feeding roots near the top. Here is positive proof that shallow planting is desirable in order that the feeding roots may be near the surface and so have plenty of air and the sweetest soil to grow in.

It is worth while laying a stake across the top of the hole, as illustrated, so that the depth the roots will be covered when the hole is filled in can be readily seen.

When preparing a piece of grass or meadow-land for planting, do not, as is so often done, strip off the turf and cart it away. This is the kind of soil the professional gardener describes as top-spit loam, so much in demand, after six months' storing, for potting greenhouse plants. It is also very valuable material for trees and shrubs, roses and herbaceous plants. When preparing holes for planting, as illustrated, place the chopped-up turf in the bottom, covering it with a little fine soil, before placing the shrub in position. In six months time, when decayed, it will be splendid rich soil for the young feeding roots.

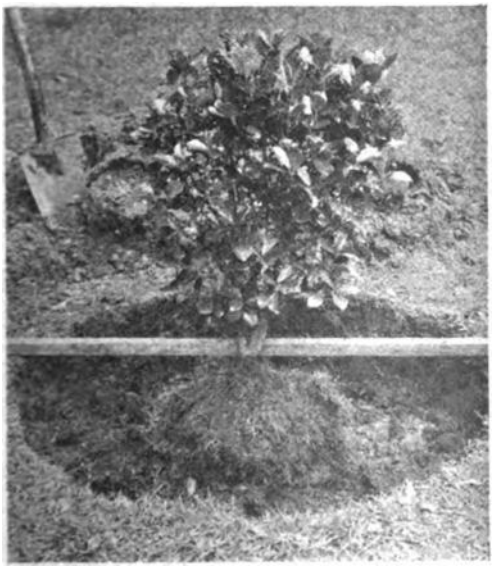
As the holes are filled in with soil, tread firmly without damaging the fibrous roots. To facilitate the watering of specimen shrubs, form a basin by making a circular ridge of soil round the bush to ensure the water soaking in through the roots.

Choose, if possible, showery weather for planting evergreen shrubs, or, at least, avoid planting when it is windy and cold. Even if it rains after planting evergreen shrubs, it is better to give a good soaking with water.

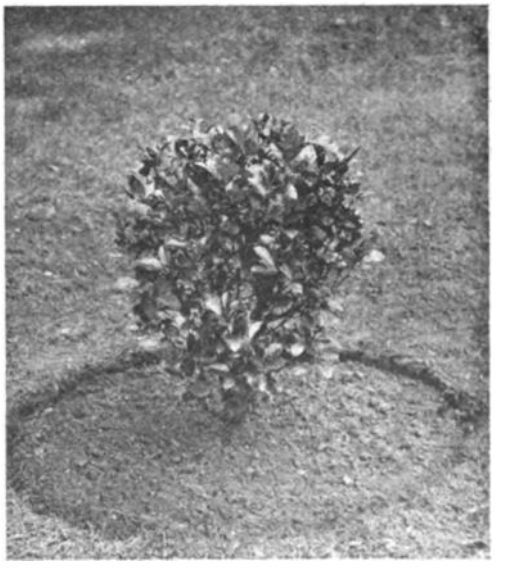
Shrubs of any appreciable size likely to be swayed by wind during the winter should be firmly supported with stakes. Swaying and loosening at the roots or ground level may soon do irreparable damage to choice shrubs.

The evils of deep planting are not usually apparent for a number of years. The decline in health may not show itself for several years, then a gradual failing is apparent. What really happens is that the stem, being buried and in contact with damp soil, the bark and then the cambium layer of many shrubs and trees gradually rot until the channel through which the food supply is carried from the roots to the stem branches and leaves entirely rots away. The trouble of deep planting occurs with both trees and shrubs, though some have the ability to develop roots on the stems and so avoid decay. Rhododendrons are among the first to suffer from deep planting; also lilacs, birch and thorns (cratægus); so will evergreen and deciduous oaks, most conifers and lime trees. Elms, poplars, willows, tamarix and forsythias may be cited as examples of trees and shrubs which seem indifferent to the deep burying of the stems.

A. O.



The shrub placed in position with the collar of the plant placed at the soil level and the roots spread out.



Planting completed. Note that the bed is slightly raised. Evergreen shrubs should be watered after planting.

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THE FRUIT AND KITCHEN GARDEN

Grease-Banding Fruit Trees.

An Operation to be Done Now.

THIS grease-banding is carried out as a control measure for the winter moth, March moth and mottled umber moth, the larvæ of which are capable of doing an enormous amount of damage in the spring by eating buds, leaves, flowers and young fruit of the attacked trees and spinning the leaves and blossoms together and living beneath their protection until May or June, when they descend to the ground.

The life histories of these three pests are all similar. The eggs are deposited on the branches of trees, the larvæ hatch out in the spring, feed, and then pupate in the ground. From October to December or January the moths emerge from the chrysalides in the ground. The female moth—which is wingless, and thus *incapable of flight*—crawls up the trunk of the tree and deposits her eggs, which eventually hatch into a new generation of voracious caterpillars.

The grease-band is effective in that it entraps the female moths in their journey up the trunk; but to be successful it is essential that it be put in position before any moths have ascended the trunk, and for this reason the middle of October is quite late enough to have all grease-banding completed.

Any of the well known makes of proprietory "grease" will be found effective, and the directions for use issued with them will be found quite simple to follow.

The paper band, which should be from 7ins. to 9ins. wide and made of good, stout greaseproof paper, should be securely fastened around the trunk of the tree at a distance of from 3ft. to 5ft. from the ground, with two pieces of string tied tightly about 1in. from either edge of the paper.

Apply the composition to the 5ins. or 6ins. of the centre of the band, taking care that none is smeared on the bare trunk of the tree, for this is detrimental.

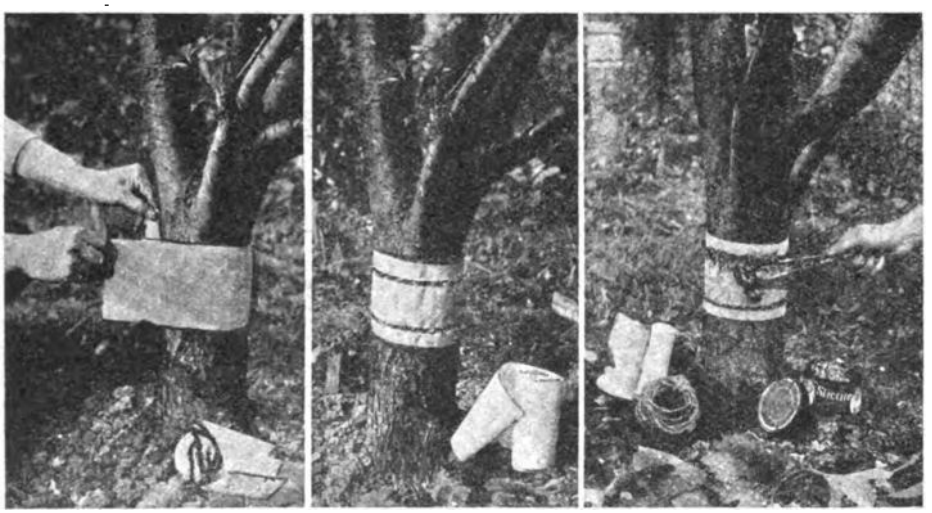
As a general rule, the simplest way to apply the grease to the band is with the hand; but if this method is objected to, shaped pieces of wood may be used instead.

A good composition will remain in a "tacky" condition for several months, but it is advisable to examine the bands at intervals throughout the winter and scrape the surface away occasionally to expose a fresh surface to the air.

Grease-banding is not practicable on bush trees which branch close to the ground, as the bands become a trap for dead leaves, small sticks, etc., which form bridges over which the moths crawl; but all standards, half-standards and bushes with a clear stem 16ins. long or more should be banded at all costs. Attacked trees which are not grease-banded must be treated by spraying with lead arsenate or some other approved stomach poison in the spring. In cases where trees are attached to stakes it is necessary, of course, to band the stakes as well as the trees.

Even with autumnal banding a few caterpillars may be expected to appear in the spring, as it is now quite certain that a few female moths are almost invariably carried to the branches by the winged males; thus, a spring spraying is always a wise precaution.

Apples, pears, plums and cherries are all liable to serious attacks and should, therefore, all be afforded the protection given by a grease-band.—T. H. E.



Place the band of grease-proof paper in position. *Tie the band securely top and bottom with string.* *Apply the sticky substance with an old knife or piece of wood.*

Earliest Cauliflowers and Peas.

AUTUMN-RAISED cauliflowers and peas are, as a rule, much earlier than plants which may be raised in any other fashion, and the present week is a suitable time to ensure that full supplies will be available. Although it is not too late to sow cauliflower seed (in a frame) most will have seen to this already; now fill up a frame with good friable compost and plant the seedlings 3ins. apart therein, making them firm. Water the plants in and keep the sash close for a week. After that give the plants full ventilation on the good days by throwing off the sash entirely, but only give a little air on bad days; keep the sash tight in hard frost and in foggy, muggy weather. As a matter of fact, the cauliflower plants must be treated as almost hardy and not coddled in any way. Such plants, hardened off in February, may be planted out in March or April according to season and district. A few plants potted up in small pots and planted out intact are earlier still, while readers with cloches may plant in twos in the open and keep them there all winter. In a somewhat similar fashion can peas be grown. Sow the seed just now in small pots, say eight in a 5in. pot, using a free compost of loam, mould and sand. Germinate in the frame or under sheets of glass and winter the plants in the frame. In cases where frame space is limited, they may stand at the foot of a wall, provided that glass is sloped over them in bad weather. The plants in clumps with the ball of soil intact are planted out 18ins. apart at the end of February in trenches similar to those made for growing sweet peas.—H. H. A.

Autumn-Sown Broad Beans.

GARDENERS who advocate the sowing of broad beans in the autumn should never neglect to point out that such sowings are a gamble with Nature. Very often they come along all right and yield surprisingly early crops; again, we may have short "growing" spells of weather during winter and then a few days of bitter frost which simply ruin the plants temporarily and retard them so much that they only just manage to keep pace with the earlier-sown spring stuff. Still, I consider an autumn sowing advisable. Sow the seeds as usual at once, covering them with 2ins. of soil beaten firm, without manure underneath. Should the soil be heavy and retentive, however, the best plan is to lay the seeds on the level and earth soil up over them, because the shallow trench alongside keeps sufficient drainage to help growth. In spring scatter a mulch of manure alongside and a few weeks later hoe this up round them and cover it with soil.—K.

Kales for the Kitchen.

A CENTURY ago early kale was the main winter green vegetable, but the modern cook has little use for it and it is seldom grown. Even in Scotland the "extra curled" is passing out of favour, and those who do grow plants often prefer the Asparagus type, which sprout so freely in spring and yield large pickings of nice tender shoots. Sprouting kale is not so much curled, but it produces shoots in plenty and these cook to a delicious dish. All these kales come into condition after a frost or two, generally from the New Year onwards, and they are extremely hardy. The Drumhead kale serves a double purpose; the heart grows moderately compactly and is cooked like a savoy, while the leaves, if properly cooked, are very fine. Unfortunately the kales have all come to be considered coarse vegetables. Perhaps the judges are coming to a decision from appearance alone, because every true kale-bred Scot can vouch for the fact that a good cook can make kale fit for any table. By the way, the Perfecta strains of variegated kales have done exceedingly well this year.—C.

Final Earthing-Up of Celery.

THE celery crop has made nearly all the growth possible this year, and it should now be earthed to blanch the leaf stalks. Tie together first and then just place soil round the stems, leaving the green tops peeping out from the top of the ridge. A dusting of soot and lime applied before earthing up is advisable to keep away slugs. It will take three or four weeks to blanch the stalks.

Lifting and Storing Onions.

ALL onions are now ripe enough to lift and store. Pull them up on a sunny day, allow them to remain a few hours to dry and then rope them together. Hang them in a dry, airy shed until used. Thick-necked onions should have their tops bent over and then be left for several days before lifting, so that they can ripen. Small pickling onions should be gathered and stored away from the wet.

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A GREAT AUTUMN SHOW

THE Holland Park Show, the annual autumn exhibition of the Royal Horticultural Society, which was held at Holland Park Hall on Wednesday, Thursday and Friday last, September 28th, 29th and 30th, has come to be looked upon as a floral event in the gardener's calendar quite as important as Chelsea. In many respects it is even more so, on account of the time of year when it is held. At this season visitors to the Show can place orders that can be despatched, if the weather is suitable, almost at once, while, in addition, at the end of the gardening season the gardener is better able to make up his mind as to what is required particularly for next year. In this frame of mind the visitor will find Holland Park a source of interest combined with instruction, and it is an event that all amateurs should endeavour to attend if possible. An autumn show, such as Holland Park, will assist one in deciding on how to stock the garden for next year.

This year, despite one of the worst of gardening seasons, the display was a particularly fine one, and the fears that had been entertained regarding the flowering display happily proved groundless. The exhibitors at these shows seem to have a happy knack of surmounting difficulties of weather, and they deserve congratulation for the attractive groups which were staged. Holland Park is a representative show. Flowers, trees and shrubs, fruit and vegetables are all shown in variety, and this year there was a happy balance between the sections. Dahlias were much in evidence, and their glowing shades of colour did much to add to the attraction of the Show from an appearance standpoint. Michaelmas daisies were also a feature on many stands.

SHRUBS.

The shrub groups on this occasion were outstanding in quality and variety. One has come to associate autumn with berry and tint in the world of shrubs and trees, and while these were present there were many examples of autumn-flowering shrubs, indicating the wide scope of shrubs for decorative effect in the garden.

Messrs. Hilliers of Winchester, as is their custom at this show, staged a group which was attractive as well as interesting. The lover of rare shrubs will always find something of interest on their stand. This year's display included many species of berberis all hanging in fruit. Among them we noted B. concinna and a new one, B. Gilgiana, which seems allied to B. brachypoda. Cotoneasters were also present in variety, while many species of cratægus and pyrus contributed to the colour display of fruit. Two pyrus species which were outstanding were the decorative P. Malus Sargentii with its clusters of crimson fruits and the yellow-fruited Cashmere crab. The uncommon flannel buddleia, B. Farreri with its thick woolly leaves, pure white underneath, was also on view, while Desfontainea spinosa were notable for its wealth of flowers. The brilliant red hips of Rosa Moyesii were a feature, and also the autumn tints of the maples and the two rhus species, R. typhina and cotinoides. Acer Hersii, a new maple from China, shown for the first time last year, was also on view.

Conifers in variety were a feature of the fine exhibit staged by Messrs. Waterer, Sons and Crisp. They were admirably arranged and interspersed with fruiting barberries, cotoneasters and the bright tints of ornamental vines. Among the barberries we noted a new variety that is being put on the market this autumn. It is known as Berberis Unique, and appears from its habit and shape to be closely related to B. concinna and B. Thunbergii. No matter its parentage, it is a fine barberry, decorative in fruit and foliage, and one certainly worthy of a place in the garden. An interesting and rare conifer was present in Juniperus sinensis var. Meyer. It is one of the bluest green junipers and a most attractive shrub for the rock garden. There were numerous other subjects all shown in first-class condition, many of them suitable for adding beauty to the shrubbery in even a small garden.

Messrs. Cheals of Crawley staged a most attractive exhibit. It was bright and varied in its appearance, largely on account of the introduction of many autumn-flowering shrubs. Among the late-flowering shrubs were Ceanothus Gloire de Versailles, the Mexican orange, Choisya ternata, Clematis Flammula, Escallonia floribunda, Hydrangea paniculata grandiflora with its decorative white flower trusses, buddleias and the fine Veronica Autumn Glory. Added to these were a selection of shrubs in fruit with fruiting crabs and variegated and autumn tints. The pernettya and the symphoricarpus were well berried and made an attractive edging round the exhibit. It was an instructive group, since it showed the wide variety of purposes for which shrubs may be used in the garden provided the proper kinds are selected. It is from such a group that the amateur may learn a considerable amount regarding the variety to be obtained among modern shrubs and trees.

Another well arranged group was that staged by Mr. R. C. Notcutt. This exhibit included the brilliantly coloured Euonymus alatus; the free-flowering Potentilla fruticosa var. Farreri, a delightful shrubby plant smothered in yellow blossoms and one that should be far more often grown not only in the shrubbery but in the herbaceous border; berberis sp. in fruit; Cotoneaster Vicarii in berry; Stranvæsia Davidiana with clusters of scarlet fruits; and several subjects in full flower, among which were ceanothus, Escallonia C. F. Ball, Choisya ternata, Viburnum fragrans and Buddleia Fallowiana with its attractive white woolly leaves.

The decorative foliage of the large-leaved rhododendrons formed the main feature of the exhibit of Mr. G. Reuthe. It was an interesting exhibit, although perhaps a trifle dull in appearance. Flowering sprays of numerous shrubs were shown, while a number of berried cotoneasters and barberries were also present, along with conifers.

Messrs. Wallace exhibited shrubs and conifers with lilies and clematis, and the arrangement was good. Berried shrubs, such as Skimmia japonica, berberis, Rosa Moyesii, cotoneasters, cratægus and others were attractive, while the autumn-tinted Japanese maples were particularly fine.

Messrs. Russells of Richmond had a fine display of their notable varieties of clematis, which were in excellent condition. Both the lanuginosa and Jackmannii sections were well represented with such varieties as the new Crimson King, Marcel Moser and ever-popular Nelly Moser, the dark-toned Gipsy Queen, Comtesse de Bouchaud and the violet-blue Jackmanni itself.

The other chief exhibitors of shrubs were Hollambys Nurseries (a fine group with many species of ornamental vines), Messrs. Charlton and Sons (berried shrubs in variety), Messrs. Fletcher Brothers (berried shrubs), Mr. Geo. G. Whitelegg (rock garden conifers), Messrs. Klinkhert (topiary work) and Messrs. Robt. Green and Co. (standard bay trees).

MESSRS. DOBBIES' CENTREPIECE EXHIBIT OF DAHLIAS.
All types and many excellent varieties were displayed.

DAHLIAS.

In spite of the recent bad weather, numerous firms were able to stage some excellent displays of dahlias. This year there were fewer single and miniature peony-flowered varieties to be seen, but large decorative and cactus dahlias were shown in great numbers, and all were in good form. Some of the newer soft pink and rose decorative dahlias are particularly attractive, and among these Jersey Beauty was outstanding. Many firms exhibited this novelty; both Mr. H. J. Jones and the King's Acre Nursery had a magnificent pillar of it. Macdonald, an orange scarlet decorative dahlia; Canary, an incurved cactus variety; and Rover, of the same type as the latter, were also popular varieties. One of the most striking dahlia exhibits was staged by Messrs. Dobbie and Co. Dahlias of every class were included in this stand. Peter Pan, Paisley Gem, two of the best Coltness Gem type; Joan Fife, a tangerine peony-flowered dahlia; Joyce Healy, a decorative variety of uncommon colouring; and The Prince, a large crimson scarlet decorative, dahlia, were all in good condition; in fact, every one of Messrs. Dobbie's dahlias had stiff rigid stems, for they had been grown naturally, and not disbudded to produce over-sized flowers. The visitor saw the flowers as they can be grown in the garden.

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Messrs. W. Treseder staged their dahlia exhibit particularly well, and their cactus and decorative varieties were most effective. Some of the finest of decorative varieties were President Wilson, Portia and Emblem ; while the salmon pink Edgar Jackson, the pink and yellow Emblem, and J. Emberson, all cactus varieties, were noted.

Messrs. J. Cheal and Sons showed many dahlias of their own raising, including some of their famous star dahlias, such as Horsham Star and Woodhurst Star, which are so useful for filling gaps in the herbaceous border. A large crimson decorative dahlia—Mrs. D. Hepburn—on this stand attracted much attention. Mr. H. J. Jones had good blooms of Reginald Godfrey, one of the best crimson decorative dahlias, and Princess Louise, a pretty pink variety of the same class, among his collection of fine dahlias. Another large group was staged by Messrs. J. Stredwick. The varieties Nora Philips, A. J. Cobb, Hyde Park Beauty, Mrs. S. Sandeman and Buccaneer were included on this stand. Some of the most effective varieties shown by Mr. C. Turner were A. E. Amos, Dr. Spath, Nora Purple, The Prince and Romney as their best varieties ; Messrs. D. Prior, Messrs. Jarman, Messrs. J. T. West, Messrs. T. Riding, Messrs. John Forbes and Mr. H. Clarke. The latter exhibitor showed many pretty pompon dahlias ; while on Messrs. Jarman's stand were seen many of the finest of modern varieties.

GLADIOLI.

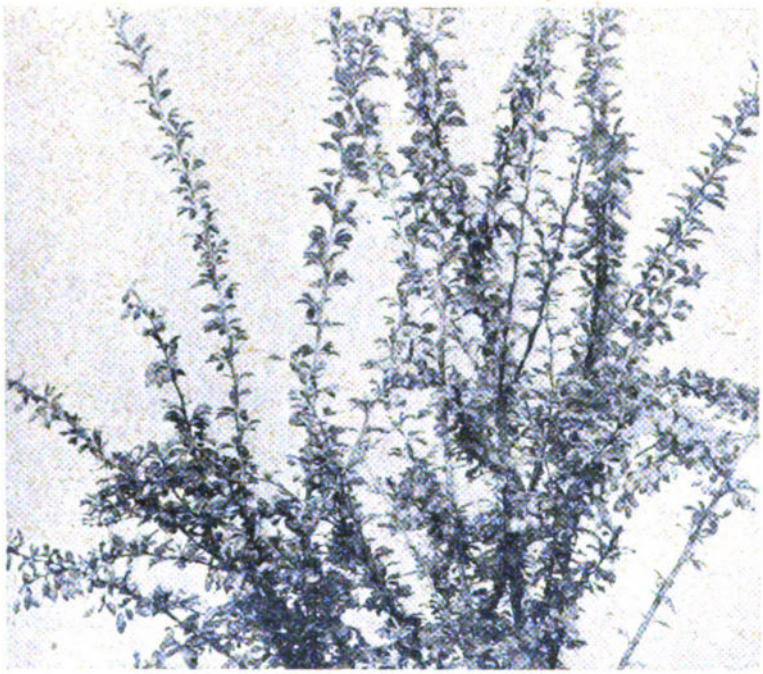
It is late in the season for gladioli, but notwithstanding that and the bad weather experienced prior to the Show, Messrs. Austin and McAslan of Glasgow staged a very fine display of large-flowered and primulinus varieties. The spikes of bloom were in excellent condition, and the growers deserve every congratulation for their exhibit. Among the varieties we noted the scarlet Fairy King, the murky Baron Hulot, Pink Perfection, the yellow Souvenir and several dainty primulinus, including Salmonea, Golden Drop, Atalanta and Daphne. The group was well arranged and the individual varieties could be seen to perfection.

Messrs. Allwood displayed border carnations, Sussex Crimson, Sussex Rosalind and Sussex Beauty. Allwoodii carnations, including Sylvia, salmon ; Pat, double deep salmon red ; Esther, semi-double white, splashed red ; and Betty, white with carmine centre, single. Their perpetual flowering carnations included the fine varieties, Harmony, mauve ; Velvet ; Maine Sunshine, yellow ; White Pearl ; Laddie ; Master M. Stoop, cerise ; and Eldora, a white, flaked with red, were among others shown.

Messrs. Engelmann showed Snow White and Blanche ; Topsy, crimson ; Janet, good cerise ; Master Michael Stoop, cerise ; Katja, mauve ; Rouge, a red self ; Mrs. Hamilton Fellowes, cherry ; Jazz, yellow ground, flaked red ; Nero, white ground, splashed red ; and Laddie, with its sport, Red Laddie. Coral Glow was also shown.

CHRYSANTHEMUMS.

Messrs. William Yandell's display included Harvester, yellow ; Crimson Circle, deep Red Almirante ; Sanctity, white ; Septembe Glory, soft yellow ; Bronze Buttercup



THE NEW BERBERIS UNIQUE, SHOWN BY MESSRS. WATERERS. THE BRANCHES BEAR BRIGHT RED BERRIES.

A WELL FRUITED COTONEASTER, C. DIVARICATA, EXHIBITED BY MESSRS. HILLIERS.

Bell, Radium and Gatton Star. Messrs. W. Cutbush brought some good dahlias, including the pure yellow Clothilde, the orange scarlet Macdonald, King Harold (dark mahogany), Maria Houtman (a beautiful golden orange decorative variety) and the attractive old gold decorative La France. Dahlias of uncommon colouring were shown by Mr. R. Winder. Mme. J. van Jost was a mauve shaded with pink ; and Roi de Jaunes a striking variety of sulphur yellow. Mrs. Skevington, a peony-flowered dahlia of perfect form, was noted on the stand of Mr. Henry Woolman, who also showed Mabel Lawrence, a crimson scarlet decorative dahlia of enormous size, together with the light bronze Mrs. Murray, and the dark red cactus variety Harry Strutt.

Messrs. Dickson and Robinson had a well staged and representative collection. Northern Gem, a new dwarf bedding dahlia ; Pink Pearl, a miniature decorative variety ; Insulinde, Edgar S. Jackson and Pride of California were also exhibited.

Numerous other firms staged dahlia groups, including Messrs. Carter Page, with Royal

Messrs. Baths of Wisbech also staged a group of primulinus varieties, but the spikes had suffered from weather and were a little past their best, showing a lack of that richness in colour which characterised this firm's exhibits at earlier shows. All the leading primulinus varieties were shown. The presence of gladioli at a show in late September indicates how valuable this flower is when it commences to flower at the end of June and lasts until now.

Messrs. Orpington Nurseries had a comprehensive exhibit embracing many of the leading varieties of both the large flowered and primulinus sections, all in fine condition. Some of the spikes were of good colour and particularly noteworthy in this bad season.

CARNATIONS.

Messrs. Stuart Low showed a new salmon seedling, unnamed ; Happidans, deep apricot; Melcher Beauty and Queen Mary, very dark crimson, three novelties for 1928. Daphne, new 1927, also Topsy, crimson self ; Lady Hindlip, pink flaked with red ; Fragrant Rose, Eileen Low and Ruby Glow.

incurved ; Golden Almirante ; Phil Page light bronze and Minstrel, dark red.

Messrs. J. W. Forsyth showed early chrysanthemums cut from outside. Hollicot, yellow, was particularly good ; September White, Shirley Bronze, Phœnix, Mrs. Jack Pearson, light bronze, and Salmon Profusion, were also shown.

Messrs. Woolmans exhibited Rodeo, a yellow bronze, and Jack Robbins, bronze, and the Japanese variety, Red Ensign.

Messrs. Wilson and Agar displayed September Glory, bronze ; September White ; September Yellow, as disbudded blooms, and Rio des Blancs, Phœnix and Goldfinder as sprays.

Messrs. Keith Luxford showed a new seedling, semi-double, with open centre and rosy pink petals. Perle Chattillonaise was good, as was Cranford Cream. Other varieties shown included Phœnix, bronze spray ; Framfield Early, white ; Pink Delight ; Bronze Cranfordia and Elsenham White.

A mixed display of Messrs. Bunyard's contained the Chrysanthemum J. McAlpine ; The King's Acre Nursery, Berengaria, a

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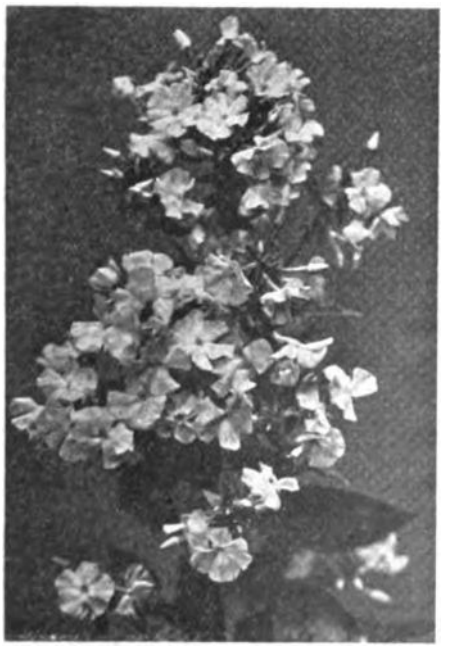
1926 introduction; Mrs. Phil Page, 1926; Martin Reed, a fine yellow; Mme. Marie Masse, pink; Golden Firebrand, single yellow; Horace Martin and La Pactole.

Lowe's White, September Glory and Mrs. Jack Pearson, bronze, were staged by Messrs. Callick.

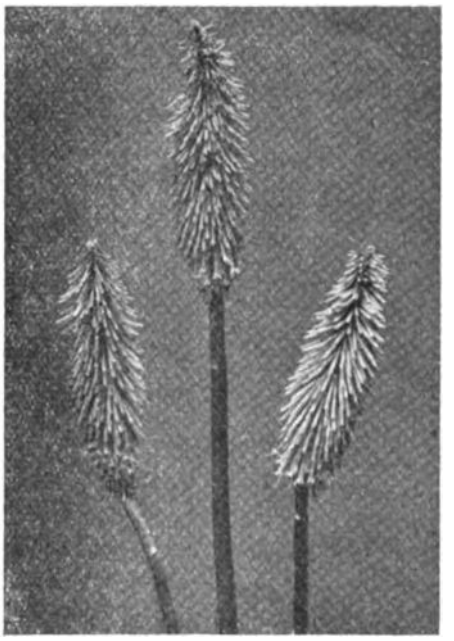
MICHAELMAS DAISIES.

Perennial asters are always one of the features of this great autumn show. One always expects good displays of these useful border plants from such aster specialists as Mr. E. Ballard, Messrs. W. Wells, Messrs. Barr and Sons, Mr. T. Bones and Mr. H. J. Jones, and this year their exhibits exceeded expectations, although weather conditions have been far from favourable. In some cases the collections were not so representative as in previous years, for in many districts the varieties are not yet fully out. A number of growers found that Barr's Pink was not sufficiently advanced to cut, and that Blue Gem, Dick Ballard and others were still in bud. Barr's Pink, King George, Royal Blue, Little Boy Blue and Margaret Ballard were, however, to be seen on nearly every stand and undoubtedly these varieties can be classed as some of the finest of modern asters. Messrs. W. Wells, who staged a very effective exhibit of well grown asters, had columns of all these varieties, as well as excellent sprays of Rachael Ballard, Snowdrift, the pretty rose pink aster Maid of Athens and Mrs. George Monro, a large white Michaelmas daisy. Messrs. Barr and Sons made a prominent display of Barr's Pink, the best of the Amellus section. Mr. Ernest Ballard again showed Ruby Tips, one of his novelties of last year. He also staged many others of his recent introductions, including Countess (a rose-coloured aster), Empress of Colwall (an outstanding variety), Wonder of Colwall, October Dawn and the charming dwarf variety Little Boy Blue. Two good novelties were shown by Mr. T. Bones—one, Sonia, a single rosy mauve variety with large flowers, the other Hope, a rosy purple. Ultramarine, a good variety of the Amellus section, together with Aldenham Pink, Margaret Ballard, Miss Eisle, all of the Novi-Belgii section, were conspicuous.



THE NEW DEEP PURPLE BLUE PHLOX, TRIUMPH. SHOWN BY MESSRS. FAIRBAIRN.

A large display of asters of all shades was put up by Mr. H. J. Jones, who introduced with good effect several groups of Helianthus Monarch, one of the finest of the sunflowers. The Michaelmas daisies Blue Gem, Little Boy Blue, Maid of Athens and Anita Ballard were also noted on this stand, and Pink Pyramid was much admired. Messrs. Cutbush had some good asters among their collection. Royal Blue was one, Thora Perry, pale lavender, a dwarf variety, another, and Wienholtzi yet another. Messrs. G. Whitelegg had some of the best of the amellus section, including Beauty of Ronsdorf, which has large, mauve pink blooms. Messrs. W. Wood staged a very fine Michaelmas daisy exhibit which contained many good varieties of the Novi-Belgii section and good blooms of Barr's Pink. All their asters were well grown and in good condition. Helianthus sparsifolius, a bright yellow, large flowered, was conspicuous on this stand. Grey Lady, Walkden's Pink, Duchess, Maggie Perry and many others



A GOOD SCARLET RED-HOT POKER (KNIPHOFIA H. G. MILLS). SHOWN BY MESSRS. BAKERS.

were displayed by Messrs. W. Sydenham, Mr. T. Carlile, Messrs. Bunyard, Messrs. Skelton and Kirby, the Chalk Hill Nurseries and many other firms exhibited Michaelmas daisies together with other hardy border flowers.

All these newer Michaelmas daisies are great improvements on the old varieties, and as they are easy to grow some of them should be planted this autumn.

HARDY BORDER PLANTS.

Great interest was taken in the exhibits of herbaceous perennials, for it is at this time when the work of making and renovation of borders is at hand that all gardeners are on the look-out for new plants to include in their planting schemes. Many fine autumn-blooming perennials were on show, as well as a number of new phloxes and kniphofias and some striking new hardy lobelias.

An interesting collection of hardy plants was staged by Messrs. M. Prichard. Asters, phloxes, pyrethrums, were there in plenty. Helianthus Rev. Wolley Dodd, a clear bright yellow; the snakeroot, Cimicifuga simplex, with its feathery white flowers; Poterium

A NEW MAUVE PINK MICHAELMAS DAISY, SONIA. SHOWN BY MR. T. BONES.

obtusum, with flower spikes of rosy mauve; Rudbeckia The Pilot, a handsome cone flower; and Cynoglossum amabile, the Chinese hound's-tongue, which were exhibited by this firm, are perennials which should be more often grown.

Messrs. Baker staged an effective group, which was backed by a bank of Michaelmas daisies in varying shades of blue and mauve. A particularly good kniphofia was noted on this stand. Its name is H. G. Mills, and, besides being a tall grower, its spikes are of bright flame scarlet and are not shaded with yellow, as is the case with the majority of kniphofias. Phloxes, delphiniums and sidalceas were also exhibited.

Some new herbaceous phloxes shown by Mr. R. Fairbairn attracted considerable attention owing to their unique colouring. Triumph, a rich blue variety, was one of the most recent novelties; other striking varieties were The King, clear purplish blue; Attraction, soft salmon pink; Lord French, carmine; and Border Gem, one of the bluest of phloxes. Mr. Amos Perry had some fine pentstemons, one named White Bedder, and another Chester Scarlet, among his collection of border plants. Good sprays of Helenium autumnale rubrum and Riverton Gem, and the purple-flowered spikes of Liatris pycnostachya, made bright splashes of colour on this stand.

A mixed collection of border plants was put up by Messrs. Harkness; Lupins Queen of Hearts and Pink Progression, Verbascum C. L. Adams, Montbretia Prince of Orange, Delphinium Lizzie Anderson were included. Harkness' Regal lupins are becoming widely known. Mr. R. C. Case showed Coreopsis auriculata superba, One of the most useful of yellow-flowered perennials for the amateur's garden. This easily grown perennial produces its flowers in great abundance throughout the summer and well on into the autumn. Border chrysanthemums, pelargoniums and pentstemons were also shown by Mr. Case.

Among a collection of herbaceous plant Messrs. Hewitts were showing several of their famous Wrexham delphiniums. Ruffled Beauty, with its graceful tapering spikes of violet shaded mauve; and Rose Marie, pansy violet, were two of their best.

Some well grown hardy border plants came from the nursery of Messrs. J. Cheal and Son. Phloxes, such as Mrs. M. van Hoboken, a particularly good soft pink

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variety; and Baron von Heeckeren, a rosy salmon, were noted.

Messrs. Ladhams staged some excellent new hardy lobelias, which are effective both in flower and foliage. Some of the new crimson varieties were brilliant in colouring. Shirley Crimson, Hamwood Pink, Purple King and Blue Bird were a few of these valuable border plants which were on show.

Pentstemons and herbaceous phloxes of good size and colour were exhibited by Messrs. J. Forbes. Asters, helianthus, delphiniums and an attractive Shatsa daisy, Iris Carlile, were shown by Mr. T. Carlile. Helianthus Loddon Gold, a handsome double form of the sunflower, was seen on the stand of Messrs. W. Keep; and a bold group of Kniphofia Mount Etna, shown by Mr. Isaac House, made a vivid splash of colour. Mr. House also exhibited a number of his beautiful scabious—Kenneth Ball, Harold, Clive Greaves and Millicent were all fine varieties, varying in colour from light mauve to dark purple. Daniel Bros. showed a splendid group of the large-flowered montbretia.

In the gallery, Messrs. Bunyard had a representative collection of herbaceous plants, both summer flowering and autumn flowering; Achillea Cerise Rose, Pyrethrums Albert Victoria and Agnes Mary Kelway, Sedum spectabile atropurpureum and many Michaelmas daisies; and Messrs. Blackmore and Langdon many fine spikes of delphiniums.

Some other exhibitors of hardy border plants included Messrs. G. Reuthe; Messrs. G. A. Miller; Messrs. Rich and Cooling; Messrs. Barr and Sons; Messrs. F. K. Wood; Messrs. H. Langridge; Messrs. W. F. Gullick, who showed border chrysanthemums, asters, kniphofias and pyrethrums; Messrs. W. Keep; Messrs. Skelton and Kirby; Messrs. G. Gibson; Messrs. G. Jackman; and Messrs. Wilson and Agar.

ROSES.

The competition for the Wigan Cup gave additional interest to the many exhibits of roses. The various groups were shown under numbers until after they had been judged. Most of the great growers had exhibits, so that the best blooms from Messrs. S. McGredy and Son, Messrs. A. J. and C. Allen, Messrs. B. R. Cant and Sons, Messrs. Frank Cant and Co., Mr. J. H. Pemberton, Messrs. Chaplin Brothers, Messrs. Alex. Dickson and Sons, Mr. Walter Easlea, Mr. Elisha J. Hicks and Messrs. A. Warner and Son were seen set out in friendly competition.

Generally, these large collections were admirable, and considerable time had been spent in their arrangement. In several instances the hard line along the front of the staging was most pleasantly broken by gentle cascades of beautiful roses hanging over the edge. The cup was won by Messrs. S. McGredy and Son, who had a lovely basket of Mrs. A. R. Barraclough, flanked by smaller baskets of the pink Ivy May, Mrs. Talbot O'Farrel, Patience and Desmond Johnson. Night, a very dark maroon, and Margaret McGredy, of glowing scarlet colour, were also prominent varieties.

The hybrid tea roses at this autumn Show were principally the same varieties as at the summer shows. So we saw gorgeous blooms of Betty Uprichard, Lady Inchiquin, Los Angeles, Shot Silk, Isobel, Colonel Oswald FitzGerald, Mrs. Henry Bowles, Mme. Butterfly and similar sorts. J. C. N. Mensing, described as the new pink Ophelia, is a very beautiful hybrid tea rose and was shown in goodly quantity. Messrs. Laxton Bros. were showing their rose Bedford Crimson, which is of a deep crimson colour and also very fragrant.

The dwarf polyanthas and taller cluster roses were somewhat in the minority at this Show, though there were occasional vases of Orleans Rose, Mrs. W. H. Cutbush, Koster's Orleans, Orange King, Edith Cavell and Queen Wilhemina of the dwarf polyanthas, and Moonlight, Felicia, Greta Poulsen, Pax and Penelope of the more robust type which bears larger, looser clusters of flowers.

STOVE AND GREENHOUSE PLANTS.

One of the most attractive displays of indoor plants was the beautiful group arranged by Messrs. John Peed and Son. With the graceful Humea elegans and slender palms, rising above many semi-transparent caladiums, highly coloured crotons, liliums, streptocarpus, Achimenes coccinea and hydrangeas they made a most charming exhibit.

Double-flowered tuberous-rooted begonias were shown in great splendour by Messrs. Blackmore and Langdon. This was the finest exhibit of begonias ever staged by the Bath firm, and was fully worthy of the award of the Coronation Cup for the best exhibit in the Show. The very beautifully formed flowers were of immense size and of pure colouring. Their varieties included Corientia, rose; Mrs. E. Ramsden, deep rose; Hilda Langdon, soft pink; Mabel Langdon, rich orange; Sir J. Reid, orange; Peace, cream; and Lady Ann, pink. In a large circular group Messrs. Sutton and Sons illustrated the excellence of their strain of double begonias. These were from seed sown in January of this year, and the plants were set out in radiating blocks of distinct colours. In addition to the large doubles they showed mixed colours of their Duplex strain. A large circular group was well filled with liliums, the bright scarlet Clerodendron Fallax and many floriferous little plants of Begonia semperflorens type by Messrs. Carter and Co. Messrs. R. and G. Cuthbert had a good selection of streptocarpus in many attractive shades of colour, and also included occasional plants of the glowing coloured Rochea falcata.

A number of uncommon fuchsias, flowering well in quite small pots, were shown by Messrs. G. Bunyard and Co. There were plants of F. gracilis and varieties, F. conica, F. Riccartonii, F. Thompsonii and F. Mimosa. Mr. Sydney Smith made an attractive display of cacti and allied plants. He set out examples of Opuntia robusta, Mamillaria perbella, Cereus flagelliformis cristata, Echinocactus Grusonii and other cacti, with an admirable selection of echeverias and mesembryanthemums.

Messrs. Stuart Low and Co. in addition to carnations, staged cannas, ericas, ailamondas and bougainvilleas.

FRUIT AND VEGETABLES.

As the Holland Park Show is fixed between the special Vegetable and Fruit Shows which are held at Vincent Square, there is no great need for these sections. Vegetables were represented by a collection of potatoes shown by Messrs. Thyne and Son. These were chiefly of seed size, but ware tubers were also included. The principal sorts were The Bishop, Kerrs Pink, Eclipse, Edgell Blue, Ally, Red King, King George and Mons Star, a new kidney-shaped tuber of pinkish colouring.

There were more exhibitors of fruit, which was fairly well represented. Mr. A. P. Brandt, Bletchingley Castle, sent eighteen handsome bunches of Muscat of Alexandria grapes, which already showed the desired amber tint which tells of high quality. These grapes were set out attractively with well grown crotons of useful table size.

Grapes were also shown by Messrs. G. Bunyard and Co., who had many neat, compact bunches. The berries were about the size of large black currants. Since the vines

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A DESIGN FOR A SMALL ROSE GARDEN (see page 664).

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OCT 21 1927

THE

GARDEN

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Vol. XCI.—No. 2915 Saturday, October 15th, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2915. OCTOBER 15, 1927. PRICE TWOPENCE.

OUR DEBT TO SPECIALISTS

IN whatever department of horticulture one's interest lies, it will be found that the best achievements are due to the painstaking and long continued work of the specialist, who, in many instances, works upon a plant of insignificant origin until he has produced, perhaps after several years' labour, something praiseworthy and quite superior to anything that has preceded it.

When people take exception to what appear to be enhanced prices for new varieties of plants when first they are offered for sale, it is doubtful whether thought is ever given to the many failures and disappointments the raiser had to encounter in the casting aside of plants which, on blooming, were found to be but commonplace, before he was able to evolve something that was really meritorious.

Much has been said in the last few years about the absence of scent from many modern roses, and there is truth in it; but if one compares roses to-day with those grown, say, fifty years ago, it is only right that the matter should be regarded all round. It must be admitted that some of the oldest varieties possess much sweetness, an attribute not found in a number of those introduced the last twenty years or so; but surely we have enough roses valued for their perfume to enable us to admire a Frau Karl Druschki, whose peerless white blooms are so beautiful, though lacking scent! The old growers knew scarcely anything about hybrid teas with their delightful colourings and shapely buds, and teas were looked upon and treated as indoor subjects mostly. They understood more about the hybrid perpetuals, and, in particular, such sorts as John Hopper, Baroness Rothschild, Dr. Andry and Gloire de Dijon, that never approached the charm and grace of a Betty Uprichard, a Mabel Morse, a Golden Emblem or Ophelia. If, as has been stated on more than one occasion, it is true that raisers of new roses are more concerned about form and colour than with perfume—an indictment with which we do not agree—one can afford to be charitable when it is realised what is due to these specialists for the feast of beauty they have provided for the lover of the queen of flowers!

When one is inclined to review some of the good old things of the past, and imagine that something of value has been lost, it is well to sit down and peruse a catalogue of a firm of seed growers and raisers, as there is nothing calculated to dissipate prejudice more quickly, if only the subject is approached with an open mind. A few examples will demonstrate what we mean.

What has the specialist done for us in the case of wallflowers? He has given us Sutton's Fire King, Vulcan, Orange Bedder, Eastern Queen (a blending of colours of apricot and carmine), Faerie Queen (primrose), Purple Queen, Cloth of Gold and Giant Blood Red, much superior to any old form. Of these it can be said that no charge can be made against them that they are lacking in sweetness. The chrysanthemum is a witness to the work of the specialist, too. We remember when, for the most part, it was only as a garden flower that it was known, our earliest recollection being of Cottage Maid, a ragged pink, and pompons of deep red and yellow. To-day one may have chrysanthemums in bloom from July to January, by choosing varieties for outdoor and indoor blooming.

A garden plant which blooms in late spring and early summer is the sweet william. The old florists made much of it, and rightly so, but it has been left to modern specialists to bring to our borders such superb sorts as Pink Beauty and Scarlet Beauty. The lupin is another old-timer of the cottage garden represented by blue and white. This plant has been raised from a position of comparative obscurity by reason of the work of the specialist. The Michaelmas daisy is another that was for years represented only by one or two forms—a slate-blue, a purple, and a white, lacking in purity. Now we have rich blues and indigos, rosy purples, and brilliant pinks, along with dainty members of the ericoides section, almost as fine as heather itself; some tall and imposing, others dwarf and of dainty habit. Mention need only be made of the improvements in other well known garden plants, like antirrhinums, clarkias, godetias, aquilegias, sweet peas and dahlias. The same progress is manifest among greenhouse flowering plants. One thinks of primulas, cinerarias with their dainty stellata forms, and also of the strides which have been made in begonias and cyclamen.

Among vegetables the work of evolving better varieties has been going on steadily for years. This is demonstrated in peas and beans; in lettuce and onions; in tomatoes and potatoes. All along the line it is the work of the specialist which has told for good, and because of his work we have no longings for the varieties of a past generation.

The Specialist's Aim.

There is one very important point between the raising and growing of seeds and plants that all concerned will do well to consider It is this. An inferior strain needs just as much attention and preparation of soil as the best. Is it not always more satisfactory in every way to get the best at the outset, even though the cost be a little more? Experience warrants us in saying that it is by far the most economical procedure, and that in the long run quality counts.

The specialist has ever in view this question of quality, hence the seemingly good plant of one decade has to make way for something in the next which has been found superior.

This Week's Work

For Gardens in the South and Midlands.

Prepare beds for roses and shrubs.

Plant tulips, anemones and ranunculus.

Fill window boxes with bulbs and wallflowers.

Plant raspberries, currants and other bush fruit.

Lift and store begonias and gladioli.

Store potatoes, beetroots and carrots in clamps.

Take cuttings of roses.

Plane peonies, delphiniums and lupins.

Finish pruning and tying in rambler roses.

This Week's Work

For Gardens in Scotland and the North.

Plant bulbs in window boxes.

Lift and pot tuberous begonias in leaf soil.

Transplant seedlings of spring flowers.

Make a first sowing of cyclamen.

Take up rhubarb for forcing.

Dig vacant plots.

Plant anemones and ranunculus.

Complete pruning and tying rambler roses.

Give cinerarias their intermediate shift.

Propagate dwarf polyantha roses from cuttings.

Thin shoots of gooseberry bushes.

Renovate arches and pergolas.

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SUGGESTIONS FOR A SMALL ROSE GARDEN

A GARDEN consisting entirely of roses is a practical and desirable proposition, but an English garden without roses is inconceivable. No other flower combines the almost infinite range of colour gradation with a flowering period lasting from early summer to late autumn, and a fragrance unequalled by any other occupant of the garden.

It is not always, however, that roses are planted to the best advantage. One sometimes finds them in scattered masses mixed with shrubs or herbaceous plants, or in curious-shaped beds dumped at random into odd corners of the garden, but this is not doing them justice. The rose possesses so many attractions and is in a class so entirely unique that it demands a portion of the garden to be devoted exclusively to its cultivation.

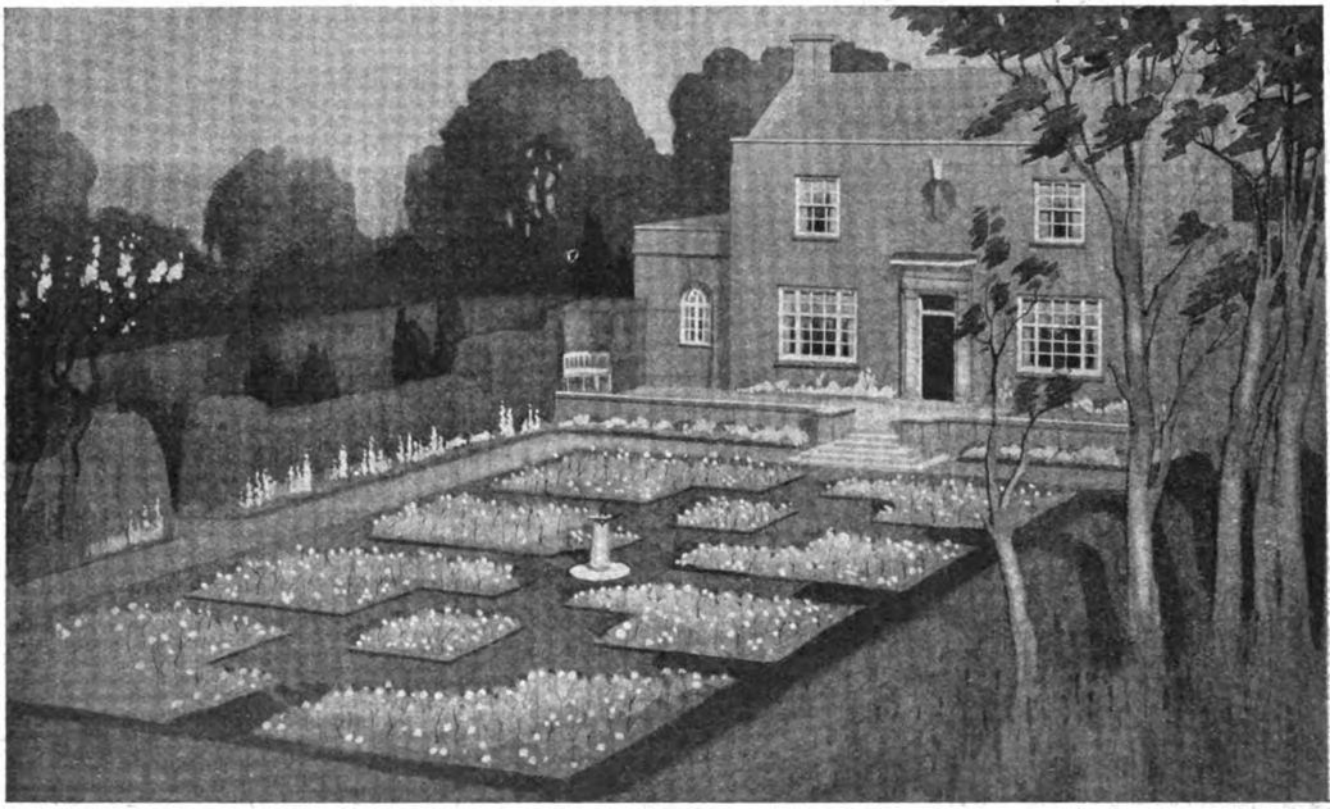
area to grow a very fine selection of roses. I always think that one cannot be too careful in combining the colours in a rose garden. Take, for instance, the crimsons and pinks. Planted side by side, these detract each from the other, whereas crimsons and pale yellows always unite perfectly. There is nothing to object to in the association of yellows and pinks, and the pinks and creams or very pale yellows make a very soft and happy combination.

In this little garden I am suggesting that the strong and warm colours are massed in the centre of the design, and thus we get four blocks of crimson connected to four of yellow, while in the interior they shade away to four smaller groups of bright scarlet. The isolated beds of orange will have the

to make dry paths inside this enclosure, I would restrict such an effort entirely to the surrounding path, that is, between the borders and the rose beds. I would urge strongly how important it is that this colour grouping should be seen, relieved by the cool green carpet of closely mown turf.

In such a design as is presented here it is necessary to introduce some central object, which can either be a garden ornament or a shrub, provided it is remembered that the shrub will grow, that the area is limited, and the choice must therefore be one which will not usurp the necessary width of path surrounding it.

With regard to the varieties which can be planted in such a garden, these would depend to a very great extent upon local conditions.



A ROSE GARDEN LAID OUT ON FORMAL LINES, AND SUITED TO A PLOT OF MODERATE DIMENSIONS.

Moreover, the rose is not a plant which cares to associate too closely with its neighbours. It has been called the Queen of Flowers, and it would appear from its objection to mixing with other plants that it realises its lofty position in the flower world and insists on that aloofness from common things which has always been considered, rightly or wrongly, to be a royal attribute.

There is a very strong argument in favour of making a rose garden one in which the lines are more or less formal, and this applies particularly to a situation where the area is somewhat limited. Roses look at their best when grown in blocks or masses of one sort, and this little formal garden, which I have designed to suggest a pleasant arrangement wherein at least twenty-two varieties of roses can be grown in such a way that each will assist the other by colour combination, can be modified to suit an area somewhat smaller or considerably larger.

The total area occupied by the rose garden is 50ft. by 25ft., and a glance at the plan will show that it is possible within such an

effect of keeping the central mass of warm colours to themselves. In the four L-shaped beds in the corners the pinks will be seen nearest the yellow, and will shade away to smaller groups of cream and very pale yellow.

If the area were a little larger, I should have preferred making the paths 5ft. wide instead of 4ft., because 5ft. allows two people to walk side by side, whereas 4ft. scarcely permits this. Also, if the area were a little larger the beds could be increased in size without destroying the cohesion of the elements forming the general design.

Now, a few words about the paths. In my design I have shown the whole of the rose garden lying in a lawn of mown grass, and there is not the slightest shadow of doubt that this is by far the most satisfactory effect, looking at it from the æsthetic point of view. If the garden is large enough to surround it as suggested in the plan by borders of either herbaceous plants or flowering and foliage shrubs, then any hard paths which are required can be placed outside these borders, but if the garden is so small that it is necessary

There is no doubt whatever that some roses succeed better in some localities than in others, and in making the following suggestions of varieties suitable for such a garden I do so with the idea that many people will have their own preferences with regard to varieties, and some of the sorts I mention will be better omitted on account of the local conditions.

Crimson.—General McArthur, Etoile de Hollande, Lord Charlemont, Hawlmark Crimson, Bedford Crimson, Hugh Dickson and Hoosier Beauty.

Scarlet.—Charles K. Douglas, K. of K., Hortulanus Budde, Red Letter Day, Château de Clos Vougeot and Covent Garden.

Orange.—Emma Wright, Sunstar, Independence Day, Irish Fireflame (single), Irish Elegance (single), Henrietta, Frances Gaunt, Flame of Fire and Lamia.

Deep Yellow.—Mabel Morse, Golden Emblem, Christine, Florence L. Izzard, Mrs. Beatty, Mrs. Wemyss Quin, Sovereign and Rev. F. Page Roberts.

Pale Yellow and Cream.—Elegante, Harry Kirk, Miss Willmott, Mrs. Beckwith, Melody, and Mrs. Henry Balfour.

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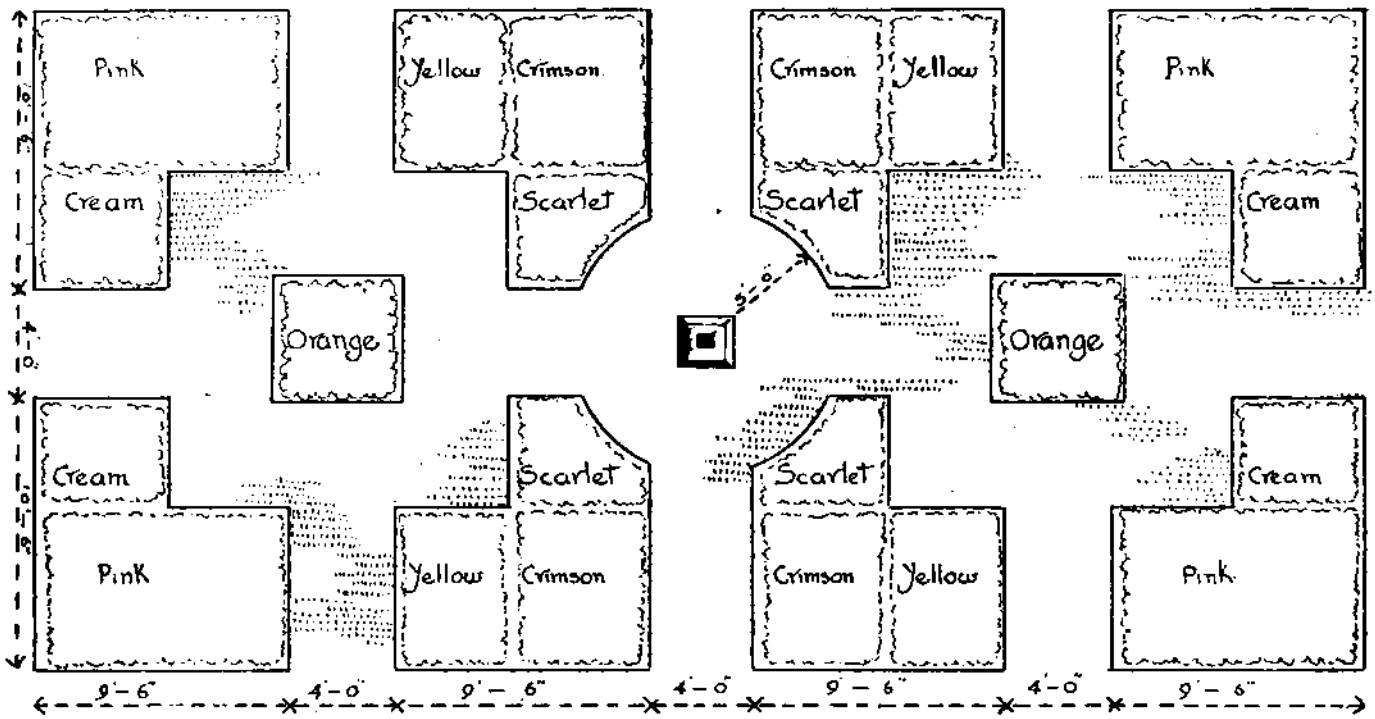


THE PLAN OF THE ROSE GARDEN SHOWING THE COLOUR ARRANGEMENT.

Pink.—Mrs. Henry Bowles, Mme. Butterfly, Rose Marie, Mrs. Henry Morse, Mme. Abel Chatenay, Mrs. George Shawyer and Charles E. Shea.

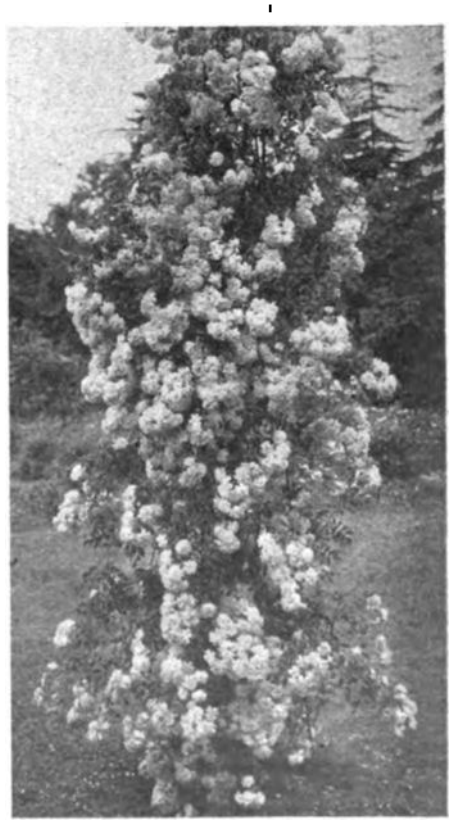
Salmon and Cerise.—Lady Inchiquin, Los Angeles, Cheerful, Mrs. Redford, Lady Dixon Hartland and Betty Uprichard (orange and salmon pink).

For such an arrangement as I have suggested the above is a sufficiently comprehensive list from which to select, but to say that it is even representative of all that is good in roses would be absurd. The actual choice of varieties must, therefore, be a matter of personal taste. G. D.

ROSES FOR PILLARS AND PERGOLAS

ROSES for covering pillars in a garden should be selected with care, preference being given to those the growth of which is staid, omitting sorts which, however attractive they may be for a few weeks when in bloom, romp away and completely smother the structure. Dorothy Perkins and varieties of that type are more at home on a pergola or dividing fence where there is plenty of room for the shoots to extend, but in the confined space of a pillar, whether it be one constructed of rough poles at the back of a border or placed near a wall, it is better to make a choice from some of the many sorts that are not so rampant. The season for planting is close upon us, and it may not be inopportune to consider the claims of some of them. I have noticed where it is not always possible to erect an arch or pergola in a gaden of moderate dimensions, room can usually be given up to pillars. The rougher and firmer these can be constructed the better. Larch poles make excellent supports, as do elm and ash if properly chosen. In any case the main supports which have to go in the ground should be treated with a coating or two of preservative in the nature of carbolineum, as then they will last for years. The dimensions of the pillar will suggest the number of plants to be used. As a general rule, it is much the best to plant only one sort at the foot of each pillar, as then overcrowding is avoided and it is easier to deal with a single specimen. November should, if possible, see planting done. If the position is one close up to a wall, more than usual care is needful to ensure a proper rooting medium. This can only be ascertained by digging out to a depth of 2ft., or even 3ft., the material, which, too often deposited under walls, is nothing more than rubbish, and this is one of the causes why some roses do not do well near a wall, because they have never been provided with a good rooting-ground. Drainage must be arranged for, and some of the rammel consisting of brick-ends and mortar rubble will answer. Over this, good loam and rotted manure should be placed, filling up with loam. In planting, the roots ought not to come in contact with manure, and each tree should be well trodden in after

BLUSH RAMBLER OVER AN ARCH.



LADY GAY, A FREE-FLOWERING RAMBLER.

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planting has been done. Should the plants arrive from a distance and the weather is frosty o the ground is in a wet condition, defer the work for a time, keeping the bundle in a cool place, such as a cellar, covering them with a bag of straw to prevent drying. In planting, see that the hole is large enough to enable the roots to be spread out, and cover the roots with the finest soil, then filling up with rough. Tread well in, so that when the job is completed the plants will be firmly set in the soil.

Training.

From the time planting is done it is advisable to get the shoots into something like position, though pruning of them must follow in spring, the idea being to prevent storms of wind and rain unsettling or uprooting them before the roots have got hold. If this is not done, and the shoots left lying about the ground in winter, sometimes they become loose in the soil.

Varieties.

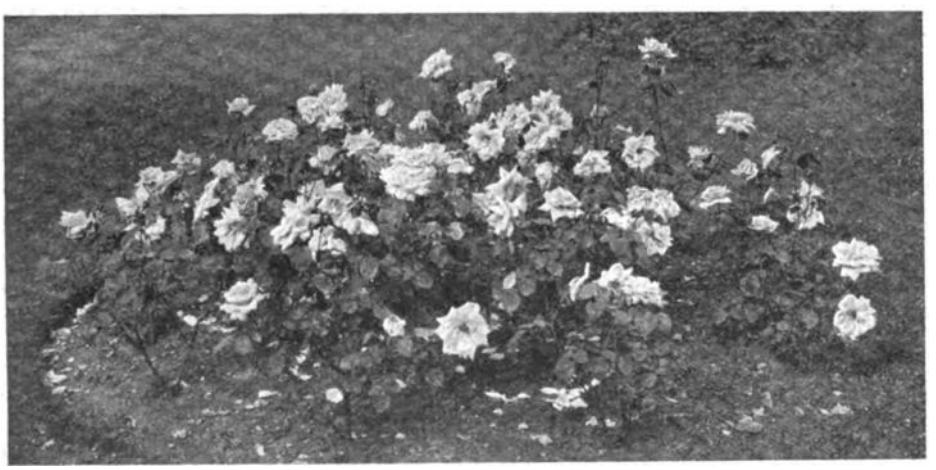
"The best show for the longest time" should be the motto of the one planting rose trees for the adornment of pillars, and though hat class of rose known as a rambler is very beautiful while it is with us, its season passes swiftly, and then begins the output of new shoots which are apt to envelope the pillar, although, if there is plenty of space available rambler roses should also be included, as they make a very effective display for several weeks. Some of them are old and well known; others whose names are just as familiar now come to us under the guise o. climbers. I give the names of a dozen from which one can make a choice for a garden: and in this list are some climbing fo ms of well known hybrid tea varieties: William Allen Richardson, deep orange yellow; Caroline Testout, rosy pink; Mme. Alfred Carriére, white, tinted flesh; Mme. Abel Chatenay, rose, shading to salmon; Rêve d'Or, buff yellow; Lady Ashtown, deep pink; La France, satiny pink; General McArthur, crimson; Trier, creamy white semi-double clusters; Lieut. Chauré, velvety crimson; Grüss an Teplitz, bright crimson semi-double flowers in clusters, with good foliage, a fine autumn rose for pillar work; and Paul Lede, carmine shaded orange. Among rambler rosessuitable either for a pillar or a pergola, one of the best is American Pillar. Lady Gay, a cherry pink variety somewhat similar to Dorothy Perkins, and Albéric Barbier are also good. The foliage of the latter variety is almost evergreen, and it produces its creamy white blooms early in the summer. For draping an arch or stone pillar, Blush Rambler, a mid-season variety, is particularly effective; so also is Emily Gray, which is considered to be the finest yellow climbing Wichuraiana rose yet introduced. Sander's White, in many districts, is very free flowering, and Jersey Beauty is a most attractive, pale yellow, single-flowered rambler. L.

HOW TO SUCCEED WITH ROSES

This is the first of a series of articles on roses, written by a well known authority, which will answer all points that make for success in the growing of roses. Amateurs should make a note of the points emphasised and endeavour to follow the suggestions given, which are the outcome of many years' experience. This article deals with preparation that should be made before the actual planting is done next month.

IN an ordinary season the planting of roses begins about the end of October, and if the weather is open—that is, if frost is absent—the work can be continued, as opportunity affords, until March. This year, however, the grower need not be worried if the plants ordered from the nurseryman do not arrive at the usual time. The reason is obvious. An unusually wet summer and autumn have been experienced and the plants, in consequence, are not likely to ripen up in time for removal at the end of October. If deliveries are somewhat later this year the purchaser may rest assured that the nurseryman is taking the precaution of holding up the plants until they are sufficiently hardened up for lifting.

It should be observed that plants with soft, green growths are almost certain to cause trouble. Bushes with shoots of such a character are sure to die back very severely when removed and replanted. If they are allowed, this year, to remain a little longer than usual in the nursery, the colder weather and longer nights will soon harden them up and render them fit for transplanting anywhere. Do not be impatient, therefore, if you experience an unwonted delay in the delivery of your plants this autumn. It is well to remember that your interests are at stake.



A FINE ROSE DISPLAY WHICH WELL ILLUSTRATES THE IMPORTANCE OF GOOD CULTURE.

It is to be assumed that the ground intended for the roses has been dug over and manured in readiness for planting, but if this work has not already received attention it must be carried out at once if planting is to be done in November. It is always desirable to allow the soil time to settle before planting is done. It is most undesirable to dig over the ground for the roses and then to plant immediately afterwards. When planting is done shortly after digging and manuring the soil is inclined to subside, and the plants are apt to be left too far out of the ground as the result. Two very dangerous consequences ensue. The first is that the point of junction with the stock and scion is exposed to all weathers and the plant may perish, or, if it survives, it will make but poor growth in future. The second is that the plants become loosened in the soil and are at the mercy of every winter wind. Root action is disturbed and the plants will surely die.

Manuring.

The question of manuring is one of extreme importance, and I generally find that the average amateur is too often inclined to be far too generous in this respect to newly planted roses. The ideal manure for the cultivation of the rose is well rotted cow manure. That material, unfortunately, is not easily procured by many growers, and in such cases a substitute is necessary and has to be found for it. If cow manure can be obtained it ought to be applied very sparingly. The soil in the beds or borders should be "bastard trenched," and at the foot of the bottom spit put in a dressing of 4ins. or 5ins. of the manure; at the bottom of the top spit place 3ins. of the same material, adding, at the same time, a sprinkling of rough bone-meal. When the work is finished allow the bed to settle down for at least a fortnight before planting.

If cow manure is not procurable, material from the stables may be substituted. If horse manure is used, be careful to employ only that from stables where straw or something similar has been used for bedding. Peat moss litter is a dangerous manure for roses. The peat does not decay readily and soon becomes sour. In such a state it sets up unhealthy soil conditions; the roots become sickened and the plants deteriorate rapidly. Pig manure will answer, but, as with other manures, it must only be used in a well rotted condition. In the absence of cow, horse or pig manures, something must be used to provide humus in the soil. Leaf-mould or decayed spent hop manure will do, but these must be supplemented by bone-meal applied at the rate of 4 oz. to the square yard of surface.

It is a somewhat difficult subject to deal with manures, because conditions vary so much in gardens, and so, also, do soils. What may be good in one garden is more than likely to be bad in another, and of all plants none is more impatient of unsuitable soil conditions than the rose. It is not the gross feeding plant that many folks imagine it to be, and it cannot tolerate too liberal nor yet too poor manuring. A happy mean must be struck. If you can grow herbaceous plants successfully, if you can produce good cabbages or cauliflowers, you need not despair about roses.

It is the desire of this article to assist amateur growers in every possible way, and Those who have had difficulty in the cultivation of roses are invited to write to the Editor and inform him just where the trouble has arisen, what manures have been used and how often applied. The information so obtained will be carefully considered, and the replies and advice thereon will be very helpful to many besides the person who sends in the details. It is, I think, by such means that help can be

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given to the amateur, and such information is far better than mere mechanical writing upon the subject.

The next article will deal with actual planting, and if any readers send queries in regard to soils and manuring, these will be answered as fully as possible. The different types of roses will be dealt with, and this is also a point of importance. The modern rose is an exceedingly complicated organism. There is a type which is exceedingly prone to mildew; one which is addicted to black spot; one which grows too tall for ordinary bedding work; and one which has a poor constitution. The modern bedding rose is classified, for the most part, under two general types, *viz.*, hybrid teas and Pernet roses; but in both sections there is considerable variation and a vast difference in the manners and customs of the sorts comprised in them. There are, however, many varieties of sterling merit which have been proved after thorough trials, and it is with such roses that we are concerned.

GEO. M. TAYLOR.

AN UNCOMMON GARDEN SCHEME

There are many suburban gardeners whose main endeavour is to get away from the too obviously rectangular outline of their fairly long and "unfairly" narrow garden plots. Here is a suggested plan which you may like to adopt when carrying out alterations this winter.

WHERE the whole of such a garden is to be devoted to flowers, the end farthest from the house may be laid out on informal lines, and really skilful planting will largely, or even entirely, obliterate the rectangular feeling. The part nearest the house, however, calls for more formal treatment, and here curvilinear outlines may be usefully employed with the same object. The accompanying plan shows a simple lay-out on these lines, of vistas—to flowering shrubs. Barberries, escallonias, brooms and shrubby veronicas are particularly suitable as being—or, in the case of the brooms, appearing—evergreen. The climate being suitable, some of the choicer olearias are also very desirable for the same reason. One would not, however, confine this planting to evergreens. Care should be taken to see that all the kinds employed do not flower at the same season.

The selection of the lighter—generally speaking, herbaceous—planting in front of these shrubs is one calling for great care in a garden so small as that shown. Bearing in mind the association with dwarf walling and paving, shrubby and sub-shrubby kinds with grey foliage can be used with great effect—lavender, santolina, Jerusalem sage (Phlomis fruticosa), Olearia stellulata and some others of the New Zealand bush daisies, with, soil and aspect permitting, some of the dwarf rhododendrons, such as RR. racemosum, hippophæoides, intricatum and fastigiatum. Cistus and helianthemum likewise provide many good grey-foliaged shrubs and shrublets, which are most effective when in blossom and continue to flower for a considerable time.

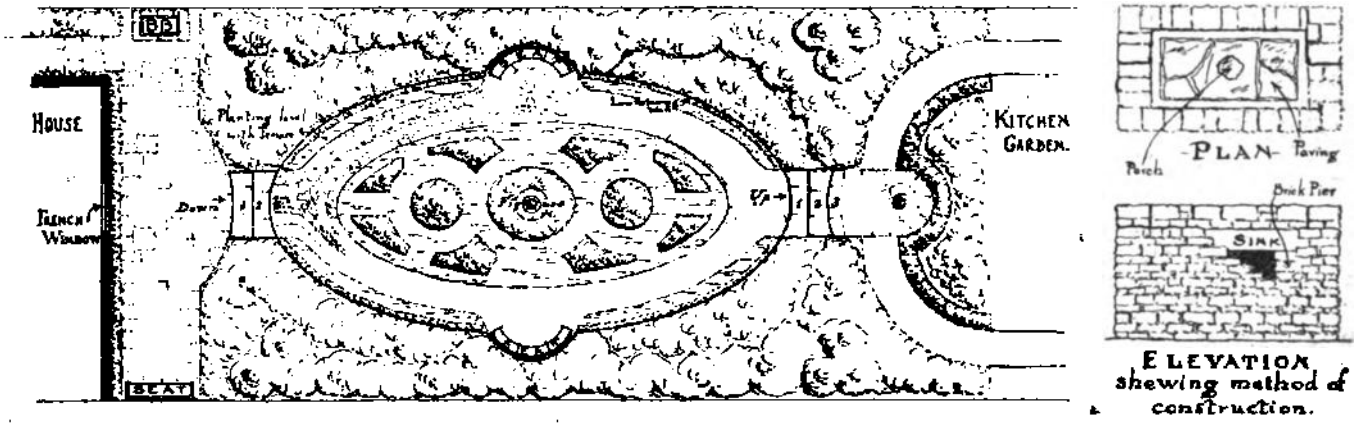
With such "permanent furniture" one may associate many choice and beautiful herbaceous kinds: Dwarf anemones, dog's tooth violets, fritillarias, the Carpathian snowflake (leucojum), crocus species and such-like for early spring effect; tulip species, May-flowering tulips and forget-me-nots, aquilegias, lupins and many forms of iris (bearded and otherwise) to usher summer in; lilies, gladioli, certain primula species, Galtonia candicans, many choice kinds of campanula and geranium, Pentstemon barbatus (the salmon pink form) and P. heterophyllus, some thalictrums and galegas, and a few good delphiniums to provide colour in high summer; and phloxes, a few of the best Michaelmas daisies and early-flowering chrysanthemums, and some of the elegant star and mignon dahlias to brighten the shortening days. These are, of course, only suggestions.

The beds of the sunken garden might be planted with roses, taking care to select sorts which flower freely and, as far as may be, continuously. The planting of the sunk garden should, whatever its character, be kept fairly dwarf—at any rate, as regards the main weight of planting. A little diversity in the shape of an occasional standard rose (if roses are the main planting) or of clumps of the hardy agapanthus (Mooreanus), gladioli, galtonia, thalictrum, torch lily (kniphofia) or other slender, aspiring kind can, however, do no harm.

A yew hedge is suggested to screen off the kitchen garden, and this hedge might be backed with a few small trees or tree-like shrubs. Silver birches are very effective in such a position in localities where the soil suits them. Or Cotoneaster frigida with its wealth of crimson scarlet fruits might be employed, or, again, one of the fine forms of Buddleia variabilis, or flowering cherries, Malus floribunda—to take but a few examples.

The site for the bird-bath, BB, would not be suitable for a seat owing to its proximity to a draughty entry, and the usual and perhaps too common type of circular bird-bath would not fit in very well in this position. It may, therefore, be worth while to show how an old stone sink or pig-trough, such as may still be picked up cheaply in many builders' yards, can be utilised effectively for such a site. The sink is raised on piers of brick or concrete so that its top is about 2½ft. above ground-level, and is surrounded by a wall of "coursed random" walling stone of the kind so suitable for dry walling, but in this case jointed in mortar or cement. The walling should show to a thickness of some 6ins. in front of and behind the trough, and to about 9ins. at the two ends. The back wall is shown carried up 6ins. above the top of the sink and almost half the length of the flanking walls is similarly treated. These sinks, as "found," are usually too deep for a bird-bath, and the water area should be reduced by covering the bottom with a layer of "crazy" or other paving.

R. V. G. W.



A SUGGESTED PLAN FOR A PLOT OF RECTANGULAR OUTLINE.

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THE BUSY MAN'S PAGE

The Best Vegetables for the Busy Man.

THE best selection of vegetables for the busy man is, we may take it, that which needs the least "niggling" work, such as thinning seedlings, spraying (for which reason broad beans are out of court), or slug-hunting. The following list is, therefore, a good one.

Peas (a good succession is Pilot, Lincoln and Gladstone), runner beans, perpetual spinach, leeks, shallots and, if space permits, sprouting broccoli.

Of these, perpetual spinach and shallots might almost be described as "labour-saving vegetables," since they not only require very little attention when growing, but are equally obliging in the matter of cooking! Perpetual spinach, if stripped from the midrib, cooked in a minimum quantity of boiling water with plenty of salt, pressed dry and finished with a dash of vinegar, pepper and a little butter, is delicious; while the shallot has the delightful characteristic of cooking in far less time than the onion, so is invaluable for "hasty, tasty" dishes, and has the additional advantage of being particularly mild flavoured.

Shallots should be grown from sets, which can be obtained in February for about sixpence a pound. The ground should be well broken up and liberally sprinkled with wood ash, soot and lime some time before planting. The sets are simply pressed into the earth. If winds are high and rains heavy at the time, it may be well to ridge up the earth round them, hoeing it away later when they have taken hold. The crop requires practically no further attention, beyond an occasional hoeing between the rows to keep down weeds, and is ready for harvesting about the end of July, when the whole crop can be lifted, dried off, and stored on wire trays or hung up in muslin bags in a dry shed for winter use. One pound of sets is sufficient for two 15ft. rows, and produces about 12lb. of shallots.

Peas are the most troublesome of the group, as they must be protected from the onslaughts of birds by black cotton, and subsequently provided with pea-boughs. The best way is to cotton them when they are sown, using at each end of the row a piece of board about 8ins. by 4ins., studded with nails round the edge and firmly fixed to a stout peg to be driven deeply into the ground right up to the board. This method is quicker and neater than using short twigs, as it is only necessary to pass the cotton round the nails at each end of the row instead of creeping along from twig to twig bent double. If the trench has been well dug and enriched with well decayed manure, the peas will need nothing but an occasional hoeing to ensure success.

Leeks are easily grown from seed, and a very small drill of seed will furnish enough young plants for two 15ft. rows; or young plants may be obtained in July from any market gardener. The trench should be prepared as for peas, with the addition of a sprinkling of wood ash, soot and lime. Plant 8ins. apart, leaving a ridge of earth at the back of the trench, to be hoed in by degrees as the plants grow.

Young plants of purple or white sprouting broccoli are easily obtained in August and should be planted in well prepared ground about 3ft. apart. They provide a pleasant change of green vegetable in the early days of the year, when greens are scarce, and have a useful "cut and come again" habit which makes them worth the room they take. They are also useful as a "wind-break" to other things. An early mint bed for instance, so sheltered, can be persuaded to provide mint quite a month earlier than one not so protected.

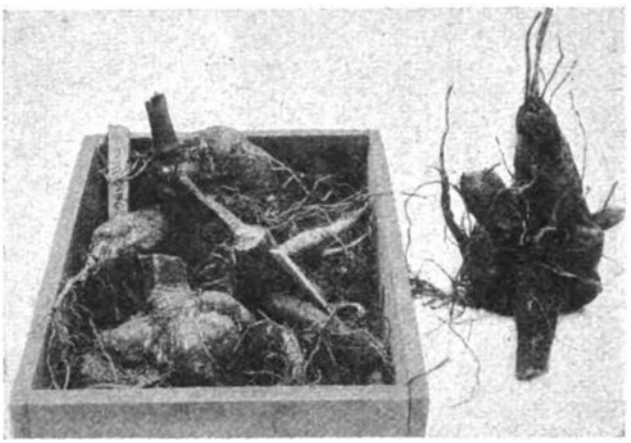
THE METHOD OF LIFTING DAHLIA TUBERS.
Dahlias should be removed when the foliage becomes blackened by frost. Lift carefully with a fork and do not injure the tubers.

Lifting and Storing Dahlias.

WHEN the foliage of the dahlias have been blackened by frost, the root-stocks may be lifted, turned upside down for a few days to drain, and then stored in boxes in a dry, cool, frost-proof shed for the winter; but it is desirable to spread cool litter, such as leaves or ashes, over the crowns before severe weather comes.

Standard Rose Trees.

ALL growers do not succeed in making this type of rose the success it ought to be. It must, first of all, be carefully planted in a well chosen site. Deep planting must be avoided at all costs; a shallow hole is made in soil previously well dug, the roots are then uniformly spread, and good rich soil is tramped firmly on top. A stake is always necessary, otherwise the strain on the roots is excessive and detrimental to the bush. Manuring later on should be on the top of the roots and beyond them; this encourages a fine and extensive system of feeding roots, a most necessary thing. Although pruning is on the lines followed in pruning bush roses generally, it demands an expert eye, for shape is of prime importance in the matter; the bush must be shapely without being heavy. When cutting the twigs back it is not wise to cut back into two year old or three year old branches unless necessity demands it, and strong shoots at the side need to be trimmed to two buds. In winter, very often protection is advisable, if not necessary; fine "heads" may be tied up merely or tied up with a little straw or some ferns, the protection being required more in the centre of the bush than at the tips of the branches. Standards are always expensive bushes and, if for no other reason, they ought to have the care we urge is necessary. They should be ordered early, too, as they are frequently rather scarce; and if the buyer gets a choice he should select those with plenty of fibrous roots.



DAHLIA TUBERS STORED IN A BOX.
The tubers on the right are turned upside down in order to enable the sap to drain away.

Storing Potatoes.

UNLESS a large quantity of potatoes have been grown, they can be stored in a dry, frost-proof shed, simply covering the heap with sacks. If a larger quantity is grown, store them in a "pie" on the driest part of your land. Make a heap of the tubers. Cover them with straw or leaves, about 4ins. thick, and then throw soil over the heap.

Make a vent hole at the top of the pie with a handful of straw or a few crumpled newspapers. The tubers will then keep well in the pie until required.

Care of Chrysanthemums.

CONSIDERING that the chrysanthemum blooms during the dull period when summer flowers have passed away, it now deserves every attention. It has the further advantage of being both an indoor and outdoor plant. To produce fine blooms on chrysanthemums growing in the greenhouse all side growths and buds should be removed, leaving only one or two at the top. Apply liquid manure from time to time. This is easily provided by suspending a small bag containing soot, sheep or fowl manure in a tub of water. The soil around the border plants should be stirred frequently, and not allowed to get set, otherwise the roots are deprived of the full advantage of the sun and rain. It is very necessary to see that the outdoor plants are securely staked, otherwise they will be sevesely damaged by the autumnal gales. All side shoots of chrysanthemums growing in pots should be tied loosely, but securely, to a stake.

Protecting Delphiniums.

IN some damp and heavy soils delphiniums suffer severely from the attacks of slugs in winter and early spring. When the stems are cut down in autumn some ashes may be spread round the stools to dispel the slugs.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Floral Hedges to Plant Now.

THE "season of mists and mellow fruitfulness" is the time when gardeners think of planting, for trees and shrubs of all kinds are best planted in early autumn, just when the leaves are "on the turn." While we may prefer to see spacious open lawns between our houses, the problems of stray animals and mischievous young children can only be solved by putting in hedges of some sort. But beauty can be combined with utility, and such atrocities as brick walls with broken glass tops should give place to well kept evergreen hedges. Such a shrub as Berberis stenophylla is both effective and charming. It makes thick growth from the base, is covered with tiny evergreen leaves, and in springtime each shoot is smothered with small orange flowers, which last for many weeks. The only pruning necessary is to cut back the straggly shoots after fruiting. This shrub is only one of many recently introduced that can be used for hedges.

Escallonia macrantha is another good hedge plant, which likes a dry and not too exposed situation. The narrow-leaved bay and Phillyrea angustifolia are also excellent. Another plant which deserves to be more widely grown, if only because it flowers so well in the dark days of winter, is the laurustinus (Viburnum Tinus)

Shrubs for Covering Walls.

THE town garden has often a tall, ugly wall at the far end, and, no matter how beautiful and well cultivated the garden may be, the wall always detracts from its beauty. There are many climbing shrubs that can be usefully planted to hide the bareness of such a wall. One of the best for the town garden is Fire Thorn (Cratægus Pyracantha). It does, of course, require training, but against the grimy blackness of a brick wall its shiny red berries add a touch of colour in the dull season of the year, and its dense foliage completely hides the wall.

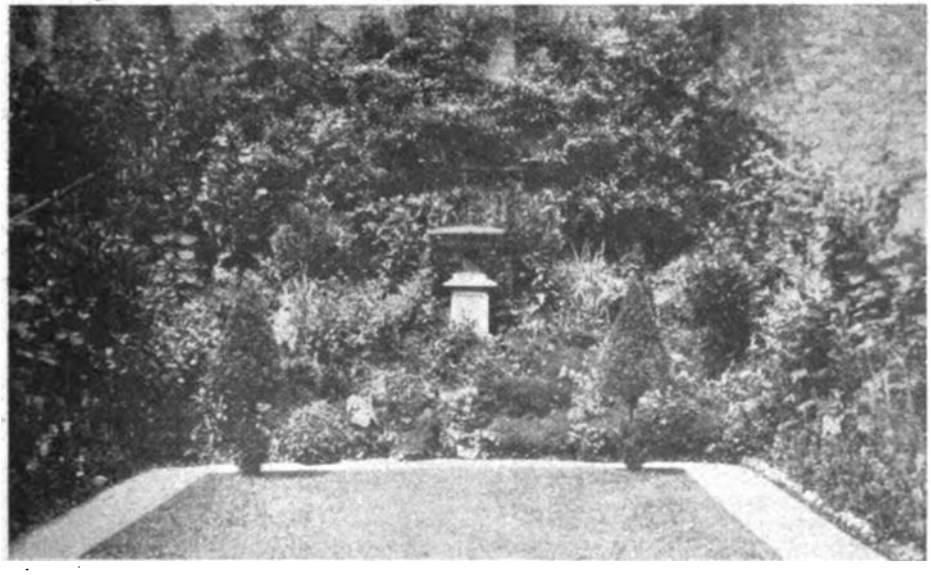
Another idea worthy of adoption, shown in the accompanying illustration, is the narrow rockery at the foot of the wall. This enables many charming plants to be grown in a small space.

About Weeping Standard Roses.

THE sight of a well grown weeping standard at the height of bloom can scarcely be surpassed in any garden, but one must exercise the utmost care in the placing of such specimens. Here and there on a lawn, planted in a circular bed 4ft. to 6ft. in diameter, such standards look at their best, but avoid framing a lawn with circles of them all round the outside edge. Weeping standards should be strong enough to grow naturally, *i.e.*, without being tied to any umbrella support. The rose should throw sufficient new shoots every year, each reaching the ground, and when in bloom completely hiding the briar stem. Liberal treatment with a thick dressing of manure in spring, lightly forked in, and a few cans of liquid manure applied during the growing season should give the desired result in growth, provided, of course, the plant was a good one originally and properly planted, with plenty of organic food for its roots to get at.

Most of the Wichuraiana roses, practically the only suitable type for weepers—throw their new shoots from the base, in which case *all* thin old wood should be cut clear out. For all-round excellence there is nothing to beat Albéric Barbier. Evangeline with its fragrant pink blooms is also good (some of the one-year wood should be left when pruning this rose and cut back slightly).

A RAMBLER ROSE TRAINED AS A WEEPING STANDARD MAKES A DECORATIVE CENTREPIECE FOR A SMALL BED.
Pink geraniums are planted round the edge of this bed.



PYRACANTHA MAKES AN ADMIRABLE COVERING FOR A WALL.
In this flower garden it is used to advantage to screen an unsightly wall.

Sander's White, Excelsa, Hiawatha and Jersey Beauty are all suitable.

Transplanting Evergreens.

IN most gardens there comes a time when "evergreen" shrubs have to be moved, either from a local nursery to the garden, or from one part of the ground to another. These plants are more difficult to transplant safely than those which lose their leaves in autumn. The reason for this is that the evergreens continue to give off moisture from the leaves, even in winter; while the removal, naturally, causes a check in the supply which should be coming in from the roots.

The present time is the best for moving such things as hollies, laurels, holm oak, rhododendrons, heather, etc., particularly while the days are warm and moist. It is essential to retain as much soil round the roots as possible. With rhododendrons and heather the root system can be moved almost intact; but with those which have rambling roots, as large a "ball" of earth as possible should be moved with them.

Bulbs in Grass.

A COLONY of daffodils in the grass at the foot of a tree is a joy in springtime. Those who have little time for gardening will find this an easy way to grow bulbs, for they flower year by year without needing much attention. Take a handful of bulbs, and scatter them where you think best. Cut a hole in the turf where each bulb lies, plant the bulb underneath, replace the turf and make it firm. This cannot be done where a very trim lawn is wanted in the early spring, as the bulbs must be allowed to flower and die down before the grass is cut; but many an odd nook can be transformed by a few spring bulbs planted in this way.

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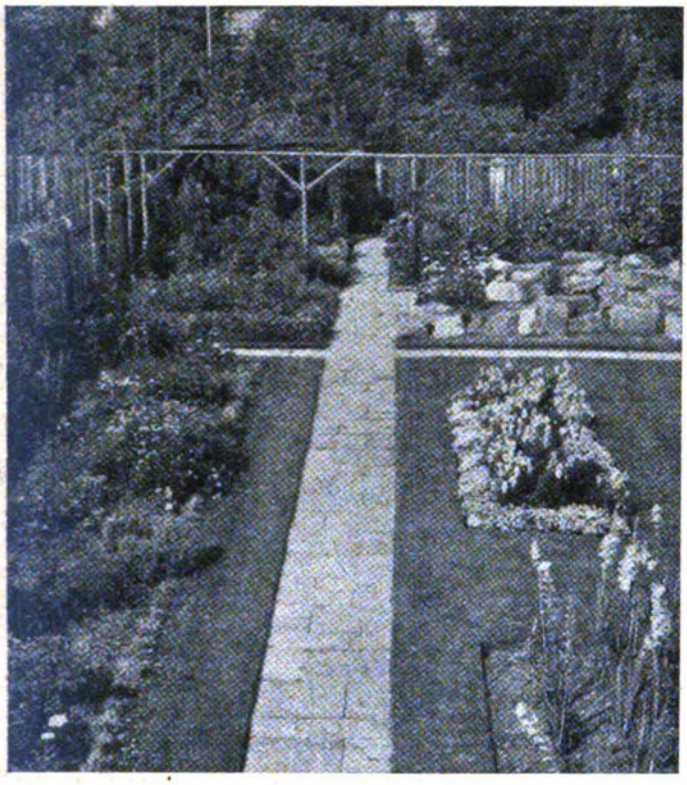
DESIGNS FOR YOUR



A GARDEN WHERE STRAIGHT LINES PREDOMINATE AND EVERY FEATURE IS IN PROPORTION.

WHERE SMALL PIECES OF STONE OF IRREG WITH CRAZY PAVING AND FLOWER BED

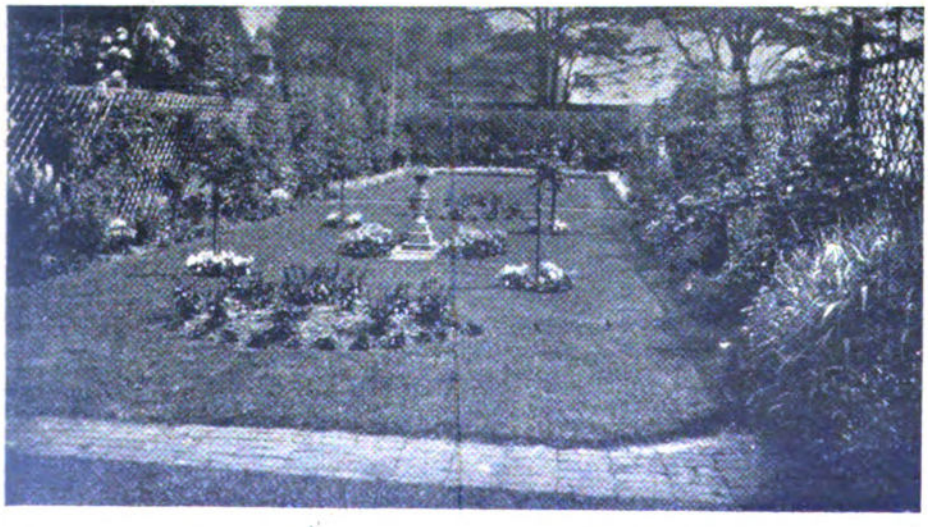
Our illustrations of plants growing in several of our readers' gardens, which were published in our issue of October 1st, have, we are pleased to say, stimulated others to send in photographs of their gardens. Of these we reproduce several which illustrate garden design, since this is an aspect of garden work that calls for attention at the present time, when many readers are doubtless thinking of making alterations in their garden scheme. These illustrations, all forwarded by readers, may serve to furnish others with ideas and so help in building up that bond which it is our desire to establish among our readers. It is only by an exchange of personal experiences among our readers that others who are only beginners in gardening may hope to benefit by the publication of photographs. THE

HERE is a small portfolio of a number of our reader's gardens selected principally to show their design or how a part of the garden has been laid out.

Design in a garden is largely a matter of personal taste, but there are one or two points to bear in mind when laying out a garden, however small. As far as possible the house and garden should be at one with each other. The design of the garden should conform with the architectural lines of the house, or at least that portion immediately surrounding the house, and for that reason should be laid out in a formal or semi-formal way. As the distance from the house increases more latitude can be allowed and the design can assume any particular shape desired having regard to the situation of the ground. The smaller the plot of ground is, the more difficult it is to design with any originality. The essentials must be included, such as a small border and flower beds and borders. Other features as, for example, a small rockery, bog garden or vegetable plot can only be included if there is sufficient space. It is not advisable to try to crowd several features into a small space, as the result will be far from satisfactory. The more simple the design the more charming the garden. For that reason there should be an absence of scalloped edged flower beds with meandering paths that lead nowhere. Never erect a feature such as a trellis for roses unless it is serving a useful purpose, such as a screen between one part of the garden and another.

Naturally, the situation of the garden governs design to a certain extent, but if a selection of plants is made judiciously and planting done properly, the difficulties of situation, exposure and soil can largely be surmounted while still keeping to a design. When a new plot of ground is purchased the task of laying out a garden should not be tackled straight away on the ground. It is much better to draw up a scale plan of the garden on paper. If there are any existing features on the ground, such as one or two tall trees or low shrubby bushes, do not remove these until it is seen if they can be made to serve a useful purpose. It should be remembered that these features may result in the production of a charming and uncommon garden. Above all, when designing be guided largely by your own personal taste. Never accept advice unless you are certain that you will like the suggestions when they are put into practical effect.

The first illustration is from a reader in St. Albans. It shows a garden which is laid out on simple lines with straight paths and rectangular flower beds, thus demanding less time for upkeep. A lawn adjoins the house and is surrounded



WALLS AND FENCES CAN BE MADE A VALUABLE ASSET OF ANY GARDEN IF SUITABLY CLOTHED.

GARDEN ORNAMENTS OF SOME DESCRIPTIO TO A SIMP

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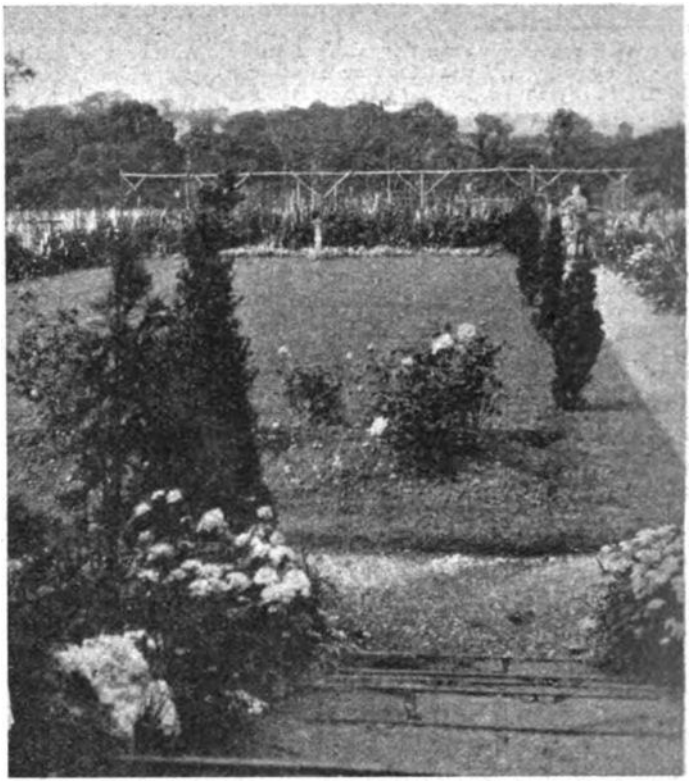
NEXT YEAR'S GARDEN

GULAR OUTLINE ARE AVAILABLE, A DESIGN S MAKES A PLEASANT HOUSE SURROUND.

GARDEN exists for exchanging ideas and personal experiences. Our recent Photographic Competition proved that readers appreciate this fact. We hope that, notwithstanding the close of the competition and the approach of unseasonable photographic weather, all our readers who are photographers will forward photographs, either of their gardens or plants growing in them, along with an account, so that others may derive benefit from their publication. These photographs should, if possible, be of topical interest, such as these on garden design published now. Other readers can, therefore, glean useful suggestions and ideas from them that can be put immediately into practical effect. Payment, it need hardly be stated, will be made for all photographs published in this connection as for the competition.



A FAIR-SIZED LAWN ALWAYS CONVEYS AN AIR OF SPACIOUSNESS TO A SMALL GARDEN.

by a stone path of sufficient width to allow two people to walk abreast. Behind the lawn a small rock garden has been made, and this is filled with a choice collection of rock plants. A trellis with climbing roses has been erected beyond this to screen the vegetable garden from the flower garden. At the far end is a tool and potting shed which can scarcely be made out by reason of its drapery of Polygonum baldschuanicum. The border running alongside the path is of the correct width in proportion to its length, and once the plants become established it will provide an effective display.

The centre illustration comes from Mr. A. E. Restarick of Felixstowe, and indicates what may be created in two years from a sandy waste near the sea. Crazy paved paths were laid down here as being more economical, and they look most attractive with patches of stonecrop flourishing in the cracks. Again a trellis has been employed to screen off the paved garden from the lawn and the raised rock garden at the far end.

The large lawn with its edging of ornamental conifers and long rose bed in the foreground makes a striking feature of the garden of Miss Harris of Birmingham. It gives an air of spaciousness to the garden. Wide flower borders flank it on either side, and each is filled with a wealth of herbaceous perennials.

The use of trellis and wall plants as boundaries to a garden is well seen in the illustration from Mr. Perrott of Chelmsford. Two separate stretches of lawn are laid out with beds of bush roses, and standard roses surrounding a sundial lend a most restful effect. The well filled straight borders and the furnished trelliswork give finish to what is a simple and yet attractive garden.

Although only two years established, the garden of Mrs. Rodwell of Tunbridge Wells has a mature appearance. It is of uncommon design with its strips of grass divided by a broad paved path with a bird bath as a central feature. The raised rockery bank round the lawn is effective, and the alteration in the levels has been skilfully treated. The stone steps lead through a trellis with rambler roses to the vegetable ground which is thus well screened from view.

Our last illustration, from the garden of Miss Austin, Wellington, Shropshire, may serve as an idea to many of how to treat a small raised bank surrounding the house. The lawn has been allowed to slope away from the house and in order to give a finished effect to the house surround this small rockery has been built. Water from an old fountain has also been introduced into the scheme so that the attractive rock and water garden has been formed, which continues a bright display of colour and blossom almost all the year round.

N, IF WELL PLACED, LEND DISTINCTION LE DESIGN.

THE LOW ROCKERY BANK IS A CHARMING FEATURE OF THIS HOUSE SURROUND.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE remarks concerning dahlias made by Sir William Lawrence at the luncheon connected with Holland Park Show, as reported in the daily Press, have, naturally, created a feeling of resentment among Scottish growers. People of a charitable disposition conclude that the Treasurer of the Royal Horticultural Society is not familiar with the modern types of decorative dahlias and that a profitable visit might be paid to several of our leading nurseries where a speciality is made of dahlias.

Now that the summer bloom is over, window boxes can be cleared of their present occupants and replaced by bulbs that will provide a floral display in spring. Tulips, hyacinths and daffodils are alike suitable, but in the higher and more exposed positions of an upper flat, the latter are preferable, as they are less liable to be damaged by the March winds. Besides, the self yellow and bi-colour flowers of the large trumpet and chalice cup types associate nicely with the dark shades of wallflower, a combination that prolongs the period of bloom. Snowdrops and grape hyacinths produce a pretty blue and white effect, and if a bright splash of colour is desired, try a box planted with Kaiserskroon tulips. Mixed wallflowers, also, look well and probably stand longer than any other spring flowering subject, and a pleasing colour scheme may be produced by arranging myosotis (forget-me-not) as an edging to a box filled with Vulcan, Bronze King, Ellen Willmott or other dark shaded variety of wallflower. Unsatisfactory results are frequently caused by the condition of the old soil, which becomes sour by reason of imperfect drainage and repeated watering in summer. In many cases the soil of a window box is not renewed so often as it should be, and overcrowding contributes to the depreciation of the rooting medium. Soil that has remained in a box for more than a year should now be replaced with a light, rich compost of loam and leaf soil that has been made porous by the addition of sand, and while it is essential that the bulbs should never suffer from lack of moisture during the process of root formation, the artificial water supply must not be overdone, indeed, in certain positions the rainfall in winter is sufficient to supply their needs. The condition of the surface soil is a reliable guide, especially if it is kept in a friable state. Bulbs grown in boxes of soil should be covered to a depth of 3ins., and in no case must the top be exposed, as is customary in bowls of fibre that are rooted in the dark.

Some hardy subjects are particularly well suited to our erratic climate and can be relied upon to bloom freely in their appointed season in fair or fowl weather. Strong growing, healthy specimens of Hydrangea paniculata, studded with massive flower trusses, were conspicuous in the early days of October at exposed places on the Firth of Clyde and in Ayrshire, Arran and other districts in the west of Scotland. Fuchsia Riccartoni in bush and hedge forms was truly magnificent, being richly clothed with masses of the well known pendulous red flowers. Escallonia macrantha is another hardy shrub which simply revels in the sea breezes and although it is not so floriferous as F. Riccartoni, compensation is provided by the luxuriance of the glossy evergreen foliage. All the members of this attractive trio are easily propagated by cuttings.

As I write the last rose of summer is still to be seen on the ramblers, which were notable for the extra wealth of bloom over a longer period than is usually permitted in Nature's floral programme. The season, too, has been productive of a generous crop of new wood, which should have immediate attention if the work has not been overtaken. After cutting out damaged or decayed growth, the old wood on which the blossoms of the past summer were borne, the long basal shoots require to be trained on pillars and pergolas, careful tying to the supports being necessary to prevent them being broken or damaged by the gales in winter. Where the growth has become dense and the foliage presents a ragged appearance, it is advisable to strip the tree from the woodwork, as thinning operations are more easily and effectively accomplished while training and tying is made possible on a systematic and simple principle which checks the tendency to form masses of tangled growth. In exposed situations the practice of protecting ramblers in winter by covering them with matting is sometimes followed, but the new wood stands a better chance of ripening when exposed to the influence of air and sunshine. When planting bulbs in the open ground the claims of anemones and ranunculus should not be overlooked, as they belong to that useful group of hardy plants which require little or no care after planting. The former is a most accommodating subject, and when planted at intervals from October until March, a succession of bloom may be had from early spring to midsummer. Anemones luxuriate in a sandy loam deeply dug and enriched with liberal dressings of decayed manure. Of the various types, Fulgens, brilliant scarlet single; St. Brigid, with single and semi-double flowers in lovely shades of colour; and St. Bavo, a sport from fulgens, offer a sufficient choice for the amateur's garden, and the bulbs should be planted with the eyes upwards, 2ins. or 3ins. below the surface level and from 4ins. to 5ins. apart. The French, Persian and Turban ranunculus may be planted in autumn in favoured places where vegetation does not usually suffer from damp in winter, but if these conditions are uncertain it is safer to delay the operation until February or March, as they resent stagnant water at the roots, the presence of which is usually indicated by the foliage turning yellow. The soil best suited for them is a rich, cool, somewhat moist, yet well drained loam. Place the claws downwards in shallow drills, about 6ins. apart and it is an essential condition of culture that the soil covering should not exceed 2ins. in depth.

ST. MUNGO.

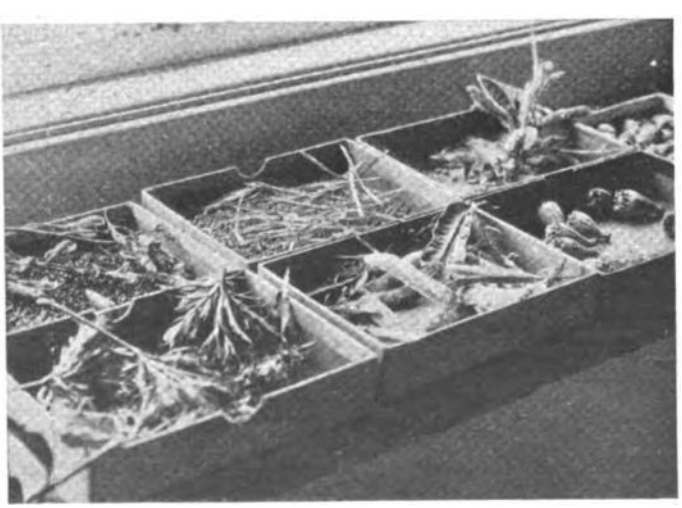
HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT.

Saving Your Own Seeds.

The time for saving seed having again arrived, the following method for cleaning the seed may be of interest. In the first place, the seed pods, when gathered, should either be dry or thoroughly dried. A method of drying the seed is to put the seed pods in a thin layer in cardboard boxes placed on a window sill or shelf in the greenhouse. They should then be well rubbed between the hands to release the seeds, and the larger pieces of husks picked out by hand. For the actual cleaning process a "Robinson's Seed Sower" can be used, the hole being adjusted to meet the particular needs. For such seeds as wallflowers, candytuft, lupins, poppies, etc., the seed sower should be shaken over a box-lid sharply tilted, when it will be found that the seeds roll to the bottom, while the husks and dust remain behind.—E. K.



SAVE AND CLEAN A FEW OF YOUR OWN SEEDS.
This shows the method of drying them before storing.

Plants for a North Wall.

I would like to draw attention to the merits of Cotoneaster horizontalis, Clematis Jackmanii and the common honeysuckle for growing on walls facing north. They have proved wonderfully effective with me, situated by the side entrance to the house. The cotoneaster heads the procession of bloom, followed by the honeysuckle trained over the doorway; the clematis, planted near the base of the cotoneaster, through which it has threaded its way to the top, being the last to open its blossoms. Both it and the honeysuckle are still blooming — the latter, naturally, somewhat sparsely now —and the cotoneaster is laden with brilliant berries. Thus a striking and lasting display is provided in a position which, from the horticultural standpoint, is commonly devoid of interest.—C. C.

Cleaning the Lawn of Weeds.

Many lawn weeds, such as the buttercup, have swollen turnip-like roots which anchor the plant and make removal difficult. I have found the homely apple-corer the most effective extractor of such roots. Place the "nose" of the corer centrally over the root, and a downward thrust of about an inch will find the root safely in the tube. When the ground is wet and soft, the remainder of the root easily follows. Carry sifted loam mixed with grass seed to fill up the holes.—W. P.

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RAISING ROSES & SHRUBS FROM CUTTINGS

This is an important operation that all amateurs should carry out during the next few weeks. In general, firm and ripe wood must be used for these cuttings, which should be made from 9–12ins. long and inserted in a sheltered border of sandy loam outside. It is an excellent way of increasing one's stock of many desirable shrubs and roses.

DURING October and November numerous hardy trees and shrubs can be readily propagated by inserting cuttings of ripened shoots of the current year in borders outside. Select a sheltered position, on a west or north-west border for example, affording some protection from frosts and cold winds in winter. Shelter from the hot mid-day sun in the spring and early summer before some of the cuttings may be well rooted is also important.

Should the soil of the border be naturally rather heavy and damp, work in plenty of coarse grit or sand, and, if available, old mortar and brick rubble will be very beneficial in damp ground. The best average distance apart to insert the cuttings obviously depends to some extent on the kind of plant. As far as possible, however, for ease in keeping the ground free from weeds, and other needful attentions to the cuttings, a uniform distance of 1ft. or 15ins. between the rows and 6ins. to 9ins. apart in the rows, is worth while, the exact distance determined by the size of the cutting and the amount of growth likely to be made by the cutting the first season.

ROSE CUTTINGS INSERTED IN AN OUTSIDE BORDER.

Note the depth to which the cuttings are inserted and the distance apart. One side of the trench should be straight, against which the cuttings are placed; the soil then being filled in.

A Good Average Length for Outdoor Cuttings is 1ft., but the exact length for cuttings from individual kinds of plants depends largely on the growth and nature of the plant. In some cases it will probably be an inch or two less, a very good example being the New Zealand daisy bush, Olearia Haastii. There is no reason why the length of 1ft. should not be exceeded by an inch or two, if suitable healthy wood of medium growth is available. Strong sucker-like growths of most trees and shrubs do not make good cuttings. In the case of the tamarisks, several species of tamarix, it is quite a useful and successful procedure to insert cuttings as much as 2ft. in length in the permanent positions where the plants are to grow. It is a fairly common practice in the case of willows (salix) and poplars (populus) to use cuttings up to 6ft. or even 10ft. or 12ft. in length, and an inch or more in thickness, making the holes with an iron crowbar, or, if the ground is soft, driving the cuttings into the ground with a wooden mallet, as if they were stakes, in the permanent positions where the trees are to grow. This it will be realised is a good means to form a screen, or plantation, in moist ground quickly.

The Depth to Insert Cuttings

in the soil also varies a little. For cuttings up to 1ft. in length, at least half the length should be covered with soil. This practically ensures the roots at the bottom of the cutting being out of the reach of ordinary frosts, and deep enough to be held firmly in the ground. Any disturbance of the surface soil by frosts must be put right by treading as soon as the frost is out of the ground and the surface moderately dry.

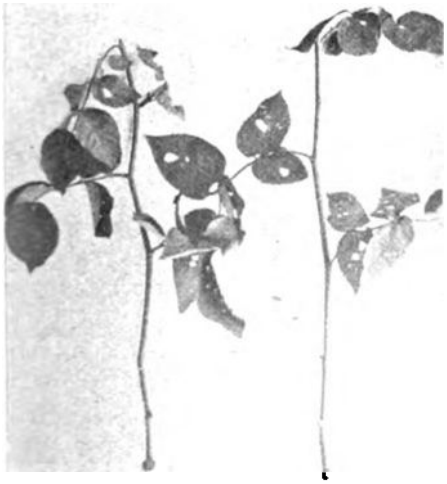
Having prepared the bed of sandy soil, measure out the lines 1ft. to 15ins. apart, placing small stakes at either end. Stretch a line across the border denoting the position of the first row; chop out a trench rather more than 6ins. deep, shake a little sand and leaf-mould along the bottom of the trench. Into this place the base of each cutting at 4ins. to 6ins. or 8ins. apart, according to the growth of the cuttings. Fill in the trench, tread the soil moderately firmly and level the surface. Move the line along to the next pair of stakes and take out a trench as before.

An alternative method is to dig the ground and insert the cuttings in lines as the digging proceeds.

In Making the Cuttings

select well-ripened shoots or growths of the current year. As a rule, other things being equal, the best results are obtained when the cuttings are made with a thin heel of old wood at the base of the cutting. Remove the weak, thin top of the shoot back to firm wood, with a bud in the axil of the leaf to form the top-growing shoot next season. Failing a heel of old wood, cut through the stem just below a leaf or pair of leaves, so that the bottom of the cutting is formed by a node or leaf base.

During severe frost or cold wind in winter



ROSE CUTTINGS PREPARED FOR INSERTION.

Note the length and the nature of the cutting, and that each cutting has a heel.

A WELL ROOTED ROSE CUTTING.

Note the mass of fibrous roots which will enable the cutting to establish itself quickly.

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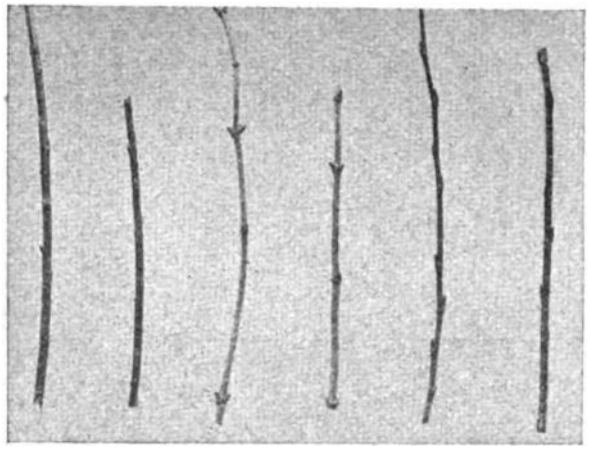
if the garden is at all exposed it is worth while scattering a few dry leaves or placing pieces of bracken among the cuttings for partial protection.

The question of rubbing out the growing buds on the stems buried in the ground when inserting the cuttings should be considered. In the case of ribes (the flowering currants), the salix, poplars and other subjects required with the single stem, it is desirable to remove the buds. Obviously, however, it would be a mistake to remove the growth buds from the stems of rambler rose cuttings, for these in succeeding years will produce the sucker growths from the base which are such a valuable asset in such sorts as Dorothy Perkins, American Pillar, Excelsa, etc., when most of the old flowering wood is cut out to the base.



From left to right: Unprepared and prepared cuttings of willow, elder and poplar. Note the difference in the cuttings. Each cutting is made below a joint and no ragged edges are left.

In addition to the few subjects already mentioned, the present time is suitable to insert in an open border cuttings of the green and variegated oval-leaved privet, the cherry laurel, the mulberry, the stronger growing hybrid tea roses, the hybrid perpetuals and climbing and rambling varieties; philadelphus, buddleias, forsythias, berberis, diervillas, ivies, cotoneasters, Lonicera nitida, and in the south and west of England the escallonias, veronicas and evergreen euonymus.

Once the cuttings have been inserted, they should be left throughout the winter, perhaps examining them at certain intervals to see how they are progressing. On rooting, they may be lifted and potted up; but, on the whole, it is better to allow them to remain in the open border during the summer, growing steadily all the time and making new growth. A. O.

HOW TO GROW FINE GOOSEBERRIES

Gooseberries are a valuable crop in any garden, and amateurs would be well advised to plant a few bushes this autumn. Hints are given here on the best situation and soil for the growing of gooseberries, while a few reliable cropping varieties are recommended for planting.

AN open situation is essential for the successful cultivation of gooseberries. The soil should be well drained, slightly on the heavy side and retentive of moisture. A border on a north or east wall is an ideal place for planting gooseberry bushes, as it affords protection from wind and also from too much sun.

PLANTING.

The best time to plant is in October or November, but planting may be done at any time after the leaves have fallen until the buds begin to break, weather conditions being suitable. The ground should have been double dug and any manure added should be incorporated in the top 6ins. of the soil, as the gooseberry is a surface-rooting plant. The roots should be spread out at planting, and should not be planted more than 6ins. deep, allowing a clear stem of 6ins. above the surface of the ground. A little well decayed manure may be added to the surface of the ground after planting to cover the root-run. This will act as a protection from frost and help to enrich the soil.

Generally gooseberries are grown as bush trees. Thus if we take our plant one year from the cutting we shall have about three shoots from the buds left on the cutting at the time of planting, and these should be cut back to three or four buds from their base in autumn after the leaves have fallen at transplanting time. Drooping varieties should be cut to an inside bud, upright varieties to an outside bud. In the following year two shoots from each of these cut-back branches should be encouraged to grow. Any others which form should be pinched back in summer and spurred back to one eye in autumn. These shoots, six in number, should be cut back 6-8ins. in autumn, and from these the following year two more shoots should be taken, thus giving us a framework of twelve branches, which is what we require for our bush.

PRUNING.

The gooseberry fruits on the young wood and on spurs, but the finest fruit is produced on well developed annual growths, therefore our object in pruning must be twofold: the encouragement of strong annual shoots and the production of spurs. Summer pruning should be done in midsummer. This consists in pinching weaker growths and growths which are intended to form spurs to four to six leaves as a preparatory step to spurring back in autumn. Growths which are not required for extension or fruiting can be cut right out after fruiting is over. Winter pruning consists in cutting out dead and diseased wood, spurring back summer-pruned laterals to 1in., removing branches which are crowding and restricting growths which are too vigorous while maintaining the shape of the tree.

A RELIABLE EARLY CROPPING VARIETY, KEEPSAKE.

The best time to winter-prune is in November, but it may be done at any time until the buds begin to break.

Gooseberry bushes may be planted 2ft. by 2ft. for the first two years, transplanting at the end of the second year into their permanent quarters at a distance of 5ft. by 5ft.

An annual top-dressing of superphosphate and kainit applied at the rate of 2 oz. and 1 oz. per square yard and forked in in spring will materially assist the trees. If the soil is heavy, basic slag may replace superphosphate, and should be applied in autumn. Some good varieties are:

Red.—May Duke, Lancashire Lad, Whinham's Industry and Warrington.

Green.—Keepsake, Lancer, Careless and Langley Gage.

White.—Whitesmith and White Lion.

Yellow.—Langley Beauty and Sandwich Yellow.

PROPAGATION.

The gooseberry may be propagated by cuttings, layers, suckers or seed, but the usual method is by cuttings taken in autumn or spring of well ripened growths 10ins. to 12ins. long. From these growths all the eyes and spines are removed from the basal 6ins., leaving three to four good buds at the upper end. The cuttings are best taken in early autumn, at pruning time, and inserted in an open space in good rich soil. The distance between the cuttings should be about 6ins., with 1ft. between the rows. They should be planted so that only the upper buds are showing, that is, to a depth of 6-8ins. The cuttings should callus over during the winter, starting into growth in spring, and be ready for transplanting the following autumn. Cuttings may also be taken in spring, buried to the top bud, when they should root and be ready to transplant in autumn 3ins. deep having roots attached.

PESTS AND DISEASES.

Gooseberry Sawfly.—The damage is caused by the caterpillar which eats the foliage. This pest may be controlled by spraying with lead arsenate paste at the rate of ½lb. of paste to 10 gallons of water applied either very early or after the fruits have been picked.

American Gooseberry Mildew.—This disease, which is exceedingly harmful, appears as white patches on the berries, shoots and under sides of the young leaves from April to October. A brown stage occurs subsequently on the shoots and berries and less frequently on the leaves. Control measures are tipping and spraying. Tipping consists in cutting off in autumn all shoots which show the presence of the fungus, *i.e.*, about late August or early September. Spray in spring and summer with lime sulphur at the rate of 1 gallon to 29 gallons of water. At least two or three sprayings should be given during April and May. H.

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NOTES ON THE FLOWER GARDEN

Plants for a Shady Garden.

IT is often found that a front garden which has a more or less northerly aspect is difficult to treat and such plants as are employed give indifferent results. In many cases there is no doubt that the cause of the trouble is to be found in the fact that the wrong kind of plants are used. But even when a selection of subjects that do not object to a certain amount of shade has been made, the results are not all that could be wished. In a garden of such a nature it frequently happens that the soil is badly drained, largely owing to the fact that the sun cannot reach the ground and dry it up. When the land is on the heavy side, plenty of old mortar rubble, road grit and wood ashes should be dug in. If the position really seems to be waterlogged, it will be needful to take out the borders to a considerable depth and, at the base, work in a 6in. layer of drainage material. This will involve a certain amount of trouble, but the labour will be amply repaid by the good development of the plants. With the ground in good order there is no reason why the shady garden should not be gay with flowers from early spring to the late fall, providing the position is not actually overhung by trees. Plants which like shade, or at any rate will put up with it, are to be found in the following lists. Spring: Daffodils, snowdrops, scillas, London pride and doronicums. Summer: Foxgloves, calceolarias, Primula japonica, violas, fuchsias and antirrhinums. Autumn: Japanese anemone, Lobelia cardinalis in variety, L. fulgens, Sedum spectabile, tobacco plants and Michaelmas daisies. In a well drained border some of the outdoor chrysanthemums do quite well in a shaded garden.—L. B.

The Ornamental Vines.

OF recent years the value of the hardy ornamental vines has been increasingly realised. These can be grown with great effect on trelliswork, walls or trees, and most of them have extremely handsome foliage which assumes charming tints with the coming of the autumn. Certainly the best known of the ornamental vines is Vitis inconstans, commonly called Ampelopsis Veitchii, which, on account of its self-clinging habit and brilliant autumn tints, is always likely to be popular. Two other kinds, V. quinquefolia and V. q. Engelmanni are sometimes seen, but both these are of much coarser growth than the first-named, although they usually display a fine show of autumn tints. Vigorous sorts of vine which are suitable for growing on pergolas and over large trees and bushes, are numerous. Nearly all of these have handsome foliage, which in many cases assumes fine autumn tinting. The following are to be strongly recommended: VV. armata, amurensis, cinerea, Coignetiæ, flexuosa major, Thunbergii, Thomsoni, orientalis and vinifera purpurea. The last-named is a variety of the common grape, and it is remarkable on account of the wonderful range of colours which are seen in the foliage during the autumn. When planting any of these vines it is important to give them a good start. It is worth while opening out the ground and filling the position, if this should be needful with rich loamy soil. Most of the species vitis will not grow vigorously in poor shallow ground, and in such cases the development is poor. Place the vines a few feet away from the base of trees or shrubs where the soil will be less dry, and then lead the shoots back to the support.—B.

A PLEASANT ROSE GARDEN SCHEME WITH A SUNDIAL AS A CENTRAL FEATURE.

V. COIGNETIÆ, THE MOST HANDSOME AND PROBABLY THE MOST HARDY OF THE VINES.

How to Make the Flower Garden Attractive.

A Suggestion for Next Year.

ENTERPRISING garden lovers will, before now, have formulated their plans in readiness for any additions or alterations they wish to carry out in their flower gardens during the autumn and winter months, and it is the writer's desire that the following notes may be of some assistance in this respect—which, by the way, have been prompted by the fine display of flowers in the accompanying illustration, although this gives but a faint idea of the garden's attraction when the photograph was taken early in July. The chief aim in its lay-out and planting was to have it at its best in July, combined with a good blending of colour, and this, in no small degree, was achieved. The size of the plot illustrated is approximately 120ft., running north and south, by 75ft. east and west, surrounded by a mixed hedge about 12ft. high on the east side, a laurel hedge of similar height on the north, and a yew hedge about 10ft. high on the west side.

The sundial in the centre of the illustration is immediately surrounded with four rose beds, with a grass walk around, and again four other rose beds of the same shape, but, naturally, of much larger dimensions. Beyond these beds is a herbaceous border, delphiniums and verbascums predominating; this border is practically due south. On the extreme right or east point is another herbaceous border, 15ft. wide, two thirds of which is planted with delphiniums, the remaining portion towards the front being filled with bold groups of such subjects as Viola Maggie Mott, Sweet William Pink Beauty, catmint and pink Canterbury bells, which were interplanted with gladioli of various colours for later display. The two narrow borders running from the rose beds and which are 4ft. wide, were planted with bold clumps of catmint, sweet williams (Pink Beauty), pink Canterbury bells, pink and yellow stocks (ten week), pink and yellow antirrhinums (tall section), annual chrysanthemum (Morning Star) and pale yellow viola (Ardwell Gem). On the extreme left of the picture, with the yew hedge as a background, is another border planted with clumps of Lilium candidum alternately with perennial phloxes of various shades of pink. Here again were batches of pink Canterbury bells, Viola Maggie Mott being introduced as an edging.

Where space is available to allow various sections of the flower garden to be at their best during the early summer and autumn

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months, is a method well worth adopting, and the numerous subjects that are available in these days renders it a fairly easy matter to secure a profuse and attractively blended colour display throughout the summer and autumn months.—W. F. FAIRMAN.

Tubers in the Flower Garden.

Storing Them for Winter.

CERTAIN tubers and bulbs after their flowering season in the garden are best, for safety's sake, lifted from the soil and put away until planting time comes round again. They are galtonias (Hyacinthus candicans), begonias and gladioli. About the first, a difference of opinion exists as to the need for lifting the bulbs at all, many holding to the belief that they are perfectly hardy and can be left where they were first planted without any fear. Such statements need qualifying. In warm localities, as in the south of England, or in places where the soil is naturally sandy, no one may have any apprehension about leaving them in the soil for the winter; but in damp, low-lying districts there is no guarantee of survival. One notices now and again advice given about planting the bulbs "any time between November and March." The latter month is less risky, and, after all, bulbs then are very little behind in their flowering in earlier planted ones in safe quarters. In the circumstances, I have found the wisest course to follow is to lift the bulbs in October, lay them on their sides in a cool dry shed until the foliage has sufficiently died away to be pulled. The same rule governs gladioli, although in their case I occasionally find corms coming through in spring which have escaped me at lifting time. I venture to say, in view of the great interest now being taken in this charming flower, that few growers would deliberately allow their corms to remain in the ground for the winter and take their chance, particularly some of the choice sorts. A mistake which is sometimes made in lifting gladioli and bunching them together is to hang them up by the foliage. This, I have always contended, is a mistake, as more than once, when lifting has been done and the leaves are more or less green, the sap has drained into the corms, causing them to rot off. If the treatment is reversed, and the corms are above the foliage, it will be found that the moisture will drain from them without injury or loss. With regard to begonias which may have been bedded out, the earlier in October the tubers are lifted from the ground or window boxes the better, as they will not stand much, if any, frost without risk. The soil should be carefully removed from them and they should then be spread out on sheets of paper, or on a greenhouse shelf, but not in direct line with the sun, until the foliage can be taken away.

Winter Storage.

A cool and dry shed, away from frost, I find the best, and the corms and tubers can be put in boxes in coconut fibre or sand. The latter will be found as useful as any material. It is well, however, to examine them occasionally during the winter, and remove any that show signs of decay, as, packed together—as one is obliged to do sometimes—one tuber affected will soon contaminate others.—W. L. L.

WHAT OUR READERS SAY

WANTED: A NEW CLASSIFICATION OF DAHLIAS.

SIR,—Among dahlia-lovers there is a growing body of opinion that a new classification of this popular flower is overdue. New forms and variations of old forms are being evolved, and schedule makers and catalogue compilers find themselves more puzzled every year in their endeavour to make the various classes inclusive and exclusive in their definition. The renaming of the miniature peony-flowering class as "charm" dahlias seemed a happy inspiration, but it was not long before confusion was introduced by some growers putting the small-flowered decoratives into the "charm" class, while other growers adhered to the old separate class arrangements.

That beautiful flower, "Oriole," which figured for so many years as a star dahlia, is now found in most catalogues in the charm class. The great difficulty in placing it correctly must be recognised, for, while it is different from the other star dahlias, it is sufficiently "starry" to look somewhat out of place among the charms. The cactus pompon or pompon cactus is another fairly modern development which must be taken into account. The collarettes, the first examples of which were all of a similar build, are beginning to show divergencies which may eventually lead to a subdivision of the class. The most recent complications are the appearance of (*a*) a clematis-flowered dahlia, Ada Finch, and (*b*) decorative cactus or cactus-decorative flowers—for example, Mrs. Krelage. Where are these to go? It seems to me at present that they should find their home among the decoratives, although it must be admitted that in the case of the cactus-decoratives there is enough of the cactus type in their build to justify inclusion in the cactus class, unless it be felt that they are deficient in some of the spideriness which characterises the cactus dahlia.

I have made two attempts to frame a new classification. The first (A) meets, I think, most, if not all, of present-day requirements, and would probably form an elastic framework capable of development according to the evolution of the future. It is logical in plan, although it has two disadvantages, *viz.*, abolishing two of the old familiar names and coining one new name. Some of the old class-names, *e.g.*, Show and Fancy, have lost their meaning and applicability and are, indeed, definitely misleading; and, further, there is no obvious reason for maintaining the distinction between Show and Fancy. "Rosette" is the best descriptive name I have been able to think of for a class which should include the flowers having the form of the Shows, Fancies and Pompons. After all, a brand-new name sometimes meets with approval by the *cognoscenti* and acceptance by the multitude; such names as "Pernetiana" roses and "Cynthella" hyacinths are new names which have come to stay.

CLASSIFICATION A.

Class or Division.	*Present Class or Variety Name.*
1. Single:	
(*a*) Tall ..	.. Single.
(*b*) Dwarf ..	.. Mignon.
2. Star:	
(*a*) Type ..	.. Star.
(*b*) Decorative	.. "Oriole."
3. Collarette ..	.. Collarette.
4. Cactus:	
(*a*) Large-flowered	.. Cactus.
(*b*) Miniature	.. Pompon cactus.
5. Decorative:	
(*a*) Large-flowered	.. Giant decorative.
(*b*) Miniature	.. Camellia-flowered or small decorative (part of Charm class) and anemone-flowered.
(*c*) Cactus-flowered	.. Decorative cactus or cactus-decorative.
(*d*) Clematis-flowered	Clematis-flowered.
6. Peony-flowered:	
(*a*) Large ..	.. Peony-flowered
(*b*) Miniature	.. Miniature peony-flowered (part of Charm class).
7. Rosette:	
(*a*) Large-flowered	.. Show and Fancy.
(*b*) Pompon ..	.. Pompon.

There are, of course, several debatable points in this classification, but it might form a basis for discussion.

The alternative classification (B) is an attempt to do something towards obviating the anomalies which have arisen without making more alterations in the present system than are absolutely necessary. The amateur gardener is just beginning to know what Mignon dahlias are, although Coltness Gem is, perhaps, the extent of his knowledge, and it may be argued that it is unwise to ask him to accept an altered nomenclature, but alterations must sometimes be made, and we must not be hide-bound. The weakness of Classification B is that it would not dispose of all the anomalies of the present haphazard and muddled system.

CLASSIFICATION B.

Class or Division.	*Present Class or Variety Name.*
1. Single:	
(*a*) Tall ..	.. Single.
(*b*) Dwarf ..	.. Mignon.
2. Star	.. Star.
3. Collarette ..	.. Collarette.
4. Cactus	.. Cactus.
5. Decorative:	
(*a*) Giant ..	.. Decorative.
(*b*) Cactus ..	.. Decorative cactus.
6. Peony-flowered	.. Peony-flowered.
7. Charm:	
(*a*) Peony-flowered	.. Charm.
(*b*) Camellia-flowered	Charm.
(*c*) Star-flowered	.. "Oriole."
(*d*) Clematis-flowered	Clematis-flowered
8. Rosette:	
(*a*) Large-flowered	.. Show and Fancy.
(*b*) Pompon ..	.. Pompon.

In conclusion, I suggest that the Royal Horticultural Society and the Dahlia Society should appoint a joint sub-committee to consider this matter and submit recommendations at an early date.

F. WYNN HELLINGS.

SILVER LEAF DISEASE ON PLUMS.

SIR,—I have been much troubled the last few years with silver-leaf disease on my plum trees, and have had to cut down several of them altogether. Last year I had again to cut out several branches of a Coe's Golden Drop which were affected, when I saw in THE GARDEN (August 28th, 1926) a suggested remedy, by spraying the trees with permanganate of potash, so I thought I would give it a trial.

I sprayed the trees (they are on a wall) several times during the winter and early spring, before the leaves came out, with a strong solution of the permanganate, and I am glad to say that this year there has not been a trace of the disease on any of the trees. It certainly seems to be a very efficient remedy, and I should strongly advise any of your readers who may be troubled with the disease to give it a trial.

I intend to give my trees another good spraying this coming winter, and will let you know the result.—G. ANSDELL, *Dinton, Wilts.*

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FLOWERS IN THE ORCHARD.

SIR,—Now that the posts are bringing us the attractive catalogues of the bulb growers, it is well worth while to give the orchard a place in our purchase plans. Nearly all the catalogues include cheap bulb collections for naturalising in grass. It is possible to buy several hundred bulbs for a few shillings—snowdrops, the varieties of crocus, chionodoxa, scillas, aconite, grape hyacinths and daffodils—all of which will do well in the orchard turf.

All that is necessary is to make a hole about 3ins. deep with a narrow trowel, drop in a little coarse sand, and put in the bulb. They will flower profusely and rapidly increase into lovely drifts of colour.

Another simple plan for beautifying the orchard in early spring is to remove the turf round each tree, pile up a small bank of soil round it, and plant the strong-growing aubrietias, such as "Prichard's A.1," or "Dr. Mules." They do well in the slight shade and soon make brilliant violet and purple mounds at the foot of the trees. Some of the early mossy saxifrages, such as S. Bathoniensis and S. muscoides, and London Pride, may be used in the same way.

Dwarf irises are easily grown in orchard soil; the early anemones, apennina, blanda and sylvestris, find it as congenial as their alpine woodland pastures and the blue hepatica revels in its shady loam and leaf mould. And, of course, primroses, violets and forget-me-nots cannot be too freely welcomed in the orchard.—G. H., *Northampton*.

MODERN DELPHINIUMS.

SIR,—*Re* "G. A. P.'s" notes of the Wrexham delphiniums, "the trade" has always been looking for unsual colours in purchasing, and unless "the blues" have pips 3ins. across they will not purchase. They are looking at the individual flower and not the colour scheme. I enclose two illustrations that may be of interest to your readers as modern productions in the world of delphiniums. No. 38 is a Cadet blue with the smallest shade of light mauve edging. The illustration is of a bed of this plant which was divided up in March last. No. 47 is manganese violet with cornflower blue shading.—WATKIN SAMUEL, *Wrexham*.

A MODERN DELPHINUM PRODUCTION OF MANGANESE VIOLET COLOURING.

PLANTING OUT CABBAGES.

SIR,—I have read with much interest "G. W.'s" remarks on "Planting out Cabbages" (page 628), and while doing so it struck me that some of the readers of THE GARDEN might like to hear of a less troublesome and probably more successful method.

A good many people plant cabbages farther apart than is necessary, especially early kinds. A square foot is quite enough for Harbinger and April. Where a brisk demand exists for cabbages they will be cut as fast as they become fit for use, and so anyone that seems inclined to grow a little larger than the others will have room to do so. Fifteen inches apart each way is quite enough space for the Enfield Market variety, for no one cares for a large, hard-hearted cabbage—at least, not in a private garden. Plant in drills, and firm the plants well in the ground; I have not planted on freshly dug land for many years. I plant cabbages following the onions, and therefore the land is rich enough for them. A dressing of soot is, however, often given, hoeing it in deeply; the drills are drawn with the corner of the hoe, and the plants set out in the drills at varying distances, according to kinds, but mostly 12ins. to 15ins. apart.—JAMES A. PAICE, *Middlesex*.

DISTANCES FOR FRUIT TREE PLANTING.

SIR,—I see in your issue of September 24th, page 630, you give the distances at which various fruit trees should be planted.

I think those for bush, half standard and standard trees are not nearly sufficient, at least for the strong growing varieties. As planting too close is a mistake made by most amateurs, I should like to relate my own experiences.

About twenty years ago I planted about half an acre with Bramley and Newton Wonder bushes on Paradise at 12ft., as advised in the catalogues of the nurserymen who supplied the trees, but I soon found out they were too close. So all were taken up and replanted at 18ft., following the advice given in Seabrooke's "Practical Fruit Growing," but the trees are now almost touching and it is impossible to get round them properly for spraying, etc.

If I had my planting to do again I would space strong growing varieties, such as Bramley, Newton Wonder, Blenheim Orange, etc., at not less than 24ft., and standards on crab at 30ft. at least. Many people generally plant their trees too thickly, leading as you say to disastrous results, for which there is no remedy, as the trees are then much too large to transplant.—EDWARD T. BROWN, *Brigg*.

OMPHALODES LUCILÆ.

SIR,—In reply to Mr. Arnott's letter, Omphalodes Lucilæ grows successfully with me in Oxfordshire in ordinary limestone moraine mixture—two-thirds chips to one-third gritty soil. If moisture can be given underground so much the better, and under these conditions O. Lucilæ thrives in a very hot exposure of the rock garden. If underground watering is not possible, the plant must be given a certain amount of shade from rocks. Being a southern crevice-lover, its most characteristic position would be in a chink of a sunny wall, where its roots could wander far in and find abundant moisture. This last, again, provides a difficulty; it may, perhaps, be overcome, as Farrer suggested, by sinking a pipe or flower pot down into the wall from above and periodically filling it with water.

A NEW BLUE DELPHINIUM, EDGED WITH LIGHT MAUVE.

Once get O. Lucilæ to grow, and there will be no trouble about flowering. My moraine plant has flowered this year from the end of June to the end of August, without stopping, and is even now making another effort! I think one should consider the plant's provenance and cover it over in winter with a sheet of glass to keep off the worst of the wet; this may not be necessary, but is sure to be appreciated.

Finally, O. Lucilæ comes quite freely from the seed which it usually sets without trouble, though the glaucousness of the leaves, which is so attractive, is apt to vary.—R. BEVAN, *Henley-on-Thames*.

A FINE EASILY-GROWN CACTUS FOR THE GREENHOUSE.

Phyllocactus Dr. Bois Duval.

SIR,—I have had a large plant of this fine cactus for some years. I moved it from Cottingham, East Yorks, two years ago, and it is now growing in a cold greenhouse in Surrey. This summer it had between fifty and sixty flowers, which are of a brilliant red—very much the colour of a red currant, with blue shading inside and cream-coloured stamens. The flowers are sweet-scented the evening they open, but have lost their fragrance by the following day. They last about three days on the plant or when cut for the house. This cactus has flowered regularly every year since I have had it. The flowers are about 8ins. across. It is very easily grown. I give little or no water during the winter—beginning to water in March, when growth begins, and continuing to about the end of September, when it is allowed to become dry again. The plant must be exposed to full sun throughout the year. It is syringed daily while the buds are forming, as they and the young shoots are liable to damage from greenfly. The plant will not stand actual frost, and in its present quarters is protected in winter by means of an oil lamp. The plant in its pot stands about 7ft. high.—RUTH BICKERSTETH, *Surrey*.

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FRUIT AND KITCHEN GARDEN

Fruit Picking and Storing.

APPLES and pears which are of the "keeping" kind should be left on the tree as long as possible. There is no harm, in most cases, in allowing the fruit to remain until early November, unless it begins to drop of its own accord. If fruit is gathered before it is fully matured, it is likely to shrivel when stored. Apples are fit for picking when, on cutting open a sample or two, it is found that the pips are dark brown in colour. Test the fitness of a pear for picking in this way: Hold the branch in one hand and then raise the pear gently upwards with the other. If the stalk parts from the branch readily the fruit is fit to pick. As the smallest bruise will destroy the keeping qualities of apples and pears, great care should be exercised when picking and storing. Never throw the fruit into a basket or dump it in a pile on the floor; keep all windfalls, however sound these may seem to be, separate from the gathered fruit. All fruit should be looked over and graded into sizes—large, medium and small—for storing. As a rule, the small fruits keep the longest, and, in using, the larger specimens should be selected first. Never store any fruit save that which is absolutely sound. Many kinds of apples "sweat" badly after picking, and it is well to spread these out in a single layer, if possible, with a small space between each fruit, for quite a week before any storing or packing is attempted. Fruit keeps best in a place that is rather dimly lit. The average cellar makes quite a good storehouse; or satisfactory conditions can usually be found in some attic.—L. B.

Loganberries and Similar Hybrids.

THE appearance of a loganberry during September strikes terror into the hearts of many, otherwise it would be one of the main small fruits in every garden. The berries are, of course, primarily for culinary purposes; it is an enormous cropper and bears a heavy weight of berries per bush. Its one drawback is noticeable when the old stems have to be cut out about this time; still, good gloves discount its terrors. The Laxtonberry is a rounder, bigger-seeded fruit, but it has not done so well this year owing to lack of bees and such-like insects; this variety is self-sterile and only succeeds when near raspberries and similar fruits. When things go all right it is a wonderful fruiter and heavy crops are carried from July until October. The fruits are sweeter than the loganberries and not unlike raspberries. The Lowberry is a black loganberry of delicious flavour; it always grows vigorously but has failed to fruit this year. The King's Acre berry is, to all appearance, a kind of bramble; the fruits ripen earlier, however, and the flavour is fine. The Newberry comes nearer to the raspberry than any of the above; the fruits are large and excellent dessert berries. The Himalayan berry is a very early and very fine bramble which ought to be grown by everyone who likes that delightful autumn berry.—CLYDESDALE.

How to Grow Good Bush Fruit.

IN most gardens there is a border which can be devoted to the cultivation of these fruits solely. The amateur wishes to grow the finest fruits of each kind; it may be for home consumption in the form of dessert or for exhibition. The best can rarely be grown in an open quarter of the garden with just ordinary attention bestowed upon them most of the year and very special attention when the fruits are nearing maturity. Begin now by selecting a site—one open to the south-east, south or south-west. Of course, the bushes must be protected by wire netting or tarred nets in due course; so the necessary standards and cross-bars should be selected and prepared during the winter months. The current work consists of getting out the old soil to a depth of 18ins. and wheeling it to some near-by border where it can be usefully utilised; but, before any soil is taken to such border, reserve the top 6ins. for use again in the making-up of the fruit border.

Having taken out the soil, fork up the subsoil deeply, but leave it below; then begin to refill the hole made with good fibrous turves, leaf-soil, manure, wood ashes and bone-meal.

The work is done as follows: Having placed chopped fibrous turves in the bottom, put on them a thin coating of old lime rubble, or one of dry, unslacked lime; then add a layer of rotted manure and chopped turves, and, finally, fill up the space with ordinary garden soil. Plant the fruit trees in short, rows and provide stakes or wires as supports. Plant when the new soil has settled down; do not overcrowd. To protect the fruits from birds, fix standards nearly 6ft. high and cross-bars to bear up the nets. Next to the ground fix fine-meshed wire netting, the tarred netting just falling below the top edge.

Blanching Endive.

MANY lettuce plants have suffered severely from the recent incessant rains, and slugs. The leaves have been badly eaten by the latter, and the constant damp has resulted in many seared leaves. Endive plants have not suffered in any way, and where there are, nice batches of them some should be blanched. An expert cultivator will lift and blanch the plants under glass, mainly in frames. But the inexperienced may succeed better if the plants are blanched in the open border. Avoid placing empty inverted flower-pots over the plants, or tiles and slates pressed on the hearts, or the plants will rot. Lay down a few branching sticks on some plants and on the sticks some mats. A current of air will pass under the covering material, and the darkness will ensure blanching and cleanliness of leaves.

Another simple and safe way is to gather the outer leaves to form a loose hood over the centre or heart of the plant and tie them in position. The leaves must be quite dry when they are so tied.—G. G.

Present Treatment of Soils.

IF cultivators thoroughly understood how soils should be treated at this season of the year, much labour might be saved and with a great deal of benefit to future crops. I know that some persons work by rule of thumb, as it were; they dig or trench the soil and they crop it just when certain dates come. Heavy soils should not be dug while in a sodden condition; if they are, the lumps remain like those in a clay heap in a brickyard. True, ridging may be done while the soil is wet, as the lumps will be subjected to air and frosts and be sweetened and pulverised. In the case of ordinary digging, the surface only becomes pulverised, generally it pans down in a sodden condition, preventing air and water entering. In the spring the soil immediately below the surface is wet and sticky and does not "work" kindly throughout the whole summer. Leave such wet soil until it has dried well, then dig or trench it, and be sure that the top portion be left as lumpy as possible. A dressing of dry lime, left on all winter, will do a lot of good. I have found it advisable to leave undug medium heavy loam until the early part of spring where it is very wet, rather than dig it in the early part of the winter. When dry, in March, the soil is dug, prepared and cropped and the vegetables thrive well.—HANTS.

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THE GARDEN

VOL. XCI.—No. 2916. OCTOBER 22, 1927. PRICE TWOPENCE.

DIVIDING PERENNIAL PLANTS

FROM mid-October to mid-November, provided the weather is open and the soil in a favourable condition, is an excellent time to lift and divide all herbaceous perennials. The sooner the division and replanting are done the better, as the divided portions have then a better opportunity to become quickly established in their new positions before hard wintry weather sets in. Early replanting means that the plants have the chance to make new roots before growth ceases for the year. When dividing, lift the crown of the plant carefully and break off the new crowns that have formed around the old central one. The old central crown can be discarded, as it will never make a good plant next year, and the outer portions can then be replanted separately. Surgical division is necessary with most herbaceous plants as otherwise they become straggly and get out of hand. Flowering is interfered with, as the plant chokes itself through want of space. Divided plants generally show stronger flower-stems and larger and more flowers per plant than those which are left untended. Moreover, it is an economical way of increasing one's stock of any plant, particularly in the case of a desirable variety which it is wished to increase and to keep true to colour. It is not a difficult operation to carry out. Lift the old plants carefully with a fork or spade and pull the portions away with a small hand fork, replanting each firmly in good soil. Do not plant too deep. Deep planting is responsible in many instances for the failure of plants to do well. With peonies, for example, the top buds should not be more than 2ins. or 3ins. below the soil surface. If they are planted deeper they do not bloom well. All amateurs should make a point of attending to the division of all herbaceous plants that require splitting up during the present weeks.

This Week's Work

For Gardens in the South and Midlands.

Lift, dry and store begonias and gladioli.

Take cuttings of gooseberries, currants and loganberries.

Prepare ground for planting roses and fruit trees.

Finish grease-banding fruit trees.

Remake lily of the valley beds, and pot up some crowns for forcing.

Clear beds for spring bedding, and plant out wallflowers, polyanthus, forget-me-nots, etc.

Examine bunches of grapes still hanging on the vines and remove all decaying berries.

Plant St. Brigid anemones.

Cut back overgrown plants in the rock garden.

A Fine Autumn-Flowering Plant.

MESSRS. BARR'S of King Street, Covent Garden have sent us a few spikes of the decorative Schizostylis Mrs. Hegarty to brighten the editorial table, and as this is a plant which is not at all well known among garden lovers, it seems worth while calling attention to its undoubted merits. It is a remarkably fine plant for cut-flower indoor decoration in late autumn, and of the many varieties the pink Mrs. Hegarty is the best for the purpose. If the spikes are cut in the bud state and placed in water in a warm room, they gradually open into the most charming cup or saucer shaped flowers with long pointed petals of a rich shade of pink. The blooms continue to open up the spike in succession, like the gladiolus, and in this way they remain decorative for even two or three weeks if the water is kept fresh. They are not difficult plants to grow in the garden. They are quite hardy, and their principal requirements are an adequate supply of moisture and liberal treatment. The soil should be liberally dressed with old manure and plenty of water given during dry weather. This little trouble will be amply repaid during October when they produce their mass of blossom. They are also well adapted for growing as pot plants in the cool greenhouse or conservatory. If grown as such, it is a good plan to give a little weak manure water once a week as the flowering stage is approached. Once amateurs give the plant a trial they will continue to grow it, as unquestionably it is a plant with a dual purpose. Its time of flowering, its decorative value in the garden and indoors, and its attractive pink blossoms should commend it to all. All amateurs should keep a look out for it at the autumn flower shows, where it is certain to appear in several exhibits. Those who do not know the plant should most certainly make a point of seeing it at the present time, and so discover its merits for themselves.

The Jones-Bateman Cup.

THE Secretary of the Royal Horticultural Society desires to remind those who intend to compete for the Jones-Bateman Cup that accounts of their researches should reach him at the offices of the Society, Vincent Square, Westminster, S.W.1, by October 31st. This cup, which was presented to the Royal Horticultural Society in 1920 by Miss L. Jones-Bateman, is a valuable silver-gilt replica of the Warwick Vase. It is offered triennially for researches in the growing of hardy fruits, figs, grapes and peaches, in the open and under glass. Any account of research submitted by a competitor must deal with work carried out by himself in Great Britain or Ireland, mainly during the last five years. The cup will be held for three years by the successful competitor, who must give a bond for its safe return. A successful competitor is eligible to compete on the next or any subsequent occasion when the cup is offered for award. When the cup is relinquished the holder will receive a Hogg Medal specially struck in gold. The accounts of the competitor's work will be submitted to three assessors (two appointed by the Royal Horticultural Society and one by the National Farmers' Union), who will report to the Council of the Society.

This Week's Work

For Gardens in Scotland and the North.

Transplant fruit trees and bushes that are defoliated.

Prepare beds for new roses.

Give celery a final earthing-up on a dry day.

Transfer schizanthus seedlings from boxes to thumb pots.

Transplant spring cabbages remaining in nursery bed.

Dust gooseberry and red currant bushes with lime.

Begin the planting of tulips out of doors.

Divide and replant herbaceous peonies.

Box seed potatoes whenever they are procurable.

Continue bulb planting in beds and borders.

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ANEMONES FOR YOUR SPRING GARDEN

The windflowers are primarily plants for the amateur. They are easy to grow, flower plentifully and freely over a long period and provide a most welcome colour display during the spring months. They show as great a variety in the colour of their blooms as they do in their form and habit. As this article indicates, species and varieties can be had for all purposes.

IF we consider the whole of the genus anemone we find a wide range of plants, and one of the loveliest sights in early spring is the wood anemone or A. nemorosa, which can be seen in countless thousands in many plantations. At the other end of the group we have the forms of A. japonica, so useful for the herbaceous border, and between the twain will be found a host of lovely species, varieties and hybrids which adorn our gardens onwards from early spring. It is some of these we shall consider in the present article, and the first to call for notice is the St. Brigid or Irish anemones, so admirably displayed on the front cover of the present issue. When writing of the St. Brigid anemones the firm of Messrs. Reamsbottom naturally come to the fore, because they have done so much to improve and popularise this beautiful flower.

The best St. Brigid anemones are characterised by two important factors, *viz.*, their sturdy constitution and exquisite range of colours. The flowers are large, borne on strong, erect stems, semi-double, with fine broad petals, thus forming a kind of shallow cup with a handsome blue-black central boss. If cut before the flowers are fully developed, they are excellent for decorative purposes. The later forms of St. Brigid anemones are a great improvement on the older kinds, and the range of colours and colour combinations are almost endless, yet the rich and varied hues blend in a most harmonious way and are always pleasing to the eye.

Another noteworthy section is the Caen, poppy, or giant French anemones, of which there are both single and double flowered varieties. A good mixture is hard to beat for the small garden, but where there is space and beds to fill some of the named forms will be found useful. Among them will be found vivid vermilion, bright rose pink, blue, scarlet, white, etc., while a mixed strain would contain the most brilliant and varied colours. In the Caen or poppy anemones we have a delightful class, which, like the St. Brigid, are sure to give satisfaction to all flower lovers.

In the section known as St. Bavo we have a beautiful race or strain of A. fulgens. Although the strain received an award of merit from the Royal Horticultural Society on April 27th, 1920, when exhibited by Mr. C. van Tubergen, Haarlem, Holland, they do not appear to have found their way into British catalogues generally. I hear, however, that Messrs. Barr offer them in their current catalogue on very reasonable terms. All those who appreciate the gorgeous A. fulgens with its graceful poise and habit will heartily welcome the St. Bavo group, which only differ in colour from the type. Last year I grew a small quantity, and among them I had shades of rose, salmon, red, rosy lilac, magenta and blush, each flower with a silvery white centre. They were free-flowering, and attained a height of about 9ins. The tubers were planted in November, and were in bloom from early March to nearly the end of April. When the foliage had died off half were lifted and the remainder left in the ground, so it will be interesting to watch results next spring. It is a handsome and showy strain, with a great variety of colour, and should certainly be tried by all who enjoy the starry windflowers.

In A. fulgens we have one of the most brilliant of windflowers, the blooms being single and a rich dazzling scarlet with a blue-black central boss. It is not so robust as the sections already noted, but if given a well drained rich soil and left undisturbed it usually produces a full crop of flowers. With new tubers I usually plant from January to March. Like all anemones, the foliage is both light and elegant, and the plants are always pleasing from the appearance of the first leaf till the roots die off.

There are also many anemones suitable for half-shady positions and for naturalising in the woodland where it is not too dense. For instance, the different forms of A. nemorosa, especially the soft pale blue Robinsoniana; A. Hepatica, the well known Hepatica of gardens, of which there are numerous forms; and the white A. sylvestris, or snowdrop anemone, its delicate drooping flowers being borne on stems 1½ft. high. A. apennina, the blue wood anemone, is also a delightful plant, and another excellent windflower is A. narcissiflora with a bunch of flowers like apple blossom. It is of easy culture and worthy of a trial. The pasque flower, or A. Pulsatilla, is one of the earliest spring blossoms, usually violet in colour, and there is also a white variety.

ONE OF THE FINEST ANEMONES: THE CLEAR-CUT STARS OF A. APENNINA. A PLANT FOR HALF SHADE.

Suitable Sites for Anemones.

Many anemones are woodland plants, but those quoted above enjoy plenty of sunshine. If, however, they can be partially shaded about midday it will be an advantage. Beds filled with anemones are very effective, blocks in the herbaceous border will brighten things up in early spring, while there is often a narrow border in the kitchen garden which could be filled with these charming subjects, especially where cut flower is in demand. Small colonies on the rock garden are advised, and A. fulgens is well adapted for this purpose. Some may prefer them as an edging, but, personally, I think the best effect is obtained by massing in a bed or border. These plants enjoy a loamy or sandy loam soil where it is well drained, but a heavy rooting medium can be rendered suitable by the addition of sand and a little old lime rubble; in fact, anemones rather appreciate a proportion of lime in the ground. They also enjoy a rich soil—and well decayed cow manure several inches below the tubers, chopped up turf fibre or hop manure should be added when the bed is prepared. The soil must be made fairly firm before planting, and an effort should be made to set the tubers at a uniform depth of about 2ins. or 3ins. The tubers are somewhat irregular in shape and it is often a puzzle to know which is the growing point. When in doubt lay them sideways and they will grow equally

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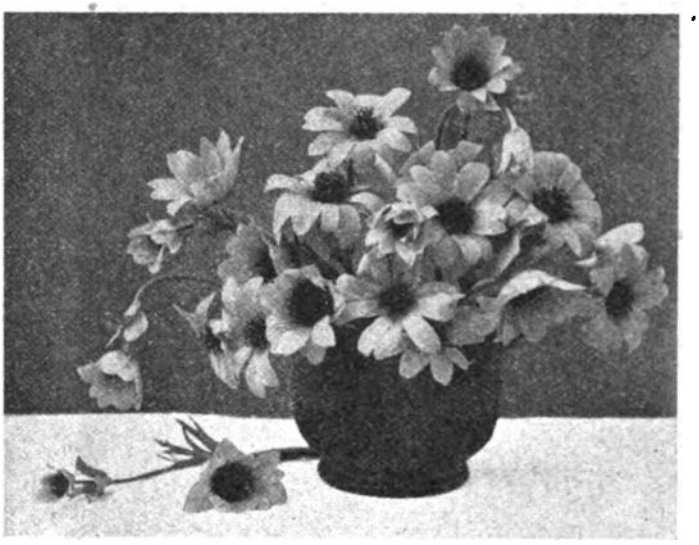
as well. Some growers plant the tubers in lines 8ins. or 10ins. apart, a system recommended if they are cultivated for cut flower only, but for beds a more irregular method is chosen, and a distance of 4ins. to 6ins. is allowed. By planting at intervals a supply of bloom can be kept up for several months. A batch can be put out in October and November to furnish flowers in early spring or about April. The next lot should be planted in January and February for a June display, and if space and tubers are available, planting may continue till May, whereby a succession will be kept up during the summer months. When the operation is completed make the soil fairly firm with the back of a spade, but not hard. The plants should be kept free from weeds, either by hand weeding or a light hoeing. There will be no necessity to disturb them for several years, until a fresh site is required through exhaustion of the soil. Much, however, can be done by an annual mulching of screened well decayed manure or leaf-mould just before growth begins, while liquid cow manure is also a good stimulant during the period of activity.



THE BRILLIANTLY COLOURED ANEMONE FULGENS.
An attractive plant for table decoration as well as for the garden.

Anemones from Seeds.

It is not generally known how easily these useful plants are raised from seeds, and if the seeds are obtained from a reliable source, some exquisite forms will reveal themselves at flowering-time, but it should be borne in mind that some of the seedlings will produce flowers not worth retaining. These should be dug up directly they bloom and destroyed. If it is thought advisable to use home seeds, they should be only collected from flowers of good form and colour, otherwise dirty whites and washy blues will predominate. Choose a sunny spot for the seed bed, and sow the seeds thinly in late spring or directly it is ripe, and only just cover with fine soil. It is usual to shade the bed for a week or two until the seedlings appear, when they are gradually inured to full sunlight. Keep the soil moist throughout the summer, and the seedlings can be left in the seed bed till they flower. Mark or label the best varieties, and remove them if required to another station about October. Flowering tubers, however, can always be procured at a very moderate cost, and unless one has space and time at one's disposal, it is better to rely on tubers than attempt to raise a stock of plants from home-saved seed—for in this case it often happens that the greater percentage of blooms is of an inferior quality. T. W. B.

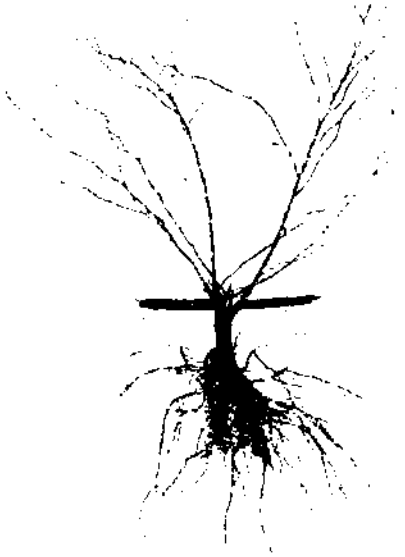
HINTS ON ROSE PLANTING

This is the second of our series of articles on rose culture. On this occasion the author deals with planting and the cultural points that make for the ultimate success of the plants.

AS with other plants so with roses, there is a correct method of planting and also a wrong one. The beds or borders being in readiness and the plants at hand—about the beginning of November—planting may begin provided that weather and soil conditions will permit. If the weather is wet, or if the soil is laden with moisture or is in a frozen state, planting must await a more favourable occasion. The first concern that arises under such circumstances must be the proper care of the bushes until suitable conditions prevail. If planting cannot be done immediately after the arrival of the plants, they must be heeled in until they can be dealt with. They should be removed from the package and laid singly in a trench so that the roots are buried and kept moist in the soil. They can remain in the trench with all safety until the beds are in a suitable state for proper planting. This treatment is most essential if the best results are ultimately to be obtained from the plants.

Roses should never be planted unless the soil is in a fairly dry condition. This particular condition is often a puzzle to many amateur growers, but it need not be so. To begin with, it is most necessary to plant roses very firmly; many failures arise from the neglect of this primary need, and it is far too often overlooked. Firm planting can only be done when the soil is in a fairly dry state, and if it is done when the ground is wet the soil simply becomes caked and hard. To tread upon wet soil in order to firm up the plants is certain to result in trouble. In some soils the earth becomes like concrete; air and light are excluded from the roots; moisture cannot penetrate from the surface, and unhealthy conditions ensue with disastrous results in future.

The proper condition of the soil can easily be determined. If it adheres to the spade—owing to excessive moisture in it caused by recent rain—it is not in a state for planting; if it clogs the boots when attempting to tramp it in order to firm the plants, it is also in an unfit condition for planting. A day should be chosen, therefore, when the soil is in a nice dry state and every operation connected with planting can be carried out in a satisfactory manner. The roses are safely heeled in in their trench awaiting such conditions, and there need be no anxiety concerning them if things are not right upon their arrival from the nursery.



A GOOD ROSE PLANT.
The line indicates the depth to which it should be planted.

Two feet apart is the general rule in planting. A hole should be taken out 2ft. square and about 1ft. in depth. The plant is put in the centre of this hole, and the roots are then spread carefully out in as natural a manner as possible. The soil is then filled in and firmed up with the foot as the work proceeds, taking care not to injure the roots in the process. It is most necessary to observe that the point of junction between stock and scion is not buried too deeply, and care must also be taken to see that it is not exposed above the surface of the soil. The proper depth for this junction is 2ins. from the surface. The bushes can easily be put in at that depth when planting by holding them in the centre—with a glove on the hand, of course—and raising them gently up in the soil until the proper depth is attained. Firm up the soil as the planting proceeds, and do see that this most important part of the work is not neglected.

The point of junction between stock and scion is that part of the plant where the rose has been budded upon the briar. The accompanying illustration shows a plant and the line across indicates the proper depth for planting. The spread of the roots will also be noted and, as already stated, these should be carefully spread out in the hole made for the reception of the plant. It is a mistake to put the plant in and then to fill in the soil around the roots in a haphazard way. If the roots are filled in a crowded condition growth is certain to suffer. You do not plant roses every day; take ample time and do the work properly.

It may be as well to state the reason for the point of junction between stock and scion being only about 2ins. below the surface of the soil. If it is planted much deeper light and air lose their beneficent influence upon it; in a word, it is smothered and is incapable of making fresh growths. On the other hand, if it be above the soil level, it becomes hardened and the dormant eyes

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or buds upon it do not break into growth in consequence. Two inches is an ideal depth, and this must always be aimed at, not only after planting, but always throughout the life of the rose. If the soil subsides and exposes the junction the error can be remedied by a suitable top-dressing of loam. If the roses are seen to be too deep owing to frequent top-dressings, some of the surface can easily be removed.

The point of junction is a very vital entity in a rose plant, and the necessity for its proper care is most apparent. If you examine a plant you will find that the bud, or eye, which was inserted in the briar stock, has swollen very considerably and the shoots of the rose emanate from this excrescence. As the plants grow and increase with age this swelling extends and gradually becomes much larger. It is from this excrescence that every future rose shoot of any strength arises. It is full of dormant eyes, and these break into growth from season to season and literally create a fresh bush every year. Much of this fresh growth, of course, is promoted by proper pruning, but this will be dealt with in due time. I may appear to have somewhat laboured the point as to the junction of stock and scion, but I make no excuse for so doing, as it is a thing too often neglected in rose growing. It will be seen, then, that a sharp watch must always be kept upon the plants in order to make certain that the proper depth is maintained.

Be sure that no manure of any description is in immediate contact with the roots of the plant. Make certain that all manures are beneath the roots—it need only be 2ins. or 3ins. to begin with. Contact is fatal and causes a severe check from which the plants may not recover if fresh, or undecayed, manure has been used. If the ground has been manured in accordance with the instructions contained in my last article, no further manure will be required until the following season. Let your plants make plenty of roots and so become thoroughly established before applying further stimulants. Established plants can stand plenty of feeding, newly planted rose bushes simply cannot.

The final point in planting is to avoid a top-dressing or mulch of manure. Such a thing is most harmful in the case of newly planted roses. It excludes light and air; promotes dampness in the soil; it rots the young roots. Keep the surface loose with the Dutch hoe. This ensures thorough soil aeration, and it gives the roots full benefit of the warmth of the earth. Top-dressing on account of protection from frost is a fallacy, and such practice often results in heavy losses. The modern rose is a hardy plant, and protection is neither desirable nor necessary. In a very severe winter you may put some light, dry bracken or something of a similar character over and between the shoots or branches. Never apply a winter mulch of manure. GEO. M. TAYLOR.

HOW TO GROW LILIES OF THE VALLEY

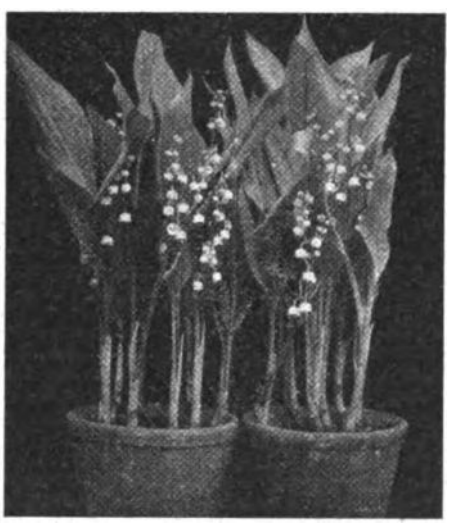
THIS beautiful plant is of easy culture provided care is taken in the preparation of the bed and due regard paid to its natural requirements.

The preparation of the bed should be thorough. It should be double dug and a good dressing of well decayed manure incorporated in the bottom spit. It is necessary to have well decayed manure, and the manure from an old hot-bed is excellent for this purpose. The top spit should have some leaf-mould and sand incorporated with it. A good rich loamy soil well drained is an ideal soil for the lily of the valley. As this plant naturally likes shade, a north, north-west or west aspect under a wall or fence is usually the best one, though for early flowering some crowns may be planted on a south aspect if provided with shade.

Crowns may be purchased from a nurseryman if a new bed is to be made; but if the bed is to be remade crowns may be selected from the old plants for replanting. The lily of the valley has a creeping rootstock which throws up growths which are called crowns. These are detached with a portion of the rootstock, and the plumpest, being those of two seasons' growth and therefore most likely to flower in the following season, should be selected for replanting. The thin pointed crowns are only of one season's growth and should not be used unless there is an insufficient number of plump crowns available for planting.

Planting.

The best time to plant is during early autumn. The crowns should be planted 3ins. to 4ins. apart and the tops of the crowns just covered with the soil. A mixture of rich loam, leaf-soil and sand should be worked in among the crowns at the time of planting, and the planting should be fairly firm. Once properly planted the bed should be left undisturbed for a number of years. An annual top-dressing of well decayed manure in the autumn, *i.e.*, September or October, should be given, and it will be necessary to cover the beds lightly with bracken or brush in the case of severe frosts. The lily of the valley produces two leaves only, and when picking the flowers and leaves this should be borne in mind, as by robbing the plant of both of its leaves you are taking away its means of obtaining food material from the air. This food material is necessary for the building up of fresh flowering shoots for next season. Therefore, as few leaves as possible should be plucked. Gather the flowers by giving the stem a sharp upward jerk, when it will come away easily and avoid injuring the crown. Two good varieties are Fortins Giant-flowered and Victoria.

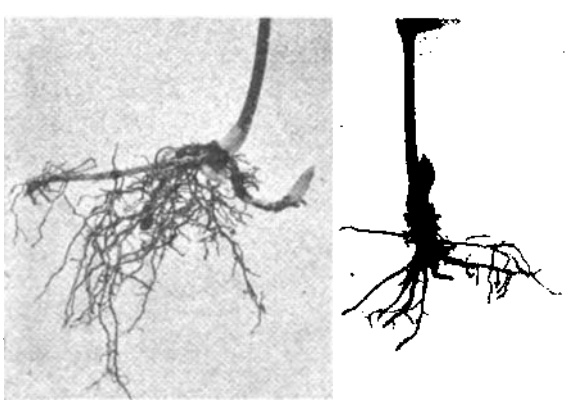


LILY OF THE VALLEY PLANTS FOUR WEEKS AFTER PLANTING RETARDED CROWNS.
An easy way of obtaining flowers for Christmas decoration.

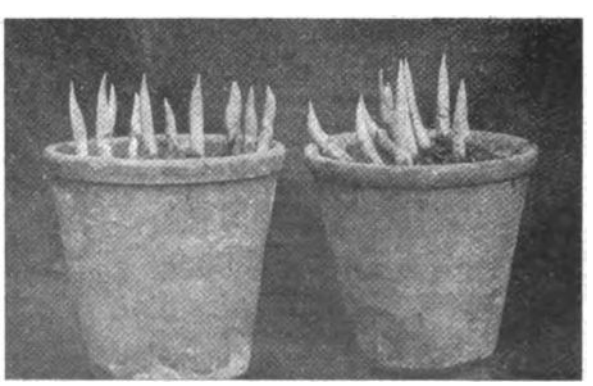
Lilies of the valley are much used for decorative work and for cut flowers, and are particularly adaptable for these purposes, as they may be made to flower over a very long period either by forcing or using retarded crowns.

Forcing.

Forcing can only be carried out to its fullest extent by those who have adequate heating facilities at their disposal, although lilies of the valley can be obtained earlier than outside by ordinary pot culture in ordinary greenhouses. The crowns selected for forcing should be well plumped (two or three years old) and planted in pots or boxes ten to twelve crowns per 5in. pot in any light sifted soil. The points of the crowns should be just showing above the surface of the soil and the pots plunged in coconut fibre or ashes for two or three weeks until root action commences. One good watering-in is given at the time of plunging. When root action has begun the pots are brought in to a moist dark chamber and at a temperature of between 85° and 90° Fahr. The pots covered with 2ins. of moss, and should be given an abundant supply of tepid water daily. When the shoots are 2ins. to



A thin-pointed crown which will not produce flowers the first year, and a plump bud that will. These points should be noted when selecting new crowns for planting.



Retarded crowns when potted up make rapid growth. The pots should be kept in the dark until the leaves begin to unfold.

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3ins. in height the moss is removed and light gradually admitted. When the flower heads appear the pots are removed to a somewhat cooler place and receive more light. By placing successive batches in the forcing chamber a continuous supply of flower is obtained.

How to Succeed with Retarded Crowns.

One of the simplest forms of flower culture is made possible by the system of retardation which has been carried out most successfully in the case of lilies of the valley. Even in a living-room it is possible to have these lovely flowers in full beauty in such a short while as to make the whole business seem almost magical. Of course, the "crowns," as the roots are called, which one buys at the present time would, in the ordinary way, have flowered last spring, were it not for the fact that they have been kept in cold storage. As soon as they are brought into quite a moderate temperature the plants start to grow vigorously, producing plenty of foliage in addition to the flower spikes. Nothing in the way of forcing is really needed, although, naturally, a genial atmosphere will hasten growth. Anything like cold air is very harmful to the delicate shoots, and this kind of thing must be avoided at all costs. In mid-winter the writer brought the plants shown in the illustrations into full flower in exactly twenty-four days from starting. The lilies were started in the kitchen and then finally brought into the dining-room to complete their development.

Although the growing of retarded lilies of the valley is easy, it is important to pay attention to a few points. Ordinary pots are the best, but, instead of soil, use bulb fibre. See that there is a liberal amount of drainage in the bottom of the pot, as it is important that the rooting material should not be in a water-logged state. Plant each crown separately, setting it with the pink shoot well above the fibre. Allow about eight or ten to a 4in. pot, spreading the roots out as much as possible. Growth is very much hastened if at the start the lilies are kept in a dark or at least a heavily shaded place. In fact, there is no particular object in exposing the plants to full light until they have started to unroll their leaves. If the lilies are placed in a cupboard, leave the doors ajar so that some air can get in. When the lilies are being grown in a greenhouse, a position under the staging is admirable, and here the growth will be very rapid, always providing the temperature does not sink too low at night. The question of watering is of great importance. Never use absolutely cold water, or a very severe check will be imposed on the plants. Use water with a temperature of about blood heat, not only for the actual watering, but also for overhead sprinkling. Do not keep the fibre in a sodden state, although it is most important that it should never be allowed to become absolutely dry. By the time the leaves begin to unroll the spikes will be a good height, and it is then that the plants may be brought out into a lighter position. Do not at once expose them to a very strong light, or a check in the development of the plants will take place. It is a mistake, at any time, to allow the lilies to stand in direct sunshine, as this will often cause a drooping of the leaf and flower stalks from which they do not always recover completely. After flowering the crowns are exhausted and it is not worth while planting them again in any position.

L.

MAKING A ROCK GARDEN on LEVEL GROUND

The hints given in the following article may prove useful to those who are thinking of constructing a rock garden this winter. They are the outcome of practical experience.

THE making of a rock garden in a dell, or where there is a good slope to the ground, is comparatively easy work; but a flat piece of ground presents many difficulties, especially to the beginner. This must be the writer's excuse for giving some description of the making of a little rock garden on a perfectly flat spot.

The piece of ground selected was covered with turf, being good old pasture, and the turf was pared away very thinly and stacked, to be afterwards used for potting, or for choice plants on the rockery. Below this there was a good spit of loamy soil, with a fair amount of fibre in it, and this was thrown or wheeled to some little distance, so that it could easily be brought back again to make compost for the rock plants.

It had already been planned to gain higher elevations by sinking the centre of the rockery about 3ft. below the general level. A set of rough steps at each end, with a slightly winding path through the work, completed the simple ground plan. Upon this point some experience was dearly bought, for time soon proved that in excessively wet weather the rock garden could get flooded, and it was afterwards necessary to lay in a drain, commencing at the lowest point of the path, and carrying the water to another part of the garden where there was a natural fall. Except upon very light and porous subsoils, such drainage appears to be essential.

It is not wise to start making a rock garden without some definite plan, imitating or trying to reproduce something seen in a mountain district. The design in the present instance was to make a rocky gorge, with a few bold promontories and sheltered hollows between.

For good or for evil, the work was started in August, and the labour of shifting that baked mixture of clay and stones was stupendous. But rain soon came to help us, and we got the foundations of our effort duly planned. Some misgivings arose as to the suitability of such material for the foundations of a rockery, but as we intended to cover the whole with at least 1ft. of good soil, there was a prospect of many things doing well. After experience proved that some rather choice plants pushed their roots down into this mixture of stones and clay and yet remained perfectly happy.

A CORNER OF A ROCK GARDEN MADE ON A LEVEL PIECE OF GROUND.
The various height levels have been obtained by careful planning, and add much to the beauty of the garden.

At the time of making it was absolutely necessary to use the best materials close at hand, and an adamantine stone found locally in isolated blocks or layers, of the conglomerate order, was that chiefly used in the making of the rock garden. This kind of material is banned by all experts, because of its excessive hardness; but we were afterwards successful with the great majority of the plants that were used.

The work proceeded on fairly orthodox lines, forming large and small pockets as we went, and bedding the stones to look as if they were level strata, naturally cropping out of a hillside. The loamy soil before mentioned had some sand and rock chippings mixed with it, and this was put between and beneath the stones, so as to give a depth of from twelve to eighteen inches everywhere. This proved excellent material for common rock plants, and special pockets were made up for choice subjects as they were procured. Some experience was bought, and if starting again I should use more sand and rock chippings, for our heavy loam seemed to have a fancy for reverting to clay after it had been in use for a time. It would also be desirable to give the pockets a greater slope, for all rock plants have the best of drainage in their native homes.

The original intention was to plant the outer banks of the rockery with dwarf shrubs, so as to hide it entirely from its surroundings; but, being greedy of space for plants, the outer sides of the banks were also turned into rockery, the irregularity of contour and height on the inside being repeated. So doing gave positions in sun and in shade, facing all points of the compass, a very desirable thing for even a modest collection of rock plants.

The pathway through the middle of the garden was roughly paved, and many little plants found a home between the stones. A grass path was made all round the outside, with a few stepping stones let in where it was likely to get much trodden. This gave an opportunity for having large spaces at the foot of the rockery for planting gentians, anemones, primulas and other plants that prefer a cool, deep soil.

The lack of water to make a pool was a considerable drawback, but it was thought best not to have the muddy, ill-supplied arrangement found in some rock gardens. With copious waterings a few plants of the boggy order did well in the beds at the base of the rockwork.

T. H. W.

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THE BUSY MAN'S PAGE

Planting Trees and Shrubs.

ALL trees, shrubs, hedges and woody climbing plants may be planted from the late autumn onwards until the spring, providing the weather is open. Of course, no planting of any description should ever be attempted during a frosty spell. Trees and shrubs which have been well packed will come to no harm if kept in a cool cellar or a shed where there is no risk of the frost getting at them. It is worth waiting a little while should the weather be very wet or in a quite unfavourable state. Where, for any reason, planting has to be postponed for a considerable period, open up a deep trench and cover the roots, and some distance up the main stem, with loosely scattered soil. When the trees are unpacked the roots should be examined, and any that are bruised or otherwise damaged should be cut back with a sharp knife. It is also a good plan to shorten tap-like roots to a considerable extent. If the roots seem very dry, soak them for an hour or so in wet soil before planting is attempted. The hole in the ground that is made for the plants should be large enough to allow the roots being well spread out. If turf can be obtained it is really an excellent idea to lay this, grass side downwards, in the bottom of the hole to act as food and drainage. The stem of the tree or shrub will show how deep it was in the ground in its last situation, and it should be replanted to the same depth. With the tree in position, spread out the roots well and then start working in the soil with the hands. Only fine soil should be employed at this stage, and it is most important to get it thoroughly between the roots, so that there may be no air pockets. After about 6ins. of soil has been worked in, light treading may be started. Complete the filling with a spade, treading more firmly as the roots get well covered.

If it seems likely that the tree will need a stake, this should be well hammered into the hole before filling in, and the tree tied to it with a padding of woollen stuff and little pieces of wood to prevent the cord cutting through the tender bark. When the tree is grafted high up it must be firmly tied both above and below the graft. If fine and fairly good soil is used, there is no occasion for putting manure into the hole.

LIFTING GLADIOLI.
Note the bulblets round the base of the new corm.

Lifting and Storing Gladiolus Corms.

THE time has arrived when gladioli should be taken up and stored for the winter, and as there must be many readers who have grown them for the first time this season, a little advice now may, perhaps, avoid disappointment later.

While I am well aware that, in sheltered gardens in the south of England, gladioli corms are sometimes left in the ground all through the winter, this is, at the best, a doubtful procedure, and little or nothing is gained in the long run by practising it. Undoubtedly, it affords the means of obtaining early flowers the following season; but, even should the corms survive frosts, they must be lifted the second year or they will certainly become far too overcrowded.

The end of October is about the best average time to lift, for, although gladioli may be lifted a month or more earlier, it is wise to allow the new corms a fair chance to develop fully and to ripen, especially in a season like this, when many corms which would have flowered in a normal year have failed to bloom, solely on account of the cold, sunless weather conditions.

Experienced growers must forgive the brief explanation—for the benefit of beginners—of what a gladiolus plant is like at this time of the year. Suppose what is termed "flowering-size" corms were planted last spring, well, each corm has thrown up during the summer one, two, perhaps three separate spikes of leaves, from which in most cases developed a flower spike. On lifting the plants, at the base of each of these spikes of leaves will be found a new corm. The old corm, which was planted, is now quite withered and will be attached to the bottom of the new corm (or corms), while in between the two, clustering all around the base of the new corm, there are miniature corms, termed "bulblets." The actual number of these bulblets round each corm will vary from three or four up to a hundred or more, according to the nature of the variety, the soil, the depth planted, the age of the old corm, and the season. As regards lifting, the most convenient method is to dig up the plants carefully, gently removing most of the adhering soil. Practically all the bulblets will be attached and these should be left as they are for the present. Then hang up the plants, roots downward, in a cool conservatory or greenhouse, or in an airy shed, to dry. An alternative method is to lay them out thinly on bags on sunny days, taking care to bring them indoors if frost is expected. In about a fortnight the foliage will have turned brown and dried; then cut off the leaves and flower stems about 1in. above the new corms and pull the withered and useless old corm forcibly away. Clean off any soil and loose skin from the new corms, and remove the bulblets, afterwards laying both bulblets and corms out thinly on to trays or in boxes. If convenient, the corms and bulblets may be stored separately, the latter (if perfectly dry) will not harm in paper bags or cardboard boxes. Store them in some cool, dry and airy position which is quite frost-proof, until planting time comes round again. It is hardly necessary to add that each variety should be correctly labelled and kept separate throughout.

With regard to the bulblets, the large majority will not flower the first year they are planted, but most of them should bloom the following season. Sow them in early March in deeply dug, fairly rich soil, in drills like culinary peas, making the drills 2ins. to 3ins. deep, about 1ft. between each. Sow thickly and it will be found that several hundreds will take up little room and will need no attention beyond keeping clean and, of course, lifting and drying in the autumn as previously explained. In case some inexperienced growers should be needlessly alarmed, I might mention the fact that often bulblets "germinate" irregularly, some appearing through the soil weeks or even months after the first have made their appearance. Indeed, occasionally a few bulblets will remain dormant all through the season. If not considered too much trouble, it will greatly facilitate "sprouting" if the hard brown outer skin of the bulblets is cracked or entirely removed. They provide the easiest and quickest method of rapidly increasing one's stock of gladioli, and with the newer and expensive varieties it would be wasteful to neglect them.—C. H. A. S.

DRYING THE CORMS AFTER LIFTING.
Care should be taken that each variety is labelled.

The General Clean-up.

AUTUMN time is the time for the general clean up in the garden. Hoe up every weed that can be seen. Clean the cabbage bed of decayed leaves. Pick off stones, sticks, etc. Go round and collect up all spare pea sticks, plant labels, etc., and bundle them up. Dig all ground that is clear. Sharpen all tools. Prune where necessary, and help climbers if needed. Lift all matured crops.

The Rock Garden in Autumn.

THE rock garden must be cleaned at once. Everything seems to have overgrown itself, and some drastic cutting back must take place. Aubrietias, alyssums, rock candytuft and roses can be cut right back. Little more than bare stalks need remain. These will shoot well next spring. With the creeping alpines, such as saxifrages, the surplus can be pulled out with the hand. Do not forget to fill the empty pockets with cuttings, and exchange with your friends. Add more sandy soil where necessary, and clear all leaves which have blown on to the rockery. Be careful to weed thoroughly.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Town Garden Soils.

A FRIEND living within a stone's throw of Eccleston Square, Westminster, finding that the garden plants did not thrive, submitted samples of the soil for analysis. The analysis, which is typical of all town soils, reveals that the soil is poor in nitrate and phosphate, but rich in humus and potash. A considerable trace of sulphurous acid, due to the smoke, is present. Such a soil would benefit by the application of basic slag and bone meal, applied at the rate of an ounce of each to the square yard. Although there is a small quantity of lime in basic slag, additional lime should be applied at the rate of 2 oz. to the square yard. This would counteract the injurious effects of sulphurous acid. Lime also releases potash and assists useful soil organisms.

An Attractive Front Garden.

OF all the front gardens were cultivated as well as the one illustrated herewith how much more beautiful would our roads become!

The design is simplicity itself, and the grass and borders are so arranged that any of the plants are within reach without walking on the soil. In such a garden there is much to do this season.

Annuals that have finished flowering should be lifted and the site prepared for spring flowering bulbs. Perennials, too, that have finished flowering can be cut down, and the whole border forked over, burying any surface weeds and decayed leaves. Where clumps are overgrown, they, at the same time, should be lifted and a few of the stronger shoots replanted.

When forking is done a dusting of lime would be advisable at the rate of 2 oz. or 3 oz. to the square yard. This assists the decomposition and conversion into plant food of the vegetable matter and plant tops which are buried as digging proceeds.

If the soil is impoverished an application of basic slag, which is a slow-acting fertiliser, would be advisable. This is especially suitable for heavy soils, and it needs to be applied at this time of the year as it is slow in action and would not be available as plant food until next spring. Apply it at the rate of 2 oz. to the square yard.

A Rock Garden on a Roof.

IN many ways, rockery plants are the most successful class of plants to cultivate on a roof garden. They do not mind dry atmosphere; an occasional drying-out of the soil does not hurt them, and when once planted, the roof-rockery requires very little attention. The essential thing is to mix plenty of grit with the soil when filling the pockets between the rockery stones, and to plant subjects like sedums and saxifrages that do not mind dry conditions.

A WELL FURNISHED AND SKILFULLY PLANNED ROOF GARDEN.

Much ingenuity is displayed in the roof garden illustrated on this page. Cement pockets filled with soil have been provided for the plants, and on the coping of the wall a cement trough affords a home for many rockery gems. In big cities there are many flat-roofs that could be utilised in this way, and the Blackheath roof garden is an example of what can be done.

Now is the best time to construct and plant such a garden so that the plants will become established by spring.

MAKING THE MOST OF A SMALL FRONT PLOT.

Here is a garden made and tended by an amateur, that should encourage others to make a similar display.

The Value of Falling Leaves.

TO the gardener, leaves may be either a source of annoyance or an invaluable addition to his store, according to whether he leaves them to rot on the surface of his paths or collects them for use as manure. Leaves collected and stored make a useful base for artificial fertilisers, adding the necessary "humus" to the soil.

If you are so fortunate as to have a good supply, collect them all together. Use some to fill the bottom of your cold frame, treading them well down and covering them with a layer of soil. Store the rest in heaps, covered with soil until they rot. They can then be used for potting, for digging into borders, and especially for preparing soil for lilies, ferns and other woodland plants.

How to Dig Properly.

THERE are several ways of digging, according to the nature of the ground to be dug. If it is an ordinary flower border, all that is necessary is to take out a shallow trench at one end, into which annual weeds and dead vegetable matter, together with any manures to be applied, are placed. Another width of soil is turned on to this, which again leaves a shallow trench. This means working backwards along the border, and if there are plants in position, these can be either lifted and divided, or simply dug round. This will, of course, interfere with a straight trench, but a little practice will soon make one accustomed to the work. Endeavour to leave the surface soil so that it will be perfectly level when the lumps are raked down. With heavy soils it is inadvisable to rake the surface level until spring.

Deep digging and lime promote the growth of the useful soil bacteria. They convert the nitrogen of the atmosphere into plant foods, which can be absorbed by the root hairs.

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THIS WEEK IN THE FLOWER GARDEN

Late-Flowering Chrysanthemums.

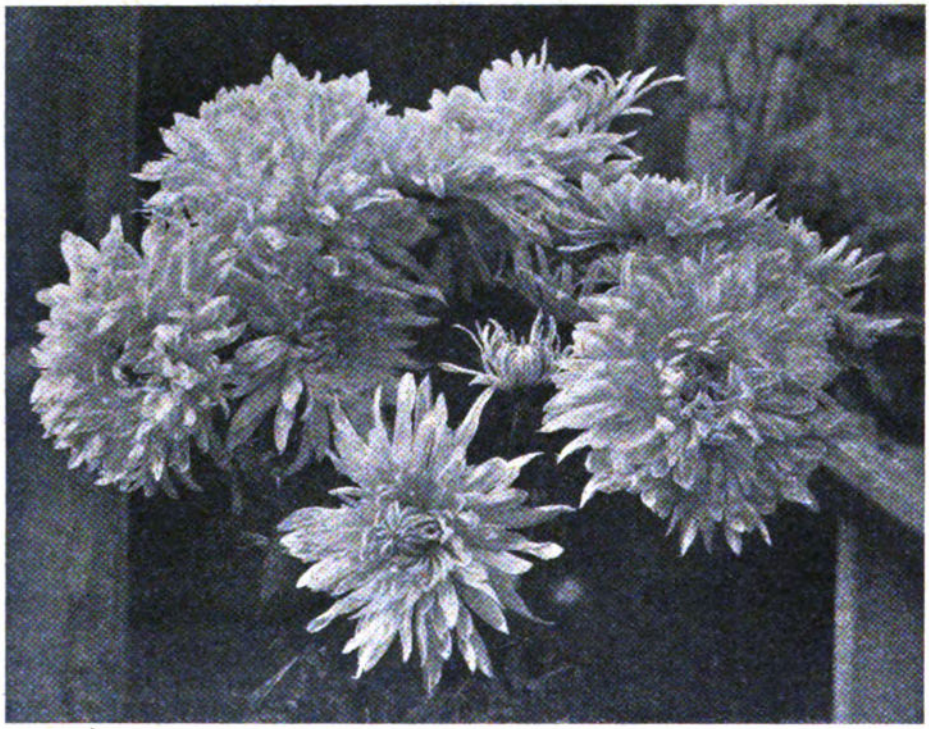
Lift plants from outside and transfer them to the greenhouse.

THE production of those fine indoor blooms depends largely on the method we adopt during "lifting-time" at the end of October. The late-flowering plants, those grown for their large, choice blooms of November and December, should now be transferred to their flowering positions indoors. Careless handling now may undo the work that we have expended on these plants during the last few months.

The cycle of their growth has proceeded throughout most of the year, and now the crown buds should begin to show signs of breaking. Provided the taking of the cuttings and the growing of the plants have been on the right lines, we should have some sturdy plants showing one, two or three main stems, according to whether we desire one large flower to each plant or several medium large ones. There is no doubt that the finest blooms are produced indoors, yet we know quite well that chrysanthemums do produce blooms out of doors, and good ones, too. We also know that if we leave our late plants out and the season is mild, they also will start to show their colours, but the blooms would not be of such good quality as those from plants transferred indoors at the right time. I recommend that these plants be lifted and placed into indoor positions well before the buds break and before the early frosts make this imperative.

The first frosts are low on the ground and they catch the lowest leaves of the stems first, with the result that they go brown and curl. As soon as this is noticed we must delay no longer in the matter of lifting. Transferring the plants from outdoors is necessary for more reasons than protection from the frosts. Wind and rain work havoc with them, and the insects have not all gone, while under the glass the flowers have the full benefit of the sun's enfeebled rays.

The lifting should be done on a fine day if possible, and the plants can be potted or planted out. It will not be possible to lift without disturbing the roots going deep down into the ground, but this is not very important so long as we do not disturb the flower-producing roots, which lie more on the surface and around the stem. The soil into which the plants are placed should be prepared beforehand, of course. Leaf-soil and sandy loam, with an admixture of old burnt wood ash, make an ideal soil compost. In replanting, the roots must be placed well down into the soil firstly, because the flowering roots lie near the surface and deep planting will encourage the growth of these, which in turn provide for larger blooms; secondly, because we must encourage the growth of "cuttings" for next year's plants and which spring up stronger with a deep planted root.



AMONG AUTUMN FLOWERS THERE IS NONE CHOICER THAN THE CHRYSANTHEMUM. *Plants outside should be lifted and removed indoors for a greenhouse display without delay.*

After a week in their new positions the plants can be fed with liquid manure, weak at first; also we can pinch off the buds not required to flower according whether we desire large single blooms or for indoor decoration.—D. L.

Planting Hedges.

AS a hedge must stand a long time without further cultivation, every effort has to be made to work the soil up well before planting commences. Not only ought it to be trenched, but manurial matter may be, and often is, required; rotted manure, leaves, soft rubbish and the like are good, but a coarse bone meal or a little hop manure may serve. Plants which shed their leaves in winter are planted when they are bare; evergreens are best planted in early autumn or in spring. Whenever the shrubs arrive, ditch them in, in a vacant plot of the garden, but see that they are put into permanent quarters at the earliest opportunity. The number of shrubs required varies with the kind desired; seedling thorns, beeches and such-like may be two to a foot, or, to secure a close, impenetrable hedge, three; evergreens may be one to the foot, or even one to two feet if the bushes are large. Soft shrubs, like the privet, can hardly be planted too thickly, although one to 6ins. is the rule. Plant firmly and, in order to secure a very close and neat hedge ultimately, like this ●●●●●●●●, rather than this, ●●●●●●●● Thorns, privet, beech and the like may be cut back to half size at the end of March next; evergreens are best allowed to grow for a year before they are clipped back hard.—LANARKSHIRE.

Some Uncommon Early-Flowering Border Perennials.

HOW much brighter the majority of herbaceous borders could be during the month of June, if only a little more thought was expended on them.

Most people regard June as a month when there is not much bloom in the border except for such subjects as lupins and poppies, but if the depths of some of our numerous catalogues were probed they would reveal many. I would like to mention a few which would help to supply colour to the border and at the same time add interest, charm and character.

The first is Hedysarum coronarium or the French honeysuckle, which is a handsome herbaceous perennial bearing resemblance to the sweet and everlasting peas. It has divided leaves having oval leaflets, downy beneath, and spikes of crimson flowers. The plant is about 3ft. to 4ft. high. It can be easily propagated either by seeds sown outdoors in April or May and transplanted to their flowering quarters in autumn, or sown in heat in winter, hardened off and transplanted in spring. It thrives in almost any soil, but should have a sunny position and a little shelter, if possible.

The amateur gardener who has a small border could hardly find anything better than Mertensia sibirica, for it is distinctive, beautiful, compact and easy to grow. It has nearly heart-shaped lower leaves and blue flowers on 18in. stems. It thrives in a good friable soil if the situation is not hot and dry. Partial shade with a cool peaty soil suits it best, and it is increased by division in autumn or spring.

Another plant for the small border is the Tradescantia virginica. It also makes a good town plant, thriving in most soils, and is not fastidious as to situation, making itself at home in rather shady as well as in sunny places. Propagation is by division in spring.

A plant worth growing in a large border is Symphytum caucasicum, with blue flowers, which will thrive in most soils and is propagated by division.

Centaurea macrocephala provides a most interesting plant, with its charming thistle-like heads of an old gold colour which later develops into large yellow heads.

Poterium dodecandrum, with its rosy purple, handsome spikes, is the very old pot herb of which the leaves were used in salads and soups; it is suitable for a light friable soil and is propagated by division in spring.

If one added to this list linarias, some of the thalictrums and salvias, one would never complain of having a dull border in June. —M. H. G.

Pruning Rambler Roses.

ROSES of the rambler class should receive immediate attention to enable the growths to secure all possible benefit from air and light. The wood will then be perfectly matured, will withstand frost and produce plenty of blossoms next summer. It is a great mistake to defer thinning out the growths too long. The ripening period is between now and the end of November, and should the weather be mild the growths

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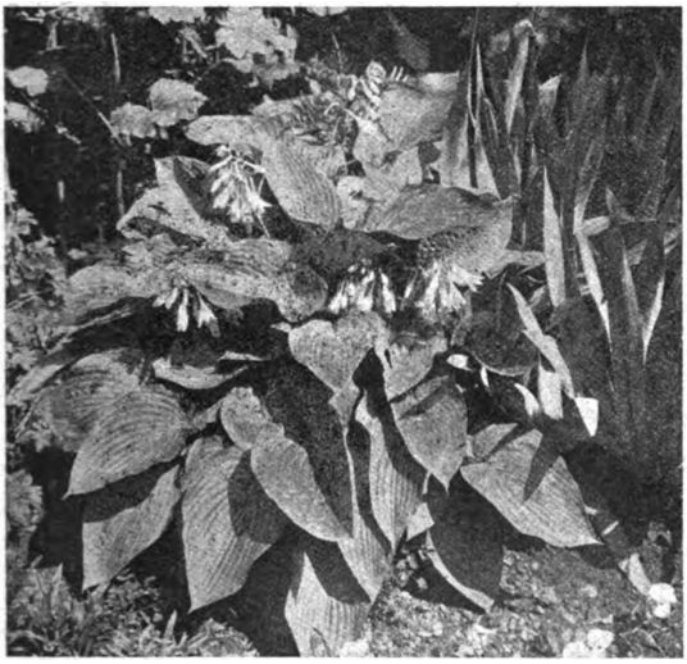
sheltered, or, in other words, coddled, will be so weakened as to be useless. When this is allowed to take place the after result is often disastrous if cold, frosty winds come on the scene.

In pruning this class of roses all, or nearly all, of the old wood should be taken away. Circumstances must, however, be considered. If there is as much young growth as will adequately furnish the desired space, remove all the old wood, selecting the best ripened wood to take the place of that removed, and by no means place them closely together. —J. A. P.

Funkias for the Border.

A PLANT that deserves to be seen more often than it is in the herbaceous border is funkia. It is most conspicuous for its bold and handsome foliage of large veined leaves measuring some 7ins. across, which are ornamental from their first appearance



FUNKIAS ARE AMONG THE BEST PLANTS FOR FURNISHING A SHADY CORNER IN THE GARDEN.

at the end of April or in early May till the end of September; but it also bears most attractive flowers in July of a very pale lavender—almost white with a lavender tint. The leaves spring direct from the root and die down in autumn, so that the plant is out of sight. They are rather late in starting, and it does not follow that the plant has perished if nothing appears when most other herbaceous plants are well forward. Funkia is very accommodating in the matter of cultivation. It may be planted in the autumn or early spring, and while it will grow luxuriantly in a sunny spot, it will also thrive quite happily in partial shade. The roots of well established plants can be divided in the spring before growth begins; but as the plant is out of sight after the leaves are off the middle of the crown should have been marked with a stick the previous autumn.—E. H. B.

Dahlia Our Annie.

THE dahlias this year have been making a brave show, and for bedding purposes Our Annie is one of the best. It grows about 2½ft. high and produces a wealth of its pretty shrimp pink flowers which stand well above the foliage. It belongs to the peony-flowered section, and the individual flowers are not by any means floppy and heavy, a characteristic feature of many belonging to this group. The blooms are about 4ins. across, dainty in appearance, and the shade of pink is sure to please, while it is very effective under artificial light. In a cut state it will be found useful for various kinds of decoration.—B.

A Good Plant for a Dry Wall.

Antirrhinum Asarina.

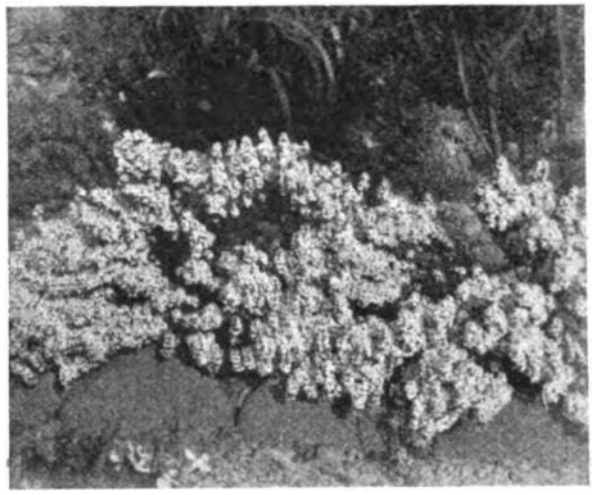
IF the subject of this note were to be given the name which would seem to have prior claim to the plant, we should call it Asarina Lobelii. But as Antirrhinum Asarina it has been generally known since the first specimens were introduced from its native Italy in 1699. For a really dry wall this is an ideal plant, and if the former is dust-dry with little or no soil the happier will it be. The specimen shown by the illustration over a yard across, appeared as a stray self-sown seedling, and so pleased is it with the site of its choice that it is becoming naturalised, odd seedlings cropping up all along the wall.

Though A. Asarina has no means of attaching itself, the hairy, sticky branches insinuate themselves so cleverly into the interstices between the stones that it never loses its hold. It begins its growth early, and before spring is over the pale yellow snapdragon flowers, faintly pencilled on the nose with red, begin to appear, and of these the plant maintains a succession until late autumn. If the plant is not a showy one, the downy, grey-green leaves are soft and pretty, the habit is singularly graceful and I know of none other that will do so well under conditions arid enough to try the endurance of a houseleek. A vertical position is obviously an advantage, but it is not always essential. Seed is set in abundance, and this germinates readily if sown in pans of sandy soil in a cold frame in spring. —A. T. JOHNSON.

A Beautiful Shrubby Thyme.

Thymus nitidus.

THIS beautiful thyme is without a doubt the finest of the shrubby species.



A PRETTY AND FREE-FLOWERING THYME, T. NITIDUS, OF SHRUBBY AND COMPACT HABIT.

Its small grey-green leaves are exceedingly fragrant, it makes a neatly rounded bush of some 9-12ins. in height and rather more in width, and this it adorns with rosy-white flowers throughout the spring months. So abundantly are these honey scented blossoms yielded that the whole plant is smothered with its fragrant burden. Then one may claim for T. nitidus that it is quite as hardy as the common culinary thyme and quite as easy to grow. It is an ideal shrublet for the rock garden or front of the mixed border, and I do not know of a better subject for associating with dwarf heaths. All it asks is a "place in the sun," and a free soil. It is very easily propagated by striking short twigs in pots of sandy soil placed in a cold frame, but even that is not always necessary, for most of these thymes will strike if fairly long pieces are dibbled-in in the open on a cool border.—J.

Sowing Seeds of Geums.

DURING October is the best time to sow the seeds of geums. The principal varieties grown are Mrs. Bradshaw, orange-scarlet; Lady Stratheden, golden yellow; and Orangeman, deep orange.

Sow the seed in boxes or pans and prick out 3ins. apart into boxes filled up with a good rich compost of loam leaf-mould and sand. Winter the boxes in a cold frame and plant out during March.

AN ATTRACTIVE SMALL-LEAVED ANTIRRHINUM OR A DRY WALL. A. ASARINA

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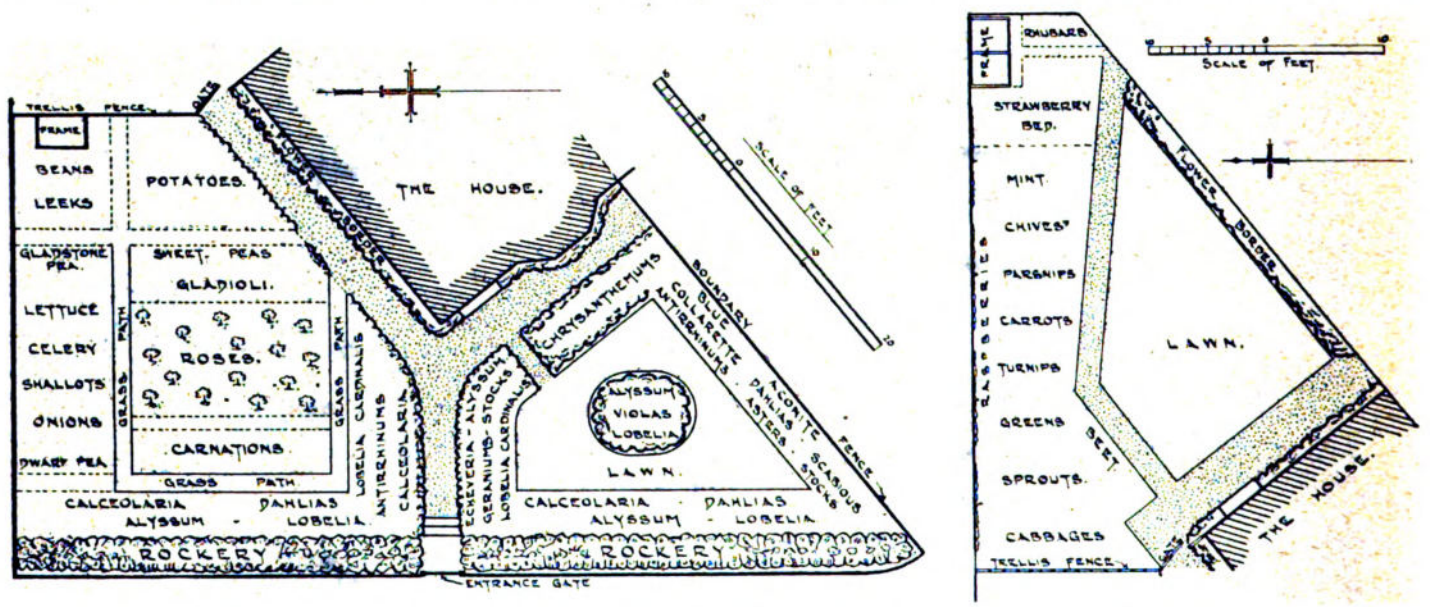
A PRIZE-WINNING GARDEN DESIGN

The garden, of which the plan is shown here, won the first prize in a Scottish Gardening Competition this year. The following article, together with the plan indicating how the success was achieved, may assist those of our readers who are thinking of entering for such competitions next year.

THE accompanying design, which was specially prepared for publication in THE GARDEN, represents the garden of Mr. James Stewart, Mosspark, Glasgow, who has been awarded the championship trophy for the best garden connected with the various housing schemes in that city. Organised by the *Glasgow Daily Record* for the purpose of encouraging horticulture among the thousands of tenants of Corporation property, a class which is increasing in numbers every year, it was made a condition that each garden must be cultivated by the owner or a member of his family and that any competitor who received assistance from a professional or jobbing gardener would be disqualified, thus enforcing a purely amateur status.



THE DESIGN OF THE FRONT AND BACK PLOTS, SHOWING THE PLANTING ARRANGEMENT.

The city is divided into seven groups, embracing twenty-two housing schemes, of which Mosspark, containing 1,500 houses, is the largest. Money prizes are awarded to competitors in each individual group, and the championship is decided by four judges from among the first-prize gardens in the various groups. The scheme, it may be further noted, has received the support of the leading members of the seed and nursery trades in Glasgow, who provide special prizes for the best cultivated plots of flowers and vegetables, and there are minor competitions for roses, sweet peas and rock gardens, and for the best kept paths and lawn.

This year's winner has advanced rapidly from novice to champion. Up till four years ago, when he took up his residence at Mosspark, he had never grown a flower, and recognising that he was up against a difficult proposition in the form of unsuitable soil conditions, he devoted all his spare time during the first winter to the work of trenching the ground. To-day he is reaping the benefits of the hours spent in arduous toil.

The first thing about the garden that is apparent to the reader is its peculiar and irregular shape. It is an entirely new design from that of last year, and it is generally acknowledged that in his latest attempt at lay-out Mr. Stewart has overcome the natural difficulties of the site by the creation of a well balanced scheme.

Another point which influenced the judges in their decision was the variety and quality of the subjects. It may be said of the vegetable garden that there is something of everything in it, and although some critics may take exception to an arrangement which associates vegetables with flowers in front, the combination does not detract from the general appearance, as the gradation from dwarf to tall peas is in keeping with the adjoining flowers. The potato patch took the form of a trial ground this year for the purpose of determining the varieties that were best suited to the soil. Nine sorts were grown, and Kerr's Pink proved to be superior, both in respect of quality and crop. The brassica family is represented by early, late and red cabbages, cauliflower, Brussel sprouts and greens, while the experiment of growing raspberries on the boundary fence of the back garden was justified by the yield of the crop.

As will be seen by the plan, the front or flower garden, which runs parallel with the road, is divided into two sections by the main walk running from the entrance gate to the front door. It is edged with stones, and little clumps of variegated arabis raised from cuttings and planted at irregular intervals afford relief to the formal straight line. The sloping frontage next the railing takes the form of a rockery, in which there is a representative collection of sedums and saxifrages. Immediately behind this there is a flower border extending the full length of the front.

The two divisions on the left and right of the path are treated as different schemes. Next the border on one side is a mixed bed of border carnations raised from cuttings, and beyond that is a bed of healthy-looking roses which have bloomed freely throughout the season. Rising above the roses is a group of gladioli with a row of sweet peas as a background, and, as the ground has a gentle slope from back to front, the various subjects are seen to advantage and constitute a pretty picture in harmonious colours.

On the other side of the walk the lay-out consists of an oddly-shaped green with a central oval-shaped bed clothed in blue and white flowers and a specimen of sea holly (Eryngium yuccæfolium) in the middle. The back border is occupied with early-flowering chrysanthemums, while the bed which serves as the southern boundary of the garden is filled with a collection of annuals (clarkia, lavatera and scabious), calceolaria and pentstemons, with a back row of collarette dahlias. As a substitute for the commonplace privet hedge a stately row of blue aconite towers above the flower border, giving an appropriate finishing touch to the colour schemes. The aconite, by the way, was planted by Mr. Stewart's neighbour and fitted in nicely with the general scheme.

The entrance walk is flanked by beds planted with antirrhinum and geranium in variety, calceolaria and Lobelia cardinalis, while the old-fashioned bachelor's button serves as an edging to the turf. A narrow flower border fully a foot wide skirts three sides of the house, and frames of various sizes occupy the odd spaces, for it is a creditable feature of Mr. Stewart's handiwork that he raises all his flowers from seeds and cuttings. Already the ground that was occupied by potatoes, shallots, carrots, etc., is fully planted up with cuttings, and these will be supplemented in spring with frame-struck cuttings of dahlias, geraniums, etc., an example of gardening economy which many amateurs might imitate. Dwarf Alyssum procumbens is used freely in the flower border and the total cost of the seed was 2d. So far Mr. Stewart has not divulged his intentions regarding his plans for next year's competition, but he means to retain possession of the trophy.

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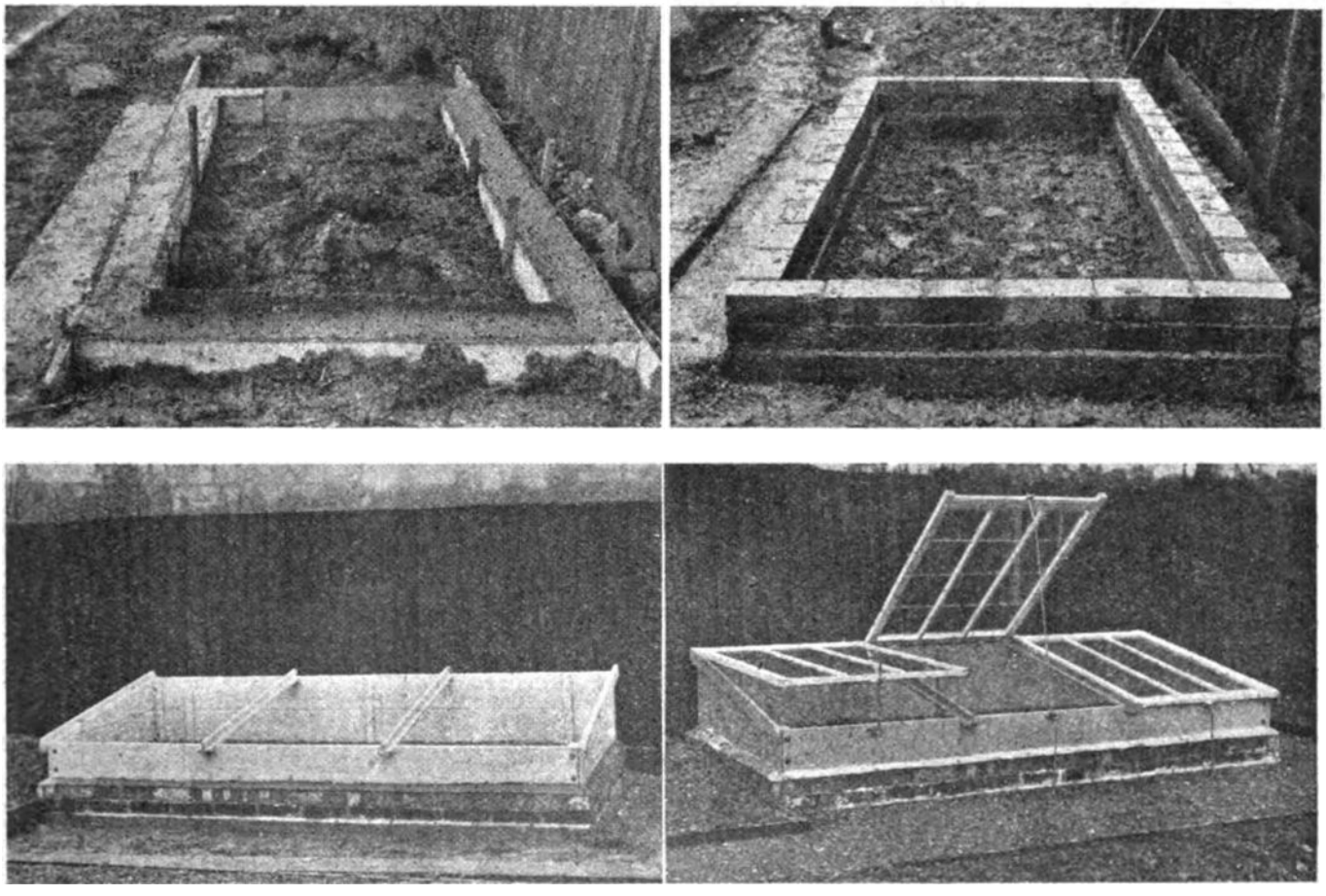
LAYING THE FOUNDATION FOR A GARDEN FRAME

Most amateurs prefer to purchase a frame in parts which are easily fitted together. The difficulty of providing a suitable foundation for the wooden framework, however, often arises, and this article illustrates how one can be simply laid with the aid of bricks and concrete. A brick foundation is to be prefered to one of wood since it is more durable and gives added protection to the plants in the frames. It is a job for the coming winter months.

ONE might go so far as to say that the equipment of no garden is complete without a frame of some kind or another. Nowadays there are many different kinds of frames offered, and the amateur may find it a little difficult to come to a decision. There is a good deal to be said in favour of the portable frame which can be moved about to different positions according to the purpose which it has to serve. For instance, such a frame can be placed behind a north wall when shaded conditions for the rooting of cuttings are needed; if melons, cucumbers, etc., requiring a more sunny position, are grown, the frame can be given a south aspect; while, at any time, the portable frame can easily be placed on a prepared hot-bed. Generally speaking, however, the permanent frame set on a brick or a concrete foundation is the better proposition. Indeed, a properly placed and well constructed frame is, in many directions, quite a good substitute for a greenhouse, at a cost which is very much lower than the more imposing structure.

Much has been written about the respective merits of the span-roof and lean-to frame. Of course, in the case of the span-roof there is a considerably greater depth than in the lean-to, and this extra accommodation may be very useful in the case of plants advanced in growth. On the other hand, a very large number of plants grown in frames do not require this depth; in fact, it is a sound rule that the closer young plants are kept to the glass the stouter and the stronger they will grow. The lean-to frame, with its comparatively shallow front and back and its fairly flat roof, facilitates the keeping of plants near the glass. In the case of plants requiring a maximum amount of sunshine, the lean-to frame is undoubtedly the better, for it can be placed in such a position that it secures a full south exposure. Quite a good depth may be secured in a lean-to frame by the lowering of the level of the soil inside. On a floor of ashes pot plants of some size could be accommodated in as healthy conditions as they would be likely to enjoy in a span-roof frame or even a greenhouse. A lean-to frame is cheaper than a span-roof one giving an equal amount of accommodation. When it is a case of buying just one frame, which will have to serve a great variety of purposes, there is no doubt that it is wise to decide on one of the lean-to variety.

It is poor economy to buy a cheaply made frame which has been put together in a slipshod manner. Where the wood is thin and the glass of inferior quality, dangerous changes of temperature will take place, and these may cause an infinite amount of harm to the plants. It will have but a short life, the joints of the body will open, the woodwork of the lights twist so that the glass is broken, and wherever the wood has touched soil or manure it will start to decay rapidly. The only safe plan is to deal with a firm with a reputation for sending out first-class articles. Get as large a frame as can be afforded, seeing that the small sizes are relatively more expensive. For instance, a lean-to frame measuring 10ft. by 3ft. by 1ft. 9ins. at the back is generally priced at about £6; whereas a frame of the same pattern, but 5ft. longer, can be secured for £8 7s. This additional 5ft. of accommodation will prove of great value, and the small extra cost is well worth while. The type of frame mentioned has two lights, but if the buyer is willing to pay rather more, he can get a three-light frame, which, in working, could easily be used for three different purposes. One of the sections might be devoted to pure sand, another to soil, and the third even to cinders. In such a frame it would be a simple matter to have rooting cuttings, seedlings or salad plants, and pot specimens, plunged in cinders, all at the same time. The fact of having three lights makes it possible to adjust the ventilation to the needs of the different parts of the frame. Thus, the cuttings would require a comparatively close atmosphere, and here the light would be kept down; more air would be needed by the growing plants, and perhaps still more by the subjects which are in a more or less quiescent stage in the cinder bed.



FOUR STAGES IN LAYING A BRICK FOUNDATION FOR A GARDEN THREE-LIGHT FRAME.

The first illustration shows the concrete foundation held in position by a mould, on which is set two courses of bricks as shown in the second. The third shows the framework placed and fixed in position on the brickwork; and the fourth the frame ready for use with the lights fixed.

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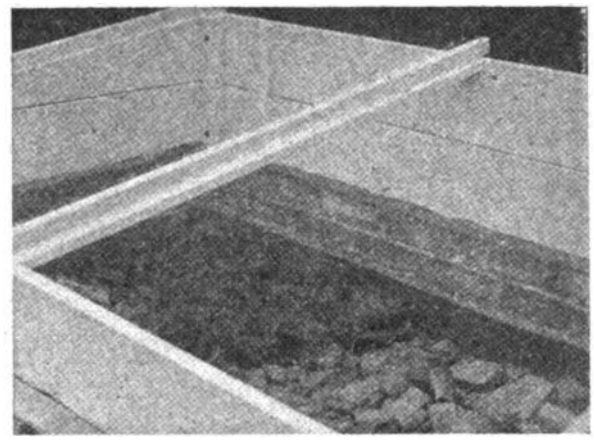
It pays to give serious consideration to the position in which the frame is to be placed. It is always an advantage to have it where there is some protection from the north and east. An ideal place would be where the aspect was full south with a wall, fence or thick hedge on the north side and, if possible, something to break the wind coming from the east. Of course, in many gardens the ground is level, but where this is not the case select the higher part of the land as far as possible. A frame in any sort of hollow, even if the aspect is good, is in a thoroughly bad position. Here on still, winter nights the chilled air will settle, so that the frame is in a veritable pool of cold air. In marking out the site, leave at least 9ins. between any wall or fence, so that there is a clear way all round. In the illustration is shown a very good way of arranging the foundations for the frame. Here the bricks are set on a low concrete foundation which is somewhat wider than the width of a brick. The concrete wall is arranged so that it only comes a trifle above the level of the ground, and the shaping is easily carried out by the formation of a mould with lengths of wood. Of course, concrete may be made of broken bricks, cinders, stones, or coarse gravel with cement. Six parts of either of the above (it is better not to use mixed material) is allowed to 1 part of cement, the whole being worked up to a suitable consistency with water. Have the position and the wooden moulding all ready for the concrete before starting the mixing, so that the work of putting in the preparation may go forward without a check. The two or three courses of bricks which are added should not prove a very formidable job even to the amateur. If wished, these might be set in position without mortar, although, naturally, it is better to carry out the work with mortar in proper bricklaying style. The lines must be true and the whole perfectly level; but if the original concrete foundation has been properly planned, the bricklaying will be quite easy. When the frame is duly set on its foundation, cover in the part where the wood joins the frame with cement. Let the surface slope outwards and downwards, so that the rain may drain away at once. Take great care not to leave any spaces between the cement and the wood, as water is likely to work in even through quite tiny cracks. As has been indicated, a frame set up on the lines described can be used for a multitude of purposes. For instance, it is a very simple matter to use it for a hot-bed by taking out the soil inside as low, or even somewhat lower, than the concrete foundation. In the space thus secured the fermenting material can be snugly packed away and it will retain its heating properties for a much longer time than when a bed is made up in the open and the frame placed on the top.



SHOWING HOW THE DRAINAGE LAYERS SHOULD BE PLACED.
At least six inches of crocks and clinkers should be used as a drainage layer, with two or three inches of moss or loose fibre on top to prevent the surface soil from being washed down into the drainage. Each compartment may be treated separately and so can be utilised for different purposes.

In conclusion, it may be pointed out that it pays to make sure that the drainage of the ground in the frame is in order. In a frame damp is often a source of trouble, and the excessive moisture largely arises from the fact that the soil is in a water-logged condition. It is well worth the extra trouble, after the erection of the concrete and brick foundation, to dig out the interior to the depth of 18ins. or 2ft. Then fill in this space with broken bricks, etc. In such a frame the evils associated with damping and mildew would be much less prevalent even when the weather conditions were very unfavourable for a considerable time. S. L. B.

WHAT OUR READERS SAY

BRAMLEY'S SEEDLING APPLE IN DENMARK.

SIR,—After many trials of various apples in Denmark, the English apple, Bramley's Seedling, has been found to be the most prolific for export purposes. It seems to be especially suitable for exposed positions in Jutland (Denmark), where it is being grown on heath ground, behind the shelter of firs planted some years ago.

The greater part of the soil of Denmark is suitable for fruit growing, but it has not been used for that purpose, for fruit to the amount of £5,500,000 (99 million kroner) has been imported during the last ten years. In 1918 an experiment was tried on one of the poorest soils in the country, that of the heath ground of West Jutland, which is subject to the severe winds from the sea. The trees were planted behind the firs, in passages, 20ft. to 40ft. in width, holes being dug 1yd. in diameter and depth, which were filled with old manure and soil. These trees yielded fruit in 1923, at the rate of nine apples to each tree. In the two following years the average yield was 27lb. per tree; and in 1926 there was an increase to 30lb. for each tree.

A record has been kept during the last few years by Mr. Hansen of Varde, of twelve districts of Jutland, which is published every year. It has been proved that the many small-holders who have added orchards to their holdings have been amply repaid, hedgerows and heath ground being used for this purpose. In the course of nine years Bramley's Seedling has yielded 260lb. per tree in other districts. Even on a small island off the coast, which consists chiefly of sand dunes, the experiment was tried fourteen years ago; the accompanying picture shows the size of the tree.

According to the statistics, in 1924 twenty-two trees yielded about 8,000lb. of apples, which were sold at the rate of 25 öre (at that time about 3½d.). This year the outlook is good, and the yield promises to be a prolific one, one grower expecting to make 60,000 kroner (£3,000). Of the various other apple varieties that have been tried none has yielded such good crops as Bramley's Seedling.—E. A. KOFORD, *Sentofte, Denmark.*

APPLES FLOURISHING IN A PINE WOOD IN DENMARK.
This variety is Bramley's Seedling.

WANTED: THE NAME OF AN OLD SINGLE CHRYSANTHEMUM.

SIR,—Having been much disappointed in modern varieties of single chrysanthemums, I am trying to trace the stock of an older variety. The latter was known to the writer at Wallington, Surrey, about 1906. The flowers were small, less than 2ins. in diameter, very firm, with a single, even row of ray florets; mahogany chestnut in colour, very fragrant and quite hardy. Has this old variety been lost, or can any reader of THE GARDEN help?—G. A. RUSSELL, *Radlett, Herts.*

[It is a somewhat difficult matter to name a chrysanthemum after a lapse of over twenty years, inasmuch as very few varieties then in vogue are now in cultivation. We cannot call to mind one answering the above description, nor have we any clear recollection of any single sorts noted for their fragrance. The one which had a perfume resembling that of a violet, named Progne, belonged to the reflexed Japanese, a section little known to-day, and this was grown thirty years ago, but it was a mid-November flowering sort. When singles were first introduced, most of them had only one row of florets, and though many of them were very pretty, they were superseded to a large extent by those possessing overlapping and double rows of florets; consequently, quite a number of the early sorts were lost. The only single chrysanthemum of modern sorts we are acquainted with, which appears to approach the one sought after by our correspondent, is Firebrand, a chestnut crimson, which

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only grows about 3ft. in height, and blooms in September, and is best grown in sprays. It is, we believe, stocked by Mr. H. J. Jones of Lewisham.—ED.]

A SMALL LILY POOL.

SIR,—Possibly the enclosed illustration of a small lily pond may be of interest to readers of THE GARDEN, as it has been particularly successful this year. The lilies are Nymphæas pygmæa alba and p. helvola.

The illustration is rather deceptive, I think, as the pond is only 3ft. by 2ft. 6ins. and about 15ins. deep—not quite deep enough. I dug a hole the necessary size, laid in about 4ins. of concrete in the bottom with a sort of basket formed with reinforcing wire-work roughly the shape of the pond. I then placed an old galvanised iron bath in the centre filled with bricks to keep it in position, and then rammed in concrete all round the sides. When the concrete was set I removed the bath and smoothed the bottom and sides with cement and sand. I mixed a small quantity of "Pudlo" with both the concrete and cement mortar, and the result was a perfectly watertight monolith pond.—J. W. DENINGTON, *Croydon*.

A MINIATURE LILY POOL IN A READER'S GARDEN.
The lilies are Nymphæas pygmæa alba and p. helvola choice species for a small pool.

NEW MEADOW SAFFRONS.

SIR,—This autumn there have been sent out several new hybrid meadow saffrons, or colchicums, these being the result of the hybridisation of C. Bornmuelleri and C. giganteum or C. speciosum. Of the set I acquired three, in order to test their value and distinctness. The first to bloom was one called Daendels. When it first opened it was disappointing, its colour was rather pale and its size gave no real indication of its after dimensions. In a few days, however, one's verdict of its merits had to be rectified. The flower became very large and tall, even compared with the finest of the other meadow saffrons, and the colouring, a fine ruby purple, was very striking. C. Daendels flowered early in September. It was followed a little later by C. Rubens, which, from the beginning, inspired admiration from its size and the brilliant ruby of its large and handsome cups, which had white centres. Last of all came C. Lilac Wonder, which is a good large flower of a deep lilac. Its most striking feature appears to be its tendency to display additional segments. This varies in the different blooms, but some of these segments come rather deformed, which detracts from the beauty of an otherwise fine large meadow saffron. The colour of Lilac Wonder may be described, as already mentioned, as a deep lilac. In all there are about a dozen of these new hybrids, and should the others be the equal of these three they will be of considerable value in the garden in autumn and are probably the precursors of still finer meadow saffrons.—S. ARNOTT, *Dumfries*.

MAKING A PRIMROSE BANK.

SIR,—Perhaps some of your readers may be interested to hear how a primrose bank was made in our small town garden. A flowering currant had taken up a space of ground with its lower branches; these I cut back, shaping them irregularly into curves. Some old tree roots, logs, leaves and rubbish made a good sloping pile round about the currant, well filled in and stamped down with rotted leaves and manure. Six inches of good soil roughly sieved with a little bone meal and sand I put over all, then planted the primroses thickly from the bottom to the top. Whatever else has suffered, primroses have revelled in this wettest of seasons. Divided in the spring, they have spent the summer in shady corners of the garden, and are fine plants, the strong buds already showing colour. Half a dozen small ferns and a few anemones which wandered from the woods with them and are brave enough to grow in the town keep the primroses company; while clumps of snowdrops and some Campanula pusilla (blue) will afford a little variation of foliage. Now I am looking forward to seeing my primrose bank in flower beneath the pink-tipped branches of the sheltering currant. This bank will make a charming picture during early spring.—S. R., *West Hartlepool*.

HOW TO GROW CURRANTS

These bush fruits can be grown by every amateur even in quite a small garden, for they are of easy culture and do not need a great deal of attention.

Black Currants.

THE black currant will grow in almost any soil provided it is sufficiently open to permit vigorous root action and is retentive of moisture. It prefers a good deep loam and a cool place. The ground for planting should be well trenched and manured with horse-manure. Planting should be done in autumn, though it may be left till the turn of the year. Young bushes should be purchased and planted 6ins. deep in rows 4ft. or 5ft. apart with 4ft. to 5ft. between the bushes, and cut back to within two or three buds of the base at the time of planting.

In the first year from planting all bushes which have not made three shoots or more of 2ft. in length should have their growths shortened to two eyes. Those which have made three growths of 2ft. should have the weaker shoots—*i.e.*, those under 2ft.—cut back to two eyes. In later years pruning consists in cutting right out the less vigorous growths that are formed, thus allowing the development of new vigorous shoots, on which the finest fruit will be borne. The black currant is a gross feeder and should be mulched with manure in alternate years. During the growing season hoe freely.

Varieties.

Certain varieties do better in some localities than in others, and I should suggest to those readers who are desirous of obtaining the best results to make enquiries as to tried varieties in their particular locality. The following can be recommended: Baldwin's Black, Seabrook's Black, Boskoop Giant, Goliath, Daniell's September.

Propagation.

Black currants may be propagated from cuttings of well ripened growths 10ins. in length, taken at the time of pruning, *viz.*, October or November. The cuttings should be obtained from healthy, vigorous bushes, and should be the size of a pencil or larger. Propagation from healthy stock is of special importance, as one of the worst diseases of black currants—reversion—is transmitted by propagating from bushes suffering with the disease. The ground for planting the cuttings should be thoroughly well dug and the cuttings inserted 6ins. apart in the rows with 2ft. between the rows. They should be inserted so that the three top buds are above the surface of the soil, which should be well firmed after planting. During the following spring and summer the ground between the rows must be hoed to conserve moisture and to prevent the growth of weeds.

The bushes should be ready to plant out one year from the cutting.

Pests and Diseases.

Without doubt the worst pests attacking black currants are the big bud mite and reversion. The former is due to an insect which attacks the young developing buds, causing them to develop to at least twice their normal size and to become almost globular in shape. These buds rarely develop, but shrivel and die, with the result that the possible crop is considerably reduced and, in the case of a bad attack, may be *nil*. On a small scale, hand picking should be resorted to and the gathered buds immediately burnt.

The cause of reversion is still obscure, but the symptoms of the disease are easily recognised by the change in the form of the leaves, reverted leaves having fewer sub-main veins and fewer points than the normal leaf, while the margins are more deeply serrated but have fewer teeth. The flower, too, is shiny and of a purplish colour, while the normal flower is covered with downy hairs. The flower buds do not carry fruit and, consequently, the crop fails. Badly attacked bushes should be uprooted and burnt, while cuttings should never, under any circumstances, be taken from "reverted" bushes.

Red and White Currants.

These may be propagated from cuttings as above, but all buds except the three top ones should be removed from the cutting before planting. Bushes should have 6ins. of clean stem showing above the ground. This class of currant prefers a rather lighter soil than the black, and is not so gross a feeder.

As the red and white currants fruit on spurs, their pruning is quite different from that of the black. A bush having six or seven main branches distributed evenly in the form of a cup should be aimed at. This can be obtained by hard pruning for two or three years until the requisite number of branches are formed. Subsequent prunings consist in cutting main branches to an outside bud, leaving 6ins. of current growth each year and spurring laterals to one or two buds. The bushes repay an annual top-dressing of artificial manure in spring.

Varieties.

Red.—Raby Castle, Scotch, Fay's Prolific, Perfection, Victoria.

White.—Cut-leaved White, Grosse Blanche, White Dutch, Macrocarpa. H.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

NOVEMBER was the accepted time for planting fruit trees in Scotland, but no such limitation is observed to-day by nurserymen or growers. Provided the weather is open and dry, fruit trees and bushes may be put in any time during the next four months with no more risk of injury than if they had been planted early in the season. The late Mr. David Storrie considered that the best time to plant was from mid-November to Christmas, but unless conditions were favourable he advised that operations be deferred until spring. While Mr. Richard Steward also favours November, he admits that he planted apple trees in June, and they were as fresh and as green as those which were planted in autumn. In any case the recognition of the calendar month is unreliable as a guide, for the obvious reason that the condition of the trees must regulate the period when transplanting may be safely undertaken. Defoliation depends on the season, and as the process is earlier in certain years and later in others, a fixed period in autumn cannot be defined with any degree of accuracy. The belief, however, is general among experts that the earlier the trees are planted after the fall of the leaf the better, because trees then planted will throw out a certain number of new rootlets before winter and thus be prepared to make an early start into growth when spring comes. That rootlets are thrown out in this way was established in the Woburn experiments by lifting the trees again before winter was over. Out of forty-two trees representing apples, pears and plums, twenty-nine were found to have formed a more or less considerable output of rootlets before the middle of January. Trees lifted and planted in another part of the garden are not influenced by disturbance to the same extent as those obtained from a distant nursery, as they are not so liable to receive a check when lifted with a ball of soil attached to the roots and transferred immediately to their new positions, and the operation may, therefore, be carried out now even although they are not denuded of their leaves. Established fruit trees and bush fruits benefit by an autumn dressing of artificial manures applied in the proportion of 4 oz. of basic slag and 1 oz. of kainit per square yard as far as the roots extend, but to obtain the full benefit of this treatment it should be supplemented by 2 oz. of superphosphate and 1 oz. of sulphate of ammonia in February or March.

I sometimes wonder why seaweed is not in more common use in gardens located near the coast, for there is a manurial value in the salt and potash which it contains. Vegetable crops such as peas, beans, leeks and celery respond to its presence in the soil and farmers testify to its helpful effect in the cultivation of potatoes. It is their practice at this season to scatter it over the fields, where it is allowed to rot preparatory to ploughing, but for garden purposes it may be applied in other forms. In some parts of Scotland, and particularly in the Western Highlands, the material is burned in the same manner as garden rubbish and the residue incorporated with the soil at the rate of 4 oz. to the square yard. That process is best adapted to localities where supplies are plentiful, and requires careful management if waste is to be avoided. An alternative and perhaps better system of treatment consists of mixing the seaweed with animal manure and keeping it stacked for a few months. When this is done in autumn the material will be decomposed by the time digging operations are begun and, being in a soft condition, it will the more readily mix with the soil and provide the humus which is necessary to satisfactory crop production.

Hedges are a perplexing problem for the occupants of the numerous housing schemes that are now dotted all over the length and breadth of the land, and as privet apparently forms the only solution, there is a monotonous similarity in the boundary and lay-out of the gardens that is only equalled by the houses. At the present time privet is one of the best selling lines in the trade, and although the nursery trade is devoting increased areas to its propagation, stocks are cleared out annually and invariably before the season is over. The only justification for privet is cheapness and rapidity of growth, and for these reasons it continues to find favour with the multitude in preference to thorn, beech or the more ornamental hedge. All these subjects may be planted in autumn or in early spring, and except where the land is wet, the hedge should occupy a flat site. Dig the ground deeply or, better still, trench it to a depth and width of 2ft. or 3ft., covering the bottom with a thick layer of garden rubbish and mixing chopped turf and leaves with the upper spits. Let firm planting be the rule, and as privet has a bad reputation for robbing the soil of nourishment, allow ample space between the site of the hedge and the nearest occupants of a flower border. Privet that was planted last autumn or spring should now be cut back to within 6ins. of the ground so that the hedge may form a strong, dense base.

As garden crops of potatoes are safely stored by this time, attention can now be devoted to the tubers that have been selected for seed. Go over them carefully, remove any soil that may still be adhering to the skin or filling the cavities at the eyes, and discard any specimens that show the slightest indication of disease. By sprouting the seed before planting the weight of the crop can be materially increased, and as the process is a simple one, amateurs should not hesitate to give it a trial. Any shallow box is suitable for the purpose, and all the labour involved consists in arranging the tubers in such a position that the end containing the largest number of eyes is placed uppermost so that they may be exposed to the light that penetrates any frost-proof outhouse. ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful and interesting hint sent in by a reader. Five shillings will be paid for all others published. Payments for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF-GUINEA HINT

Preserving Begonias.

When the garden beds are cleared for the winter many people who do not possess even an unheated greenhouse throw away the begonia tubers under the impression that they cannot be kept and grown again the following year without the aid of glass. This is a mistaken idea.

Take the tubers up as soon as the frost affects the leaves, leaving them in a dry, sunny place until the succulent stalks have died off. Put them away, after removing all adhering soil, in a damp-free place until January. They may then be put in a box full of bulb fibre and *placed on the kitchen rack* every night and, if possible, near a sunny window during the day. They will show growths very quickly and will be quite happy until they are large enough to be potted in April and planted out at the beginning of June. Treated in this way they may be kept for years.—G. H.

Storing Root Crops.

The main principles of preserving root crops are, first, prevent sweating; second, exclude wet; third, keep out frost; fourth, prevent roots growing. To prevent sweating, openings may be left at the top of a pile of roots, or, when the pile is half built, a little clean straw, that is quite dry, in bundles, may be introduced. To keep out wet, see that good covering is provided. To keep out frost, use extra covering in severe weather. To prevent roots sprouting, cut away close to the crown, and keep them as cool as possible. While parsnips and carrots will stand close cutting, other roots will not tolerate cutting to the quick.—A. J. J.

A Frame for Cuttings.

It is not altogether satisfactory to strike cuttings in open ground, and where pots and frames are scarce this hint will be found very useful. Knock the bottom out of a large, strong wooden box, preferably one 18ins. deep. Place this in any partially shaded place (but not under the shade of trees). In the bottom put 6ins. or 7ins. of clinkers, and on the clinkers a good layer of leaves to prevent the soil getting into the drainage. Then fill the box, to within an inch or two of the top, with sieved soil and sand. Make fairly firm and put a layer of sand on the top. If the sun is hot at first, shade with newspapers supported on canes stuck in at the corners of the box. Cuttings will strike readily and can remain in the frame until next spring.—K. L. J.

Roses from Cuttings.

Having been most successful in growing roses from cuttings, I think it would interest your readers to know my method, as October, I find, is quite a good month for the work. Cuttings of fully ripened wood are taken, about 8ins. long and stout in character. See that the heel of older wood is neatly trimmed and no frayed edges left; and lastly—and to this I attribute my great success—see that the *top of cutting* is *cleanly cut* with a sharp knife just above an eye, as carefully as in pruning roses, so that no snag of wood remains that has no suction power, as it invariably rots and causes the die-back. Plant two-thirds of length in ground which is well mixed with sand, tread firmly in and make surface loose, and then success is assured.—R. G. L.

Preparing the Ground for Sweet Peas.

I am invariably congratulated on my show of sweet peas, both for size and quantity. During October I dig a trench at least 3ft. deep and fill with vegetable refuse—potato peelings, cabbage and lettuce leaves, fruit skins, etc. Occasionally cover with a small quantity of soil, and when 12ins. from the top fill in with fine light soil. The result will amply repay for the extra trouble involved.—R. B.

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THIS MONTH IN THE GREENHOUSE

Potting Spiræa japonica for Spring Flowering.

THIS delightful spiræa, or astilbe, is such a charming subject for the embellishment of the cool conservatory or decoration of living-rooms during the spring months that everybody with the means at their disposal should grow a few plants of it in pots for the purposes mentioned.

During October will be found a suitable time for potting up the roots, and clumps may either be lifted from the open ground or purchased from any nursery man. They are obtainable at such an extremely modest price that, unless good strong plants are available from the open garden, it is better follow this latter plan.

The clumps should have the long ragged roots trimmed off a little before they are potted in pots just sufficiently large to hold them. As a general rule 5in. and 6in. pots will be found large enough.

Use a compost consisting of loam, leaf-mould, sand and a little dried cow manure—the whole to be passed through a ¾in. sieve. Pot firmly and allow ample space for watering, taking care that the crown of the clump is left above the level of the surrounding soil.

After potting, water with a can fitted with a fine rose and plunge the pots to the rims in ashes or sand out in an open, sunny position, or if very early flowering is desired, a few pots may be stood in a cold frame, the lights of which must be left off on all suitable occasions. See that the plants are neither allowed to become too dry, nor sodden, through too little or too frequent watering.

Very quickly young roots will begin pushing out into the new soil, and at this stage the plants may be introduced to the protection afforded by a cool greenhouse, or if a succession is required, the most forward may be treated thus and the remainder left outside to be brought inside at intervals as desired.

They may be quite successfully cultivated in any light, frost-proof position, but for very early work they may be removed to a warm house after about a fortnight in the cool greenhouse and then back again to the greenhouse so soon as the flower spikes commence to show colour.

The cultural details are of the simplest, all that is necessary being an abundant supply of water at the roots, and immediately the flower spikes commence to show every alternate watering should consist of diluted liquid manure, varied occasionally with a little Clay's or some other good proprietary fertiliser. Damping the stages between the pots is highly beneficial, but the greatest care must be exercised that no water is allowed to get on the foliage, for this is very quickly scorched, and in a well grown plant the foliage is almost as beautiful as the flowers themselves.

Both pink and white varieties of this useful plant can be obtained, and after they have finished flowering they should be stood in a cold frame until all danger of frost is over and then planted out in a moist position in the garden, where they will yearly increase in beauty.—T. H. E.

Salpiglossis for Conservatory Decoration.

A GROUP of these highly ornamental and attractive half-hardy annuals makes a striking display in the conservatory. Plants from seed sown during October or November will, under cool greenhouse culture, bloom profusely in the following spring. Sow three seeds in a 6in. pot in a rich compost of three parts loam, one part leaf-mould and one part old decayed manure. Crock the pots well, fill up with the compost, and dibble three seeds into the compost in the centre of the pot about ½in. deep and cover with the soil. Stand the pots on a shelf or staging and cover with paper, after having watered the pots. When the seeds germinate remove the paper, giving the seedlings as much light as possible. When about 2ins. high remove the two weakest seedlings, leaving one as near the centre of the pot as possible. Grown on in a cool condition, only excluding frosts, handsome flowers will be obtained in the spring. The varieties atro-coccinea, dark scarlet; coccinea, orange-red; Kermesina, crimson; lutea, yellow; rosea, rose; violacea, violet-purple; and superbissima, a strain of very large flowers with golden yellow marks on the petals, all grow to a height of 2–2½ft., but there are also dwarf strains which only grow to 15ins. high and are of various colours. They make an interesting and uncommon group for the conservatory.—M. H. G.

A Decorative Greenhouse Climber.

Plumbago capensis (*Leadwort*).

THIS is an ideal plant for the wall of a cool greenhouse—a structure from which frost is just excluded. It is quite easy to grow in an ordinary pot-plant mixture, and quite simple to train to wires for support as growth develops. When the space is covered an annual cutting back or spurring back is necessary. There are white and blue types—the latter being most in demand and, of course, more showy. Cut portions stand well in water and are delightful for table decoration, for which purpose the writer has many times used it, alone and in conjunction with that splendid salmon pink geranium Mrs. Lawrence. This latter is a really beautiful combination for anyone to note who may be seeking such. Pot plants of plumbago of 2ft. or so high make useful "dot" plants for summer bedding, but small groupings are better, being more effective.—C. T.

PLUMBAGO CAPENSIS IS AN EXCELLENT PLANT FOR WALL DECORATION IN THE GREENHOUSE WITH ITS ATTRACTIVE CLUSTERS OF BLUE FLOWERS.

Winter-Flowering Pelargoniums.

THE plants, having been fully exposed all the summer, will have their growths well ripened by now, and arrangements should be made for placing them under glass, choosing a light and dry position, the stage near the front ventilators being very suitable. By placing some of the best shaped specimens on empty inverted flower-pots, the attractiveness of the group will be enhanced; and by keeping the leaves of each plant just clear of its neighbours so that air freely circulates between them, they will remain in a healthy, free-flowering condition for a long time. The pots being well filled with roots, feeding will be necessary to maintain vigour. Weak soot-water, liquid manure and a reliable proprietary fertiliser in small doses may be used in turn to produce the desired effect. Remove all flowers as they begin to fade, also yellow leaves; there will not be many of the latter if proper care is taken in giving water in sufficient quantity only to meet the plant's needs. When first taken indoors, it is important to give plenty of air, and for a time the ventilators may be left open night and day when the weather is favourable. Later, when cold and damp have to be guarded against, maintain a minimum temperature of 55° Fahr.; but with sun heat the thermometer may rise to 65°, when free ventilation must be given. The admission of air must at all times be regulated by the temperature, bearing in mind that excessive fire heat is not necessary so avoid a close, stuffy atmosphere, which pelargoniums resent as much as they do cold draughts of air.—C. C.

Dicentra spectabilis.

THIS is a hardy border plant that gives unqualified pleasure when grown in pots, the graceful, drooping racemes of rosy pink, heart-shaped blossoms never failing to attract notice. In a temperature of 50° to 55° Fahr. it may be had in bloom in February, but without heat it is just as welcome, though one has to wait a little longer to realise its full beauty. Those with cold greenhouses will, therefore, be well advised to pot a few plants this autumn. During October is a suitable time for potting the clumps which may be obtained from most nurserymen. The plants are great moisture-lovers and should be grown in good loamy soil with plenty of drainage in the pots. After potting they may be allowed to stand at the foot of a wall or in a cold frame and kept supplied with water as required to keep the soil moist. They may be brought into the greenhouse in December and given a light position near the glass. As the foliage develops, care must be taken not to let the soil get dry, and when growing freely copious supplies of water will be needed. The need for well drained pots is, therefore, obvious, for, unless provision is made for the escape of superfluous water, the soil will become sour and the plants unhealthy, even if they survive. Their period of beauty is a long one, and from the appearance of the fern-like foliage to the passing of the blossoms, interest in the plants is sustained. After flowering return the plants to the border: they will not be suitable for forcing the following winter. I should have stated that weekly applications of liquid manure will be of great assistance when flower buds are forming.—J. C.

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FRUIT AND VEGETABLES

Open Wall Fruit Trees.

JUST now is a good time for preparing stone fruit trees for an application of lime. Year after year some specimens are unsatisfactory because they do not fruit well. There may be plenty of blossom, but few fruits set and come to maturity. Most likely the ingredient in the soil that is lacking is lime. If so, remove the surface soil a little, but do not bare the roots, and apply about 1 peck of lime per tree. I am now referring to established trees. New fibrous loam should be placed on the lime in preference to the old, in the case of special trees. In a very short time a network of roots can be obtained near the surface, and then it is a great pleasure to the cultivator to feed and mulch such roots and, in due course, to gather the fine crops of fruits Maturing leaves should be got rid of by forcible syringing, which also cleanses the trees of insects. Cut out any dead branches found, and brush up the leaves, burning all of them forthwith. The trees will thus be prepared for their winter treatment—pruning, tying, etc. Note vacant spaces for new trees.—G. G.

Timely Notes on Artichokes.

GLOBE artichokes are quite hardy when grown in light, well drained soils. It is the surrounding moisture, almost of a stagnant nature, that ruins these plants in heavy, retentive ground; when frosts come the plants suffer more. In every case it is advisable to clear away all decayed and fading leaves and foreign matter, weeds included, from the base of each plant, now. Instead of waiting until next spring before applying any top-dressing material, I like to add it early in the autumn, soon after the plants have received their cleaning, and then put on, as a protecting mulch, dry litter over some dry tree leaves. Next year, plants treated in this way will be much stronger than neglected specimens. Jerusalem artichokes may be left in the ground all winter, but I advise the cultivator to lift a portion of the crop, grade the tubers into two sections, one for cooking and the other for replanting again next spring. The tubers should be stored in dry sand; if stored under straw only those for eating become dry and the planting tubers lose freshness and strength. Some tubers may be left in the soil throughout the winter, being lifted as required. These plants are very deep rooting, and thrive best in a light open soil. The present is a good time to get the soil trenched, at least 30ins. deep, in readiness for next spring. The Chinese artichokes should be used as required, direct from the ground.—HANTS.

Roping Onions.

WHERE onions cannot be stored thinly, by reason of lack of space, they should be tied in bunches or roped. A simple roping plan is to tie the onions tightly to a stout stick so that the air can reach practically every bulb. A stick 2ft. or rather more in length will take nearly half a bushel of onions. A large quantity can successfully be stored thus in a small space. The onions should have been pulled two or three days before roping. Tie to the stick in bunches. The ropes should be hung in the sun for a few days and then be transferred to a cool, airy place, where there is little danger of frost penetrating. The onions should then keep well.—A. J. J.

Manures to Apply in Autumn.

THE usual advice in gardening is to apply or use "rotted manure," but that is not altogether correct when it comes to the application of manure in autumn. Fresh manure should be employed in preference to any other, because decay proceeds in the ground during winter and the stuff is reduced to humus by spring. An average dressing for intensive gardening is one load to 4 or 6 rods. Leaf-mould not fully decayed, fallen leaves and organic refuse like shoddy, waste fish, horn meal, leather shavings, etc., also decay into good humus if applied soon. We may add here that some such natural manure is always required for a garden soil in order that its humus content may remain at a high standard. Slags are among the most important artificial manures to apply during this and next month. These slags supply the all-important phosphate and lime which crops and soils require, and their use is extremely beneficial for all fruits, flower borders, turnips and others. Quality, expressed in percentage phosphates, controls the price and the quantity to apply; 3-4 oz. of the best and 6-7 oz. of the cheaper grades may be looked upon as limits; this works out at about ½ stone to 1 stone per rod. Potash especially in light soils and where fruits are grown, may usefully be applied at 3-4 oz. per square yard, between now and the New Year in the form of kainit or potash salt; these tell better then than when applied later. Rock phosphates which have been "pushed" by several firms since the war, are excellent fertilisers for all soils, yielding up the requisite phosphatic matter which all plants need; at 4-6 oz. per square yard, applied soon, they "till" fine. Lime, so necessary to keep plants and soils in the pink of condition, is also applied in autumn or winter. Ground lime (½ to ½), quicklime (½ to ¾), slaked lime (1), acetylene refuse (1 to 1½), are the common kinds of lime in use, the numbers giving good dressings in lb. per square yard. In all cases must these autumn-applied manures be worked into the soil; natural manure and manure substitutes can be forked into the upper spit; artificials are best raked in or lightly forked in, because they have, in all the above cases, to undergo changes which can only take place in a fairly intimate admixture of soil and fertiliser. Autumn manures become, in this way, available for plants by the spring cropping time.—H. H. A.

Eradicating Vegetable Root Pests.

MANY of the pests which infest our vegetables in summer spend the winter in the top spit of soil, quite close to the spot where they passed their destructive existence. As the ground is vacant at that time we can, however, apply a strong chemical or fumigant, in order to eradicate the pests and at the same time to go a long way towards guaranteeing pest-free crops next year. Mix together 1 stone of lime and 1 lb. of crude naphthaline, obtainable from gasworks and from chandlers; scatter this over the surface at the rate of ½ lb. to 1lb. per square yard and fork it in practically at once. Not only does this kill the pests by gassing them, but the lime proves beneficial in many ways. Carbolic acid, ½ oz. in 1 gallon of water, is also a fine fumigant where liquids are preferred; the ground is forked over first and then fully wet with the liquid, at some 3 square yards per gallon. Cresol disinfectant, 1 pint in 8 to 10 gallons, is also first class when used in a similar fashion; household ammonia at the same rate is good and other liquids at similar dilutions can be employed. In each case get cheap, nasty commercial quality and use it fairly freely. Deep digging or trenching, where the surface soil is buried deeply, is also quite effective in eradicating such pests, because when they are put well under the soil they cannot come to the surface again. When the ground is but lightly forked over, it may be possible to let the hens have access to the fresh soil and they can account for large numbers of pests. The old adage that "Prevention is better than cure" applies with great force in this connection for, if nothing be done, the pests will appear next year in ever-increasing numbers.—H.

OUR SERVICE BUREAU

Getting Rid of Tree Stumps.

In digging over my new back garden, which until recently was a meadow, I came across the stump of an elm tree just below the surface. It has sent up several new growths, which shows it has only just been covered.—J. B., East Dulwich.

By far the quickest way to get rid of the stump of a tree is to burn it up in the following way: With an augur bore several holes as deeply as possible in the stump. All the holes are then filled with paraffin. As the oil soaks into the wood the holes are refilled, and this is done on several occasions. After three or four days the stump will, to a large extent, be heavily impregnated with oil. Now collect a quantity of dry stuff and pile this lightly right over the stump. Set the mass alight and soon the oil-soaked stump is blazing away merrily. The burning process will go on for some time, and in the end the whole of the stump and most of the roots will be reduced to ashes. It will now be quite a simple matter to clear the ground, and the ashes which have come from the burning of the stump should be scattered over the ground and dug in on account of their fertilising properties.

Culture of Hippeastrums.

Will you please tell me the correct treatment for hippeastrums. Mine have flowered well last spring and are now being dried off. Should they be repotted and, if so, when, or is it best not to disturb the bulbs?—A. M., Leatherhead.

As your hippeastrums dry off you should stand them in a cold frame or cool greenhouse, where they will be fully exposed to the sun. During the resting season a temperature of about 45° will suit them. If they are in good condition at the root it will not be necessary to repot them, but they will require to be top-dressed with some fresh compost. When you do repot them, it is best done when you start them early in the year. They should then be shaken out and all decayed roots and the base of the bulbs cleaned before repotting. After repotting water must be very carefully afforded until they have made a quantity of new roots and have started into growth. Overwatering at this stage is responsible for many failures.

Treatment of Gladioli After Flowering.

Would you kindly advise what treatment gladioli require after flowering so as to secure good-sized corms for next year? When should gladioli seed be sown, how long does it take to germinate, how soon would the seedlings reach a flowering state, and is there any advantage in raising them from seed?—A. W., Colwyn Bay.

During October, lift the stems and corms of the gladioli and place them intact in boxes or on the floor of a cool, dry shed. Directly the stems will readily part from the corms, store the latter in paper bags and replant next March and April. Sow gladioli seed about the same time outside, but earlier if in boxes under glass. The second year the corms of the strongest plants will produce flower spikes freely. Corms are now so cheap that the purchase of such is the best method. A batch of seedlings, however, is interesting and also useful.

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APPLES FOR THE SMALL GARDEN (see page 696)

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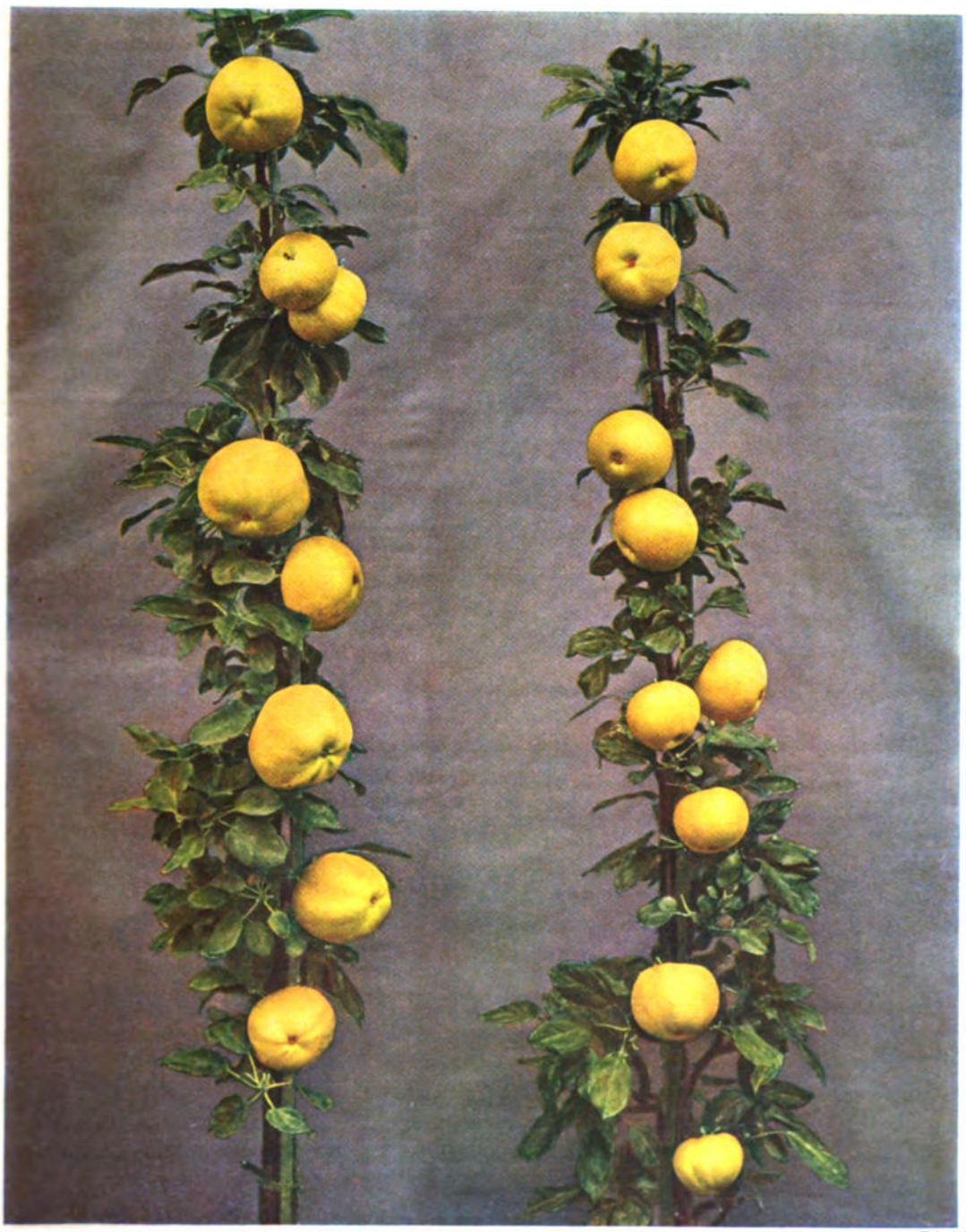

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THE GARDEN

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TULIPS FOR SPRING BEDDING

A few ideas on how to make the most of any tulip plantings that are being carried out at the present time. These suggested arrangements are certain to add novelty and beauty to your garden next spring.

A PLEASANT spring garden entails a great deal of forethought and much careful preparation, so that it is during the autumn months when plans for the spring-time floral display will be carried into effect. Tulips of the Dutch and Darwin types, as well as those of other persuasions, lend themselves to much delightful harmony when used with other spring-flowering subjects or when congenially blended, and the bewildering array of colour exhibited by these bulbs is certainly worth the trouble of harmonising into some pretty effects. A pink variety, such as Clara Butt, or an almost scarlet tulip, such as Mr. Farncombe Sanders, is very lovely when poised over a groundwork of the grey-foliaged Stachys lanata or when carpeted with a pale aubrietia like the variety Lavender; a low wall draped with these fascinating alpine plants forms a pretty background to a tulip border. Darwin tulips grouped under and around lilacs play their part in creating a delicious spring-time picture and one redolent of old English gardens.

Myosotis and Cottage Maid or Rose Gris de Lin is a happy blending, or, as an alternative, the double white arabis may supplant the forget-me-not. A rather nuusual but an undeniably pretty planting is golden alyssum (A. saxatile) and either an orange or a mauve tulip. Yellow polyanthus primroses make a delightful foil for either Thomas Moore or Fred Moore tulips, the bulbs planted rather thinly, and a decidedly *bizarre* and vastly entertaining arrangement is one of mixed polyanthus interspersed with mixed early-flowering tulips—bright and cheerful, if not exactly æsthetic.

The red-purple Darwin Frans Hals is of striking mien when towering over a carpet of the popular Maggie Mott viola; and another exquisite effect may be obtained from the use of this viola and a yellow tulip. Cerastium tomentosum is a lovely setting for the purple Darwin Morales or the almost black La Tulipe Noire; and a mauve phlox (divaricata) is pleasingly associated with a pink tulip.

All-tulip combinations are almost endless but, nevertheless, command much careful thought if pleasing results are to be assured; a few suggestions are the yellow cottage Tulip Mrs. J. Robertson with the dusky Darwin La Tulipe Noire or with the purple Darwin Morales; the Darwin Wm. Copland and the cottage Walter T. Ware, a blend of lavender and rich yellow; Clara Butt (Darwin) of soft pink colouring and the cottage variety Ellen Willmott, pale yellow; the cottager Orange King and one of the Darwins Night or La Tulipe Noire; and the rosy red Professor Rauwenhof, a Darwin, with one of its darkest *confrères*, such as Zulu or Night.

A few early tulips happy in collaboration are Chrysolora and Prince of Austria, or Chrysolora and Dusart; White Hawk and Couleur Cardinal, striking but beautiful in white and almost scarlet; the violet President Lincoln and Yellow Pottebakker; the orange Fred Moore and either of the yellows; Couleur Cardinal, Vermilion Brilliant or Prince of Austria with President Lincoln; and the delicately tinted pink and white Cottage Maid with Chrysolora.

A border of Darwin tulips planted in "blocks" of appreciable size is of noble presence, and with ordinary care the colour scheme is easily arranged so that blatant contrasts are nil. A bold massing of any one brightly coloured variety is always rich in character and of striking appearance.

Masonry or bricks may be made to play a useful part in effect—a scarlet or rosy red tulip is of pleasing appearance when provided with a background of grey stone; but a red brick wall calls for careful treatment, and here it will be wise to use the softer yellows, mauves and pinks and, perhaps, orange shades, and omitting scarlets, bright rose, etc.

Tulips should never be overcrowded when used with other spring-flowering plants; it is as "dot plants" arising from a floral carpet that they give of their best. In many instances it will be necessary to plant the "carpeters" first, a few weeks in advance of the bulbs, and the latter are easily inserted at a later date with trowel or dibber.

A closing hint is one of the large bicolor trumpet daffodils with a yellow tulip or mauve tulip, thus securing two successive displays from the same bed. Yellow or mauve tulips are suggested in order that the colours may suit the surroundings as did the daffodil.

The present time is ideal for carrying out all plantings of tulips and other spring bedding subjects such as wallflowers, polyanthuses and forget-me-nots. The soil is in good condition, and as the removal of the remains of the summer flowering plants is undertaken the gaps so created can be filled at will by planting choice spring flowers.

This Week's Work

For Gardens in the South and Midlands.

Lift and store gladioli and dahlias.

Prepare ground for planting herbaceous perennials, roses and shrubs.

Cut down globe artichokes and protect the plants with light litter.

Plant gooseberries and currants.

Prune and train Morello cherries.

Sow sweet peas in pots for greenhouse decoration.

Examine onions that are stored.

Remake lily of the valley beds.

Lift a few rhubarb stools and expose to frost before forcing.

Ventilate well and keep a dry atmosphere in the late vinery.

This Week's Work

For Gardens in Scotland and the North.

Lift early-flowering chrysanthemums.

Remove old shoots from loganberries and raspberries.

Lay in a stock of farmyard manure.

Transplant bush fruits.

Remove sweet peas that have germinated in heat to a cold frame.

Pinch tops of seedling wallflowers.

Continue planting bulbs out of doors.

Spray gooseberries that were attacked by mildew.

Root prune fruit trees where necessary.

Give Brussels sprouts attention.

Begin digging or trenching vacant ground.

Make a sowing of culinary peas under glass.

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APPLES FOR THE SMALL GARDEN

It is hardly necessary, perhaps, to stress the fact that so-called "cheap" trees are generally "dear at any price," and that first-class material, true to name, from a reliable source, is alone worthy of garden planting.

AT this time of the year, which sees the opening of the tree-planting season, many intending planters are debating the choice of apples to plant in their garden.

Form of Tree.

Regarding the form of tree suitable for growing in the average garden—a form that will combine ease of management with economy of space and provide good fruit early, and late, in life, the bush-shaped tree is hard to beat.

Grown on dwarfing root-stocks, such as the Broadleaf English Paradise or, if the garden soil is strong and fertile, the Doucin Paradise, there is no difficulty in keeping the bushes shapely and within bounds, and planted not closer together than 10ft. from tree to tree each way they quickly come into bearing and make fruitful trees of lasting profit.

Bush trees on the crab or "free" stock are generally a most unwise choice. They make a lot of wood, encroach by branch and root upon neighbouring beds and, more often than not, become a nuisance in the small garden.

It is well to get the bush-shaped trees with a clean stem of 18ins. or 2ft., so that branches are well up off the ground—if only for the reason that it is very difficult to keep the ground clean beneath stemless trees.

For planting in the quite small garden, where even compact bush trees would find insufficient "elbow room," or to furnish the boundary fence or house wall, cordon and espalier trees will give every satisfaction. They can be grown in a space far too cramped to carry any other form of apple tree and with little encouragement bear high-class fruit with surprising regularity and in no mean quantity.

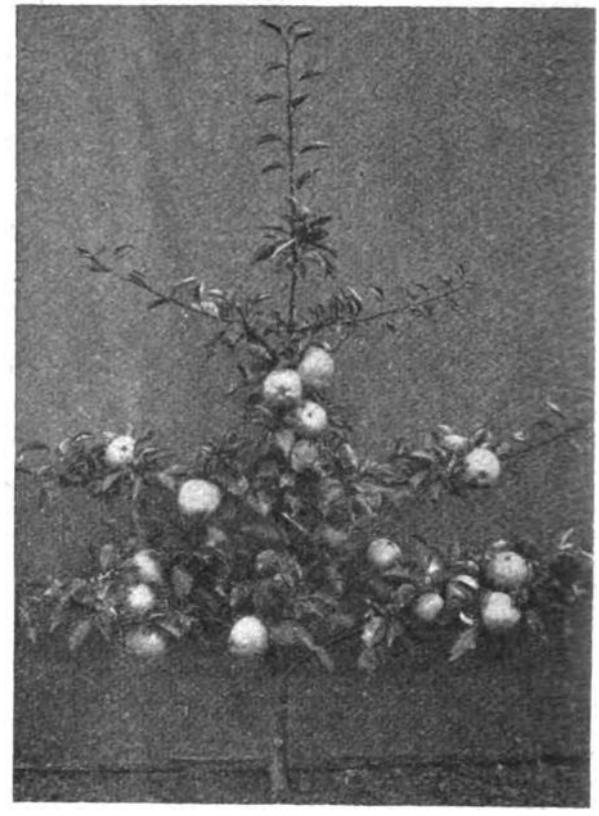
The single cordon, trained upright or obliquely, is a most convenient and exceedingly simple way of growing apples; and the wonder is that they are not more frequently planted than they are.

The low horizontal cordon is just as simple and efficient, and even more decorative in effect when trained to a wire run about 12ins. above the ground level along the pathside or border edge.

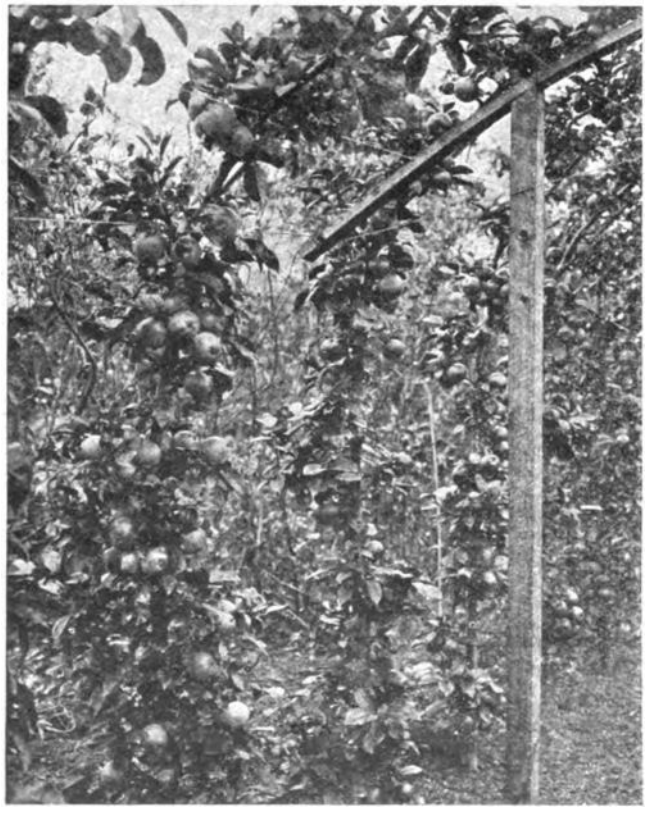
An added advantage of cordons—and the same may be said of low espaliers—is that they cast little or no shade, the root-run is restricted, and they interfere in no way with other plants near by.

Single cordons may be planted 2ft. apart, but the double and treble stemmed trees must be allotted more space in proportion. Here note that when the wall or fence is of but moderate height, cordon trees are best planted obliquely, rather than vertical, this angular planting permitting each tree to attain a greater length and preventing the growths "topping" the wall.

When planting espaliers—which, of course, consist of three or four tiers of branches ranging on either side of the central, straight stem—a common fault is to set them too close together. An allowance of 15 feet lateral space per tree looks a lot at planting time, when the trees are young, but certainly nothing less than this should be given, or the trees will soon crowd and spoil one another.



A YOUNG ESPALIER TREE IN THE PROCESS OF FORMATION.
Note how the laterals are being trained.



APPLE TREES TRAINED AS SINGLE STEMMED CORDONS.
The varieties are Cox's Orange Pippin, Allington Pippin, and Worcester Pearmain.

Few planters nowadays make the mistake of planting big standard trees in the garden (possibly because there are so many terrifying examples of this sort of folly the countryside over), these cumbersome, shade-throwing trees being rightly relegated to the grass orchard, where they do well. Occasionally, half-standard trees are the choice for the large garden, the clean, branch-free stem of 4ft. or so permitting the ground between and beneath the trees to be cropped with vegetables or "small" fruit; they being set at some 15ft. or more each way.

Regarding the age trees should be when purchased for planting, there is no getting away from the fact that one or two year old trees stand transplanting better than do older ones, and are less expensive to buy. The disadvantage of planting such young trees is that the all-important "foundation laying" then falls upon the gardener; and this is work requiring most skilful handling.

So that (except in the case of simple cordons, which can well be planted as "maidens" or two-year-olds, or where the gardener is experienced in the early shaping of young trees) it is generally best to get three-year-old trees for planting: which trees will be well formed, will quickly start to fruit and are fairly straightforward to train on. In the case of the somewhat complicated espaliers, if the little extra cost is of no great concern, get four-year-olds; then the framework of branches will have been properly laid by skilled nursery hands.

Selection of Varieties.

When choosing varieties the intending planter often goes astray.

The first thing is to find out which varieties do well in the neighbourhood, and which do *not*. Any information of this nature should certainly influence your final selection.

There are several varieties that seem to stand out as good "doers" in most districts, however, and a selection of these, to give a complete succession of good quality fruit, is not likely to disappoint.

The undermentioned are a few that do well in most gardens about the country, and thrive equally well in the bush, espalier or cordon form, whichever seems best to fit in with the site available and the general lay-out of the place. It goes without saying that, for one reason or other, many well known and first-class apples are omitted—several possibly for no more reason than that lack of space precludes the mention of more.

Dessert Varieties.

For eating in August, Lady Sudeley and Beauty of Bath are both good, if eaten from

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the tree, though to keep them for more than a few days after ripening is to spoil them. Then, ripening in September is St. Everard, which, to my mind, is second only to a really good Cox's in point of flavour; it is not a very vigorous grower, but this is hardly a serious fault in the small garden. It certainly crops well enough when treated rightly. James Grieve follows, being eatable in October, and so regular in cropping and fine in flavour and appearance is this that the planter cannot afford to pass it by. Ellison's Orange is another fine October apple, the suggestion of aniseed flavouring appealing to many. Then we have Egremont Russet, the best and prettiest of all russets and a really fine garden apple, in season in October and November. In the north, some like Rosemary Russet better. For dessert in December we have Christmas Pearmain, of neat habit and a most regular cropper, providing nice-looking apples of good flavour. Laxton's Superb, next on the list, is an outstandingly good late variety; a most reliable cropper, the attractive apples are good to eat at any time between Christmas and early March. Following this there is Duke of Devonshire, a golden russety apple, at its best in March; and May Queen, a remarkably free cropper in season from January till May or later.

Culinary Varieties.

Coming to the culinary varieties, a good choice to provide apples for the earliest tart is Early Victoria (Emneth Early). This is followed by Lord Grosvenor (for northern gardens) and Lord Suffield (for southern gardens in which canker is not rife) for August and September dishes. Next comes Stirling Castle (September-October), of compact habit and a first-rate cooker and extremely fertile—so fertile, in fact, that if the trees are grown on a *very* dwarfing stock they will probably "crop themselves to death" in a very few years. Rev. W. Wilks follows, for use in October and November, and this is another extremely fertile sort that should be grown on a fairly vigorous stock; the Broadleaf English Paradise where bushes and trained trees are concerned. Next comes Golden Noble, which in its season—October to December—is the finest cooker of all. The popular Lane's Prince Albert, of rather "weeping" habit, but indispensable on account of its free cropping and fine big fruit, which keeps well into March, follows; and we cannot omit Newton Wonder, which keeps in good condition until May and which at any time in the New Year is not to be despised for dessert. The new apple, John Waterer, raised by Messrs. Waterer's and illustrated on the front cover this week, is a first-rate variety which keeps well into May. It is a heavy cropper, and the fruits are of large size and excellent flavour. It can be well recommended for planting in the small garden as a new variety of merit. Last of all comes Encore, a fruit much after the type of "Lane's," but keeping till June.

One other point the planter must bear in mind is that many varieties of apples will set little or no fruit, however profuse the blossom, unless the flowers are cross-pollinated. This means that it is most unwise to grow a solitary apple tree in the garden, or several trees of one variety only. Far better to plant two or three or more varieties, so that the pollen of one, carried by bees and insects, will cross-pollinate the flowers of the other.

A. N. R.

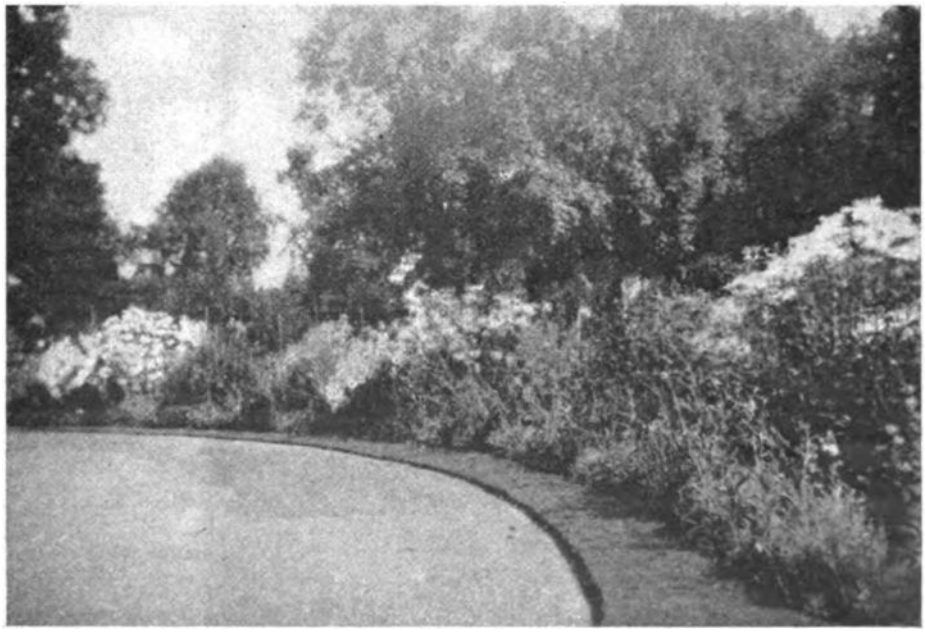
A CURVED HERBACEOUS BORDER

How to Arrange and Stock It.

A CURVED border is an agreeable variation from the perfectly straight ones generally seen in the back garden of the average small suburban house, always provided that there is enough space to permit a fairly bold and generous sweep. Supposing the garden to be about 130ft. long and 35ft. or 40ft. wide, the border may start at the house end of the garden with a breadth of 3ft. or 4ft., widening out gradually until it reaches 10ft. or 12ft. half-way down the garden and decreasing from that point until it ends with a group of flowering shrubs at the angle of the boundary walls or fences. Along the back of the border should be climbers on poles some 6ft. or 7ft. apart, four kinds of roses (two late and two early flowering, alternating with the same number of varieties of clematis, the sequence being repeated down the whole length of the border. Albéric Barbier, Goldfinch, Lady Godiva and American Pillar are suitable roses for the purpose, but there are many others, old and new, equally good; while as to the clematis, purple Jackmanni, Lady Caroline Neville, Nellie Moser and Princess of Wales are all well known and beautiful kinds.

Between and in front of the climber-wreathed poles will come the tall perennials, of which the delphiniums are the most important. Groups of these in light and dark shades of blue should be planted at intervals along the whole stretch of the border (their crowns, by the way, must be covered with ashes mixed with a little slum or the slugs will have them), and although a few of the newer varieties are still too expensive to suit light purses, yet many of the older sorts and unnamed seedlings can be obtained from nurserymen who specialise in delphiniums at a reasonable figure, and a very large percentage will turn out well. Between the delphiniums are planted other tall-growing perennials, such as Astilbe King Alfred and A. Davidii, Galega officinale, Bocconia cordata, Lavatera Olbia, Heliopsis B. Ladhams, Helenium Riverton Beauty, Anchusa italica, Thalictrum glaucum, Echinops humilis Taplow Blue (the tallest of its kind), the pretty pinky lavender Physostegia speciosa, Liatris graminifolia and Centaurea macrocephala with its golden thistle-like flowers. All these are summer blooming, and to ensure an autumn display these must be interspersed with asters of the Novæ-Angliæ and Novi-Belgii sections, Boltonia asteroides, Rudbeckia laciniata (single and double) and Solidago Golden Wings. Senecio tanguticus is another showy September-flowering plant, but is, perhaps, better fitted for the wild garden than the border by reason of its roaming habits. It does well in shade.

For the main part of the border, plants from 2½ft. to 4ft. will be wanted, and of these there are many from which to choose. Phloxes should be a special feature, and if massed in front of the delphiniums they will mercifully conceal the ugly, moribund stems of the latter. They may be of all possible colours, but care must be taken not to put the orange-reds, salmon-pinks and crimsons next each other, they should be separated by whites and soft lilacs. Among other desirable mid-border plants are Oriental poppies, especially P. bracteata Crimson King, which does not tumble down as tiresomely as most of its kind. The salmon-pink varieties are also good, but the white ones are apt to be flimsy of petal and not very pure in colour. Then there are the lupin hybrids (L. arboreus × L. polyphyllus), sidalceas white and rose, Chrysanthemum maximum (a dwarf strain), Erigeron speciosus, Liatris graminifolia, Pentstemon Newbury Gem, Achillea Ptarmica Perry's White, the golden-starred asphodeline (not often seen, but very charming), Salvia virgata, Campanulas lactiflora, persicifolia (especially Telham Beauty), latifolia and latiloba, Lychnis chalcedonicum, Agrostemma coronaria,



A CURVED BORDER WHICH HAS BEEN CAREFULLY PLANTED WITH BOLD GROUPS HAS A WELL FURNISHED APPEARANCE.

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Catananche cœrulea (Cupid's Dart) and Veronica spicata, white and purple-blue. For a little nearer the front of the border there are such good things as that pretty cousin of the campanulas, Platycodon Mariesii, the two blue linums, L. narbonense and L. perenne, Malva moschata, Incarvillea Delavayi, Œnothera speciosa and Œ. fruticosa Fraseri, Geums Mrs. Bradshaw and Heldreichii, Potentillas Miss Willmott and Gibson's Scarlet, long-spurred aquilegias, Aster Amellus King George and A. A. Beauty of Ronsdorf, Aster acris and Rudbeckia speciosa, the black-eyed Susan of cottage gardens. These last four will make a brave show in September and October.

The planting of all these perennials must, of course, follow the curve of the border, but there should be no regular lines, the groups of plants of different heights must merge—perhaps "dove-tail" would be the better word—one into the other. The deepest part of the curve should be emphasised by bringing the taller plants well forward and for the same reason the colouring should be strongest at this point, shading gradually hence to the narrow parts of the border. Throughout the whole border there should be planted clumps of gypsophila—these, if placed close to the Oriental poppies, will hide the unsightliness of their after-flowering state—eryngiums (especially the silvery E. giganteum), small bushes of santolina, Artemisia Stelleriana and Salvia argentea, the soft greys of which will help to bring the diversity of gay colours into harmony. Liliums, for the most part, are rather expensive but there must be some groups of Lilium candidum. Galtonia candicans is an inexpensive bulb, costing only 3s. per dozen, and its tall spikes of white flowers are very striking in late summer, while the camassias, white and lavender, and the dainty anthericums, A. Liliago and A. Liliastrum, should find places near the front of the border. This, if slightly raised, may be edged with rockery stones, over which trailing and creeping plants of many kinds—alpine phloxes, aubrietias, helianthemums, campanulas, etc.—can be grown, but a "one-flower" edging seems to accord better with a curved border, and for this nothing is better than Nepeta Mussini, which remains in flower the whole summer, while its soft lavender-purple accords with all colours except scarlet. If a space is left at the back of the cat-mint, it can be planted with tulips and wallflowers for spring effect, followed by pale pink antirrhinums for summer blooming.

With the exception of a few such rampant growers as the Michaelmas daisies and rudbeckias, they should be planted not less than three in a group if a good effect is wanted quickly, but in most cases a single plant will produce an equal result—in time!

R. E. HEAD.

A DESIGN FOR YOUR GARDEN

A Suggested Garden Scheme for an Average-sized Plot.

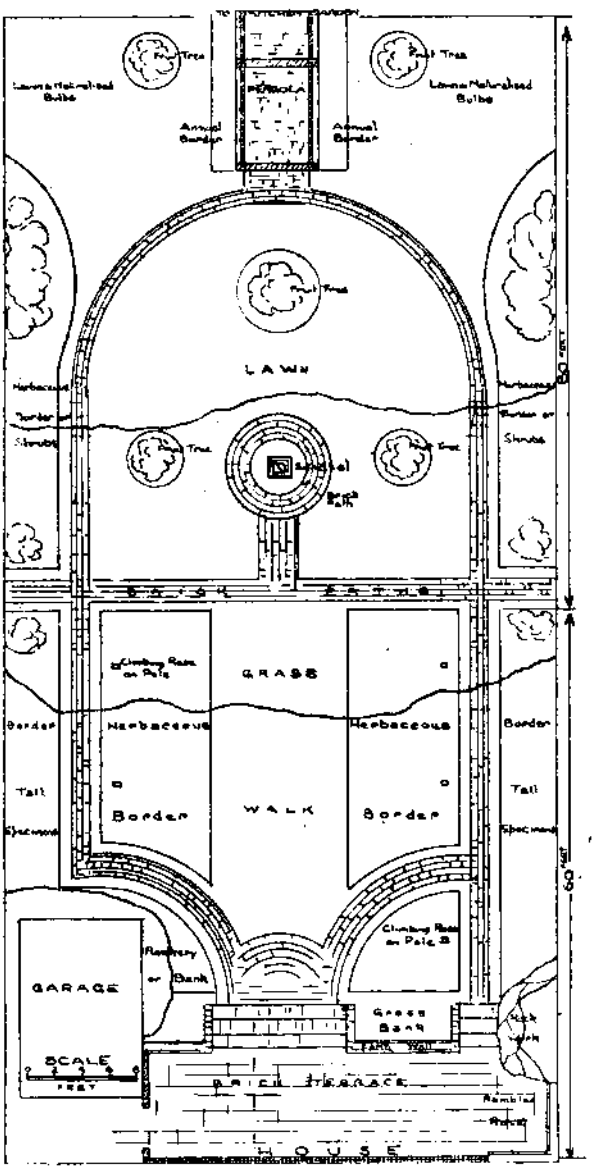
THOSE who are blessed with an intriguing piece of ground with perfect rural surroundings, a good view or other natural aids to the ideal garden, can allow their imagination full scope. Most of us, however, have to be content with the conventional oblong plot with a limited frontage of from 30ft. to 50ft. and a depth varying from 100ft. to 300ft.

In such a case the problem of laying out the ground to give the garden that added touch of individuality, which is one of its greatest assets, becomes more difficult. An unbroken sequence of beds or a long lawn accentuates its narrowness, while too much artificial obstruction is calculated to make the garden appear unduly small and pokey.

The accompanying sketch is a suggestion for overcoming some of the limitations of the orthodox plot, and, while it is designed for dimensions over all of about 200ft. by 40ft., reduction or enlargement to suit individual needs is not likely to interfere with the general idea. The kitchen garden portion of approximately 60ft. by 40ft. is omitted from the sketch (which is also foreshortened).

The basis of the scheme is the subdivision of the plot into three more or less equal parts, grass walk and flower beds, lawn and kitchen garden. Each section has its own special features. It may be said at the outset, by way of criticism, that the garage is in the way. It is a fact, however, that garages usually are in the way, particularly in the case of small houses. They can be satisfactorily camouflaged by suitable climbers and the construction of a rockery or neat grass bank to hide the unsightly foundations as shown in the diagram.

It will be noted that the view from the house or brick terrace is down a grass walk, reached by brick or stone steps, flanked by wide flower beds, on the outside edge of which are grass-bordered paths and narrower flower beds at the side. Careful arrangement of the planting will give a pleasing framework or banking of flowers to the view which is pivoted on a central sundial or bird-bath. The background is made up of a lawn with small beds and fruit trees. With the lawn in the situation shown a widening effect takes away any suggestion of narrowness to the plot. The smaller lawns to each side of the pergola are suitable backwaters for naturalising bulbs. A mass of narcissi and crocuses planted in the grass will make a conspicuous show in full view of the house.



A SIMPLE PLAN FOR A RECTANGULAR PLOT.

The pergola acts as the apex of the two side paths and forms a thoroughfare to the kitchen garden beyond. Assisted by grass banks to each side or a framework of loganberries it also acts as an effective screen from the possibly less beautiful inhabitants of the kitchen garden.

A scheme such as the above is well within the scope of the amateur gardener, as there are no intricate architectural features, and all sorts of variations and additional details can be included. If the aspect is southerly, the earth wall and rockeries near the house make ideal situations for those rampant rock cresses, stonecrops, saxifrages which seem to thrive in the dry places, while there is ample space for all those tall perennials which form such effective backgrounds to the general herbaceous borders. The placing of the flower beds enables a constant show of blooms to be obtained where they can be seen to advantage.

The road to the kitchen garden will indicate the intention to have a central path. I have found such a path extremely useful and space saving, particularly with another path set off at right angles so that the plot is divided into four. The amount of border thus created gives plenty of room for a full herb garden and each section can be allocated to a special purpose, such as bush fruits, strawberries, flowers for cutting and general vegetables on a small scale. One section can be reserved for propagation purposes and for that necessary evil, the rubbish heap and incinerator.

If the paths are made of brick or stone, it will be found that work in such a garden is not that mudlarking job which it can be under certain conditions, and every part is accessible in all weathers without the ruination of lawns.

Further possibilities of the scheme depend on actual conditions. Many small houses of post-war construction have low close fences or even wire or expanded metal and post boundaries. The question of wind-breaking and additional screening will arise. As will be seen, this can be done without undue reduction of the flower-bed area.

Indeed, if the immediate surroundings are pleasant, many gardeners welcome the open fences, for there is no

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doubt that the plants are generally much hardier and free blooming and, in addition, surroundings can add to and enhance the general effect of a well thought out scheme of garden planning. In such a case the partial screen afforded by hollyhocks, delphiniums, Michaelmas daisies and other tall specimens in season will be found sufficient if planted in association with more permanent climbing roses, loganberries, etc., to give that privacy which makes a garden the place of rest and refreshment it is intended to be. L. G. B.

SOME OF THE BEST BEDDING ROSES

The most attractive varieties that have proved their worth for planting in the small garden. The list is sufficiently large to satisfy every taste.

MODERN roses must fulfil a dual purpose. There was a time when they were grown almost solely for exhibition; to-day they are required to create a display in beds and borders in the garden and to adorn the home for decorative work. And of all the flowers or plants known to gardens, with the possible exception of the sweet pea, none is better fitted to the demands required of it in regard to floral continuity than the modern rose. If we judge it from this particular aspect it is without a rival. What other plant, it may be asked, can give the garden or the home a display of flowers over so long a period as the rose? What other plant can have its flowers cut so consistently and will recover and bloom again so rapidly? There is none. The rose is supreme among hardy perennial plants.

The hybrid perpetuals held pride of place in gardens for a long period, but with the advent of the hybrid tea they gradually declined in popularity. When the hybrid tea was still further improved by the infusion of Persian blood, the doom of the, so-called, hybrid perpetual was sealed. To-day varieties in this section, with one or two notable exceptions, are practically neglected. The term hybrid perpetual was really a misnomer, and that name applies far more accurately to our modern hybrid tea and allied varieties. It is true, of course, that some hybrid perpetuals are very prolific in regard to flowering. Hugh Dickson, for example, will flower almost as freely as any hybrid tea, but one can hardly call this rose a hybrid perpetual. If we take Charles Lefebvre, Ulrich Brunner and Mrs. John Laing as typical examples of hybrid perpetuals, we cannot classify Hugh Dickson in the same category. In reality it should never have been placed in the hybrid perpetual section.

Hybrid perpetuals are still in favour with a few lovers of roses. There are some exquisite sorts still in commerce and they appeal to those who love a flower of good formation and an abundance of petal coupled with fragrance. The objection to these roses on the part of most people lies in their want of freedom, but for the benefit of those who wish to grow them the names of a few of the best are given herewith. Hugh Dickson, already mentioned, is known to most. Its rich crimson colour, its well formed flower, its fragrance, its freedom, and its hardiness and vigour have caused it to remain a worthy favourite for many years. Frau Karl Druschki is, perhaps, the next most popular favourite in the list of hybrid perpetuals. Like Hugh Dickson it has a large infusion of tea blood in its ancestry—it is a descendant of the illustrious Caroline Testout—and it is still the greatest of white garden roses. It is, unfortunately, scentless. We have still to get the ideal white hybrid tea rose, but there are one or two good things on the horizon and they will make their *début* next season. Hugh Dickson and Frau Karl Druschki are strong growers and must be planted in a position to suit their stature. If associated with hybrid teas they would be planted in the back row or in the centre of a bed.

Next in order of popularity in this section comes Mrs. John Laing. I am afraid, however, that its day is over. The new hybrid tea Dame Edith Helen is vastly superior. I have given the three most popular hybrid perpetuals to-day, and in order to make the number up to one dozen, I give the names of nine more of what I consider the best of this old race. They are General Jacqueminot, Duke of Edinburgh, Captain Hayward, Alfred Colomb, Charles Lefebvre, Ulrich Brunner, A. K. Williams, Suzanne Marie Rodocanachi and Duke of Wellington. This small selection is quite sufficient. If a dozen hybrid teas are chosen and planted in competition with any hybrid perpetual I am sure that the scrapping of the latter will be a certainty. The hybrid teas have been so much improved in so far as their utility and value are concerned, from the decorative and bedding aspect, that we do not now require the older sorts. The passing of the hybrid perpetuals was inevitable. I will grant that there are a lot of rubbishy hybrid teas, but, on the other hand, there are some remarkably fine ones.

The following list of hybrid teas and pernet roses may be relied upon to give satisfaction under average garden conditions. The sorts here recommended have all received a thorough trial. They are:—Angele Pernet, vivid orange yellow shaded reddish apricot; Betty Uprichard, salmon pink and carmine; Christine, golden yellow; Captain F. S. Harvey Cant, salmon pink veined with yellow; Colonel Oswald Fitzgerald, deep crimson flushed with deeper shades; Clarice Goodacre, ivory white; Charles E. Shea, clear pink; Caroline Testout, satin rose; Donald Macdonald, orange carmine; Dorothy Page Roberts, coppery pink suffused apricot; Etoile de Hollande, deep velvety red; Ethel Somerset, shrimp pink edged with a deeper shade; Emma Wright, orange; Gwynne Carr, shell pink shaded lilac; General MacArthur, bright crimson; Hortulanus Budde, vivid red with orange centre; Hawlmark Crimson, scarlet crimson; Isobel, a lovely single; J. C. Mensing, bright rose pink, and the best of the deeper coloured Ophelias yet raised; K. of K., a semi-double dazzling scarlet; Lamia, reddish orange; Los Angeles, coral pink shaded with gold and copper; Lieutenant Chaure, virtually a dwarf Hugh Dickson; Lady Elphinstone, apricot flushed with yellow; Lady Pirrie, coppery salmon; Lady Roundway, golden orange flushed copper; Lady Inchiquin, orange cerise; Mme. Jules Bouche, creamy white; Mme. Butterfly, pink flushed apricot and gold; Mme. Abel Chatenay, rose flushed carmine; Mme. Edouard Herriot, coral red; Mme. Melanie Soupert, saffron yellow toned pink; Mrs. Henry Bowles, rosy pink and salmon; Mrs. Oakley Fisher, a free flowering single; Mrs. Fred Howard, best described as an improved Mme. Ravary; Mrs. William Fife, a lovely shade of pale pink; Mrs. Wemyss Quin, a robust and reliable yellow; Miss C. E. Van Rossem, a semi-double deep velvety red of fine formation; Modesty, cream flushed with rose; Mabel Morse, golden yellow; Marcia Stanhope, white and fragrant; Red Letter Day, a semi-double crimson too free to overlook; Souvenir de Mme. Boullet, on the whole finer than Lady Hillingdon; Scarlet Glory, vermilion scarlet; Souvenir de Georges Pernet, orient red, distinct and good; Shot Silk, cherry cerise overlaid salmon orange, very sweet; The Queen Alexandra, included for its novelty; Una Wallace, cherry rose; William F. Dreer, silvery pink flushed yellow; and Westfield Star, a sulphur yellow Ophelia.

A DECORATIVE BED OF ROSE CAROLINE TESTOUT, OF A SILVERY SALMON PINK.
This variety, although one of the older sorts, is one that should not be omitted from any rose collection.

The above list contains fifty-five names, and a selection can be made from it with every confidence. One or two sorts will be noted which are somewhat new, but they have proved to be garden roses of the greatest merit. It may be that some readers will miss roses which they may fancy, but if they will send the names of any such rose the writer will be pleased to state his reason for its omission from this selection. An endeavour has been made to compile a list of the very best sorts for certain results in practically every garden. The past season has been a severe trial for roses, and every sort in the above list has given a good account of itself. The next article will deal with polyanthas, Chinas and musks, climbing roses will be reviewed in due course. GEO. M. TAYLOR.

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THE BUSY MAN'S PAGE

How to Obtain Early Rhubarb.

THERE are several methods open to those who desire to have rhubarb for early pulling: (1) by lifting stools and bringing them into the heat of a greenhouse; (2) by placing stools in a dark shed or cellar; or (3) forcing in the open, by covering the crowns with straw and placing tubs over them. In the case of stools taken from the ground it is essential that after lifting they should be left on the surface two or three weeks in order to check them and give them rest. If the weather is frosty at the time, it will injure them very little, and when brought into heat will speedily make growth. It is the failure to appreciate the importance of the roots having a rest that causes the beginner in forcing stools to obtain poor results. Under the greenhouse stage, so long as light can be eliminated, will be found as good a place as any, and soil, or leaves and manure, should be packed round them and the crowns given copious supplies of water and liquid manure.

Next to a greenhouse, a frostproof shed or cellar is best. Here again, litter or leaves should be used to draw around the stools and thus generate a little warmth.

In the garden one can, without going to the trouble of lifting, have early pullings by making use of manure, leaves, and strawy litter. Sometimes in the autumn, manure is got in for use the following spring. It may be placed to good advantage by covering the stools with tubs and drawing as much manure and straw around them as is possible. It is mainly a question as to how much heat and moisture one may give as to when the first sticks can be pulled. Only strong crowns should be used for lifting, and those which have been forced the previous season left out of account.

PREPARING RHUBARB FOR FORCING.

The lifted stool is exposed for two or three weeks before taking into the greenhouse; the stool which is to be forced in the open is covered with straw and a barrel along with strawy manure.

Planting Out Biennials.

BIENNIALS such as antirrhinums, wallflowers, campanulas, anchusas, hedysarum, stocks and aquilegias that were reared outdoors will have attained a fair size and be in a suitable condition to plant out in their flowering positions. A good rich loam is desirable for them all, but the wallflowers are very partial to lime, and it ought to be added to the beds or borders before planting. Give plenty of room between the plants to allow air and light to get to them and to prevent stunting of the growths. Each plant should be lifted from its rooting quarters with a good ball of root and soil attached, each mass of the latter being given a gentle squeeze to make it compact. Planting should be carried out with a trowel, making the hole sufficiently large to take the ball of roots and soil, and the plants should be pressed in firmly, particularly wallflowers and antirrhinums.

How to Make New Flower Beds.

Treatment of the Soil.

EVERY year new flower beds are made in our gardens; some in old gardens and others in newly formed ones. The forms that are most satisfactory are those round, square and oval-shaped. Beds having narrow points—star-shaped—are the most unsatisfactory, because they cannot be filled with plants that will be effective in any way. Having decided on the form of the bed, the next point to consider is its size. If the garden is small, fewer and smaller beds would be more useful and interesting than large ones, which would, probably, occupy nearly the whole of the lawn. A good lawn, well kept, sets off the flower borders to the best advantage. The soil treatment should be carefully considered. When the new bed is being made all old, useless soil, roots, stones and all foreign matter should be removed to a depth of at least 2ft. and the space filled up with really good loam. There is no better time for high-class treatment of soils than when the border is clear of plants.

Frequently, cultivators are too hasty in dealing with their new flower beds, filling them with the first available soil, and then wonder why the plants fail to thrive in their new quarters. A really sandy soil should have some of a more adhesive character mixed with it; a clayey soil should have some of a light character added to it or in place of a portion removed.

Increasing Violas and Pansies.

DIVISION of roots is a very good way of increasing the stock of pansies and violas. This year, when there has been such an abundance of rain that the plants have quite recovered from their flowering time, the old specimens are growing very strongly indeed. Start by cutting the old growths back rather severely so as to encourage the development of the young shoots towards the centre of the plant. Follow on the cutting by sprinkling some light soil in the hearts of the plants to encourage the formation of new roots on the young stems. About a month later the division of the plants may take place, and it will be found that they winter much better than where the method of propagation has been by means of cuttings. Unless the locality is a mild one it is usually better to keep rooted cuttings in a cold frame, but plants divided in the manner described may be set right out into their permanent quarters at 9ins. apart.

Mossy Lawns.

FIRST seek the cause, then think of a cure. A really bad lawn may require to be drained when the moss is due to too abundant soil moisture, but this must be looked upon as a last resort, because it spoils the lawn for years. Less drastic but almost equally effective is the plan of lifting the turf, spreading a thick layer of garden ashes and relaying the turf on top at once. Mossy lawns, however, are not always due to dampness; starvation is a frequent cause. In such a case feeding must be resorted to. At this time a mulch of sand or, better still, sifted soil, leaf-mould or manure may be applied, a thin mulch which the rain washes down round the grass. In January or February bone meal may be applied at 3 oz. per square yard, or about this time slag at a ½lb. per square yard. Lime at ½lb. per square yard is also a good moss destroyer, particularly when followed in spring by light dressings of sulphate of ammonia and sulphate of iron or lawn sand. Sulphate of iron, 2 ozs. per gallon of water, also kills out moss, but before application tear out much of the moss with a garden rake. When moss appears on a light soil give the lawn a good dressing of kainit, 3 oz. per square yard, or scatter as much fine ash as possible over it, such ash being saved from bonfires of garden rubbish. Patches of moss should first be torn out with the garden rake, then dusted with lime; later a thin mulch of fine sifted manure can be laid on top and next year some bone meal applied.

Care of Tools.

IT undoubtedly pays to keep all garden tools clean during autumn digging. Whenever the work is finished, scrape the earth off each implement, then rub it with a coarse piece of sacking kept for the purpose. No water should be used, the implement being rubbed until free of all dirt and left like that. When, however, it may require to stand for two or three months, as often happens in small establishments, rub it the next day, when dry, with an oily rag. Tools should not stand outside longer than a day, bacause alternate rain and dry weather, heavy moisture and sun, frost and thaw, play sad havoc with the handles and either rot them or destroy their fine grip. Barrows, too, deteriorate more rapidly when left exposed than when in use. Garden shears, lawn mowers, scythes and other things which only come into use during summer may now be oiled or vaselined and hung up in a dry shed.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Autumn Cultivation.

DIGGING, taken in moderation, is the healthiest form of exercise. There are many advantages to be derived from digging during the next few weeks, instead of leaving the soil unturned until spring. Frost acts upon the particles of clay, reducing it to a powder. For some reason, autumn digging helps to keep the soil moist during the following season. One authority estimates that from two to three per cent. more water is retained in dry weather by autumn dug land above that turned over in spring. Except during very cold spells, nitrates are formed and other chemicals released and made available as plant food during the winter months, but this can only take place in a soil which is aerated.

Soil Pests.

WHEN plants are attacked by soil pests, it is usually not possible to do much during the growing season beyond setting a few traps and giving the plants a stimulant to help them to resist attacks. Now that the growing season is over, we ought to tackle those pests which can only be killed while the ground is vacant. An application of kainit at the rate of ½lb. to each square yard is one of the best ways of treating soil at this season. This kills such pests as slugs, and, in addition, acts as a fertiliser. Where a strong soil fumigant is desired, to kill wireworms, etc., mix a pound of crude naphthalene with 14lb. of lime, and apply at the rate of about a pound per square yard.

Pond Construction.

NOW is the time to undertake garden alterations that involve excavation work. Soil that can lie in the rough until spring receives the benefit of frost action. If it is intended to construct a lily pool, the work should be commenced without delay. It is surprising how long the work takes, and the few hours spent in excavations from time to time seem to make little headway towards the completion of the work. Then there is the cement work to be prepared, all of which takes a fair amount of time. Rushed work is never satisfactory in the garden, and to take time by the forelock with garden alterations is a good motto for the week-end gardener. Even where the heavier excavation work is done by contractors, wet weather, frost and other difficulties often delay the construction of garden features.

A Charming Grass Walk.

THE grass walk shown in the accompanying illustration forms a very pleasant vista beneath the pergola. The use of grass as a path has the disadvantage that in very wet weather it is not suitable for heavy traffic. But in the less frequented part of the garden, the grass path, provided it is adequately drained, makes a charming walk.

Carnation Culture.

Now is the Time to Transplant Layers.

NO plant is better fitted than the carnation to withstand the conditions of the town. It is a bonny fighter. It has been provided with a coat of wax to protect it from the breezes from the sea, and this shield makes it more or less immune to the poisonous airs of the town. In dry seasons it can thrive when other plants become limp and flaccid.

THIS IS THE TIME WHEN ALL RAMBLER ROSES SHOULD BE THINNED AND PRUNED, REMOVING ALL DEAD WOOD AND ALLOWING THIS SEASON'S GROWTH TO RIPEN AND MATURE.

The cultivation of border carnations is extremely simple. The soil must be well drained, and the site a sunny one. An ideal soil for carnations is a chalk or limy soil; but with artificial aid any ordinary garden soil will produce good results. If the soil has already been well prepared the plants can be put in now. But if the soil is badly drained or deficient in lime, the plants may not live through the winter. If it is decided to wait until spring, dig the soil roughly now, leaving the surface very loose so that frost and rain can penetrate. Five ounces of lime per square yard is not too much to add when digging the soil of the town garden.

How to Plant.—Do not plant too deeply, but make the soil sufficiently firm to hold the plants in the ground. From 9ins. to 15ins. space should be allowed between each plant. Winter frosts have a tendency to loosen the plants in the soil, and after a spell of severe weather the surface soil should be again firmed round the young plants.

There is no necessity to protect the plants by litter or leaves. Wood ashes, if available, can be used as a dressing between the plants, and these help to keep away insect pests.

A selection of a few of the best carnations for border culture is as follows:

Border Yellow	.. Of good border habit.
Grenadier	.. A fine scarlet self.
White Fox	.. Large, pure white self.
The King ..	.. Dense maroon self.
Gordon Douglas	.. Wine crimson self.
Effie Deans	.. Apricot self.
Rosetta ..	.. Rose self.
The Grey Douglas	Lavender grey.
Cleopatra ..	.. Rose madder, barred scarlet.
Linkman ..	.. Yellow, with scarlet markings.

A SMALL FORMAL POOL WITH WELL FURNISHED SURROUNDINGS.

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NOTES ON THE FLOWER GARDEN

Treatment of Early-Flowering Clematises.

THERE is apt to be much confusion and subsequent heartburning concerning the treatment of clematises, and those types that are most likely to be treated wrongly are the spring and early summer classes, which both in habit and constitution are entirely different from the later-flowering sorts. These early-flowering clematises are those of the Calycinæ group, which produce flowers in the winter of a creamy white; the Anemonifloræ type, such as C. montana; the Azuræ type, which is illustrated; and the Floridæ group, another large-flowered clematis. To these must be added the Lanuginosa class of clematis which, although blooming from July to October, nevertheless require the same treatment as the spring-blooming kinds.

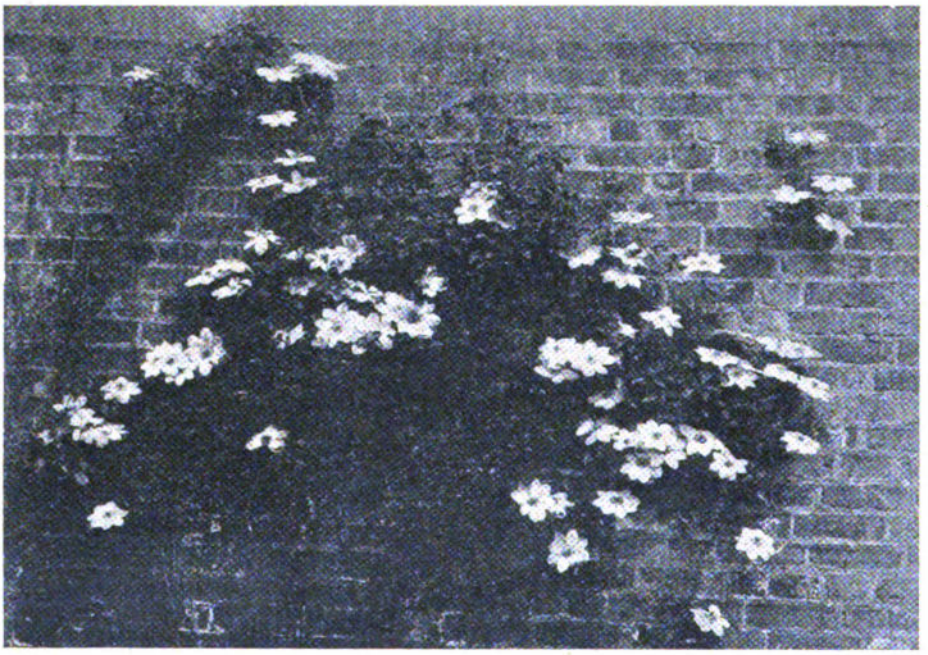
It should be noted that *all these clematises flower on the old or ripened wood*, so that should any of this be cut away in pruning it represents a corresponding loss in blossoms. This is an important point to emphasise, and whatever pruning is given, should be accomplished during the month of February, and the pruning, moreover, should not extend beyond the removal of exhausted wood, overcrowded or straggling branches, and in cutting out all weak shoots. All cutting that is done in addition to this is not pruning, but mutilation, to the great detriment of the plant it is practised upon.

As these clematises pass out of flower, next year's shoots are produced, on which will depend the crop of flowers the following May; and if these shoots are interfered with in the way of natural growth, they will not produce the desired wealth of blossom. Every inch of new wood should be carefully preserved, trained in and tied to supports. Next February all the unripened ends may be cut off, together with other useless wood.

Besides these things, it should be remembered that the vigour of climbing plants like clematises needs to be sustained by substantial manurial applications, especially during hot, dry weather; and as the clematis is invariably planted at the foot of a wall or fence or pergola, where it may get but little moisture at the roots, the best thing to do is to provide a substantial mulch over the roots as soon after flowering as possible, preferably of rotten manure or, failing this, a quantity of leaves or other moisture-retaining vegetable matter. This, with an occasional bucket of water, will be the means of aiding the growth of the plant and considerably adding to the size of the flowers.

Those who contemplate planting the early-flowering clematis should do so either now or in the spring. Remembering that all clematises like a somewhat shady position, the site should be selected accordingly. The right kind of soil is a rich loam of somewhat light texture, which contains an admixture of lime or chalk. This, however, is not always available naturally, but could be given immediately around the roots when planting.

As a rule, the early-flowering clematises are best given a site beside a brick wall that is not too greatly exposed to the sun, and in this respect they make admirable plants for training by the side of the entrance door of the home, where their early blossoms are very welcome and ornamental. —N. E.



CLEMATISES ARE AMONG OUR MOST DECORATIVE CLIMBERS FOR WALL DECORATION.
No garden is complete without at least one of the many beautiful hybrid varieties.

Dwarf Michaelmas Daisies.

FOR the small garden or in the front part of the herbaceous border the various forms of Aster Amellus are strongly recommended for an autumn display. They form rather dense clumps, and when in bloom vary from 1½ft. to 2½ft. high. Although they are more or less free growing, they are not so aggressive as many of the Novi-Belgii section, a fact to be borne in mind by the man with a narrow or small border. Some recommend that asters should be lifted annually, divided into small clumps and replanted. This is sound advice for such strong growers as Climax and its tribe, but for the Amellus group I doubt the wisdom of such remarks, hence this note. I have found several of the smaller-flowered kinds much better the second and third year after division, and this work is best carried out in the spring. It is a point on which readers' views would be welcome.

Among the large-flowered forms of A. Amellus is King George, now a most popular variety with its large striking rich violet flowers fully 3ins. across. The florets are broad and not too crowded, while a fully developed blossom is most beautiful. To make sure of upright sprays of bloom for cutting purposes it is advisable to afford the plants a few stakes or short pea sticks before the growths bend over. Another fine form is Rudolph Goethe, somewhat similar in colour to the preceding variety. Beauty of Ronsdorf is a beautiful lilac pink, the flowers being over 2ins. across, and another pretty rosy pink is Perry's Favourite, a plant that should be represented in all gardens. Coming to the older varieties with rather smaller flowers, but none the less beautiful, we find the later-flowering Ultramarine, a very bright blue and, moreover, the colour is intensified under artificial light. Then we have the handsome Framfieldii with its violet-blue flowers; Preziosa, rich blue; and Onward, a deep purple blue. There are a few other useful varieties, but the above are some of the best in the Amellus section, and are worthy of attention from the small grower.

Where the soil is of a heavy, retentive nature, lifting and planting should wait till next March or April, and even if the rooting medium is the reverse, spring planting is to be preferred. When this work is carried out in the autumn or winter, slugs and other pests are often troublesome, and in consequence many plants are lost.—T. W. B.

A Decorative Autumn Shrub.

BERBERIS THUNBERGII forms a compact, bushy plant from 3ft. to 6ft. high and even more in diameter. It is deciduous, and its real beauty is seen during the months of autumn. At this season the leaves turn a beautiful scarlet. An additional charm is its wealth of bright red berries, which are very useful for house decoration. Owing to its freedom of growth, it is a good subject for this kind of work, and, moreover, it appears to thrive in any poor stony soil. I believe most members of the berberis family fruit much more freely in a poor rooting medium than in a rich root-run. It is pre-eminently a shrub for the amateur's garden.—B.

A Good Plant for a Retaining Wall
Cotyledon simplicifolius.

THIS is quite a distinct species, admirably suited for walls or the rock garden, and, moreover, it is easily grown and quite hardy. It gained an award of merit from the Royal Horticultural Society in June, 1915, and since then it has gradually found favour with all lovers of hardy plants. The leaves are fleshy, forming small rosettes, and the plants possess stoloniferous root stocks, which are not too rampant even for the choicest rock garden. It produces graceful racemes of golden flowers from May till July, and when fully grown is about 6ins. in height.

A fairly sunny aspect should be chosen, and one where the slightly drooping spikes will be seen to the best advantage. The drier and raised positions of the rock garden would suit it best, and a gritty rooting mediun will meet its requirements in the way of soil. Small pieces of rock, stone chippings or old mortar rubble mixed with loam are recommended for this charming plant. It is perennial, and a patch on a retaining wall would be very effective.

This cotyledon can be raised from seeds, and also increased by runners or division during the autumn months.—W.

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Four Chinese Rhododendrons Worth Growing.

AT Bowness-on-Windermere in 1919 we planted four Chinese rhododendrons. They were Rhs. calophytum, decorum, Houlstonii and sutchuenense. As, in flower and leaf and time of blooming, they are so striking and so different from the ordinary garden hybrid, a description may induce others to try them and other similar species, especially amateurs with small gardens.

First, as to planting. No special preparations whatever were made. The soil is the common Lake District stony, sticky "mud," from the blue stone and slaty rocks, now believed to be of volcanic origin and free from lime. The plants have been entirely open to the sun, without any special treatment of mulch of leaves till this year, but sheltered from the wind.

They are absolutely hardy as regards winter frost, but suffered in 1926 as to their new growth in the very severe May frosts, all except Rh. Houlstonii, which, making its growth in July, entirely escaped. Too much stress cannot be laid, I think, on the value of plants which grow at this season, and are otherwise able to stand a northern climate.

A short description, together with the illustrations of three of the plants will enable one to bring out the different features and the marked individuality of each. It is this individuality—not of flower only, but of leaf and growth—which gives to rhododendron species their special charm. We will take first the least satisfactory of the four—Rh. decorum. This has grown into a sturdy bush. It has dark green, stoutish leaves and forms flower buds regularly every year. Unfortunately seven years ago we did not know that there are several varieties of decorum. These flower from early May onwards; the later-flowering varieties are not adversely affected by alternating cold and warm spells—which is the usual story of our winters—and it is these later-flowering varieties which should be planted. The buds of our Windermere plant, open in early May, the flowers being of a very delicate pale pink, with seven petals to the flower, and have an exquisite spicy scent.

Rh. sutchuenense has made the biggest bush. It is a grand species. Its long, narrow leaves, which hang down vertically in cold weather, its huge terminal buds and pink trusses which open in March or April, are all very striking. This species has no scent.

As for Rh. Houlstonii, this flowered for the first time in 1926, probably helped by the hot summer of 1925, which helped to ripen the wood. This species has grown well and is a great acquisition to a northern garden. It flowers in early July, when other rhododendrons are over. The trusses resemble Rh. decorum; the flowers are a delicate pink colour, each flower being well shaped with seven petals beautifully fimbriated at their edge. Their greatest attraction is the strong and delicious spicy scent. One truss was enough to fill with scent a small room. The young foliage is also very beautiful—an emerald green colour, and below the new leaves hang the scarlet bracts. The growth, being made in July, cannot be damaged by frost.

Last of the four is Rh. calophytum. This is now, of course, fairly well known. It should be in every garden, large and small. The illustrations will give some idea of its exquisite flowers. These are bell-shaped, of the purest white, and inside of the uppermost petal is a deep, rosy blotch. A big, knobby, yellow-coloured stigma adds to the picture. This species is absolutely hardy, flowers when a small plant, and, like sutchuenense, in March or April.

These plants from the western provinces of China, have proved their worth at Windermere. May this short note induce many others to plant them and many other beautiful rhododendron species as well.—G. LISSANT COX.

THE DELICATE PINK AND FRAGRANT FLOWER TRUSSES OF RH. HOULSTONII.

RH. CALOPHYTUM SHOULD BE IN EVERY GARDEN.
It is handsome in flower and elegant in foliage.

RH. SUTCHUENENSE IS A FINE SPECIES FOR A NORTHERN GARDEN.

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SWEET PEAS FOR THE GREENHOUSE

For those who wish early sweet peas, seeds of some of the more choice varieties should be sown now and the plants grown on in the greenhouse. Fine blooms will be obtained in the first days of early summer.

THE sweet pea is generally regarded —and rightly so—as an outdoor flower, nevertheless, very probably the finest specimen blooms ever produced have been grown under glass in cold houses. Many readers must have noticed the wonderful quality of the exhibits of sweet peas at Chelsea Show of recent years; these were all greenhouse grown, on the "single-stem" or "cordon" system. Greenhouse culture has many advantages, it also has its disadvantages. In the first place there is no more interesting way of growing sweet peas, although it exacts a little more care and skill on the part of the grower. It gives one earlier flowers, and the actual appearance of the blooms is different in a manner readily perceptible, but difficult to convey in words. Greenhouse blooms are much cleaner looking, and the daintiness of form which is one of the most attractive characteristics of the sweet pea is further enhanced. The plants are much more under the control of the grower than outdoors, and there is, for some obscure reason, a welcome absence of that mysterious disease, or alleged disease, "streak." Some varieties are seen at their very best under glass, others are not nearly so pleasing as when grown outdoors. Generally speaking, their shades are paler inside, perhaps richer toned in many cases, but not so clean cut and vivid.

Greenhouse treatment varies very little from outdoor culture, whether the plants are grown naturally or restricted to a few "leaders" only. A fairly lofty structure is best, and in any case it should not be lower than 5ft. at the eaves. Ground space will naturally be limited; indeed, in many cases it will be necessary to grow them in large pots. Undoubtedly best results follow when the sweet peas can be planted out in well prepared trenches in the soil of the greenhouse. The procedure in this case is quite simple. Take out trenches 18ins. to 2ft. wide, 18ins. to 2ft. deep, allowing 3ft. between the centres of each—that is, 3ft. from row to row. All that is needed is just enough room to walk easily between rows. When trenching, well mix in a liberal amount of decayed horse or farmyard manure to within 9ins. of the surface, if possible incorporating at the same time a good dressing of bone meal and burnt wood ashes throughout. A firm rooting medium is essential, so the soil should be well trodden down as the work proceeds. Should the greenhouse soil be poor or sour, it is advisable to remove at least the top 12ins. of the trenches and replace it with good, fresh soil from the garden. The remains of an old hot-bed or a well decayed garden refuse heap will come in very useful for this purpose. The earlier the work of trenching and manuring is completed the better.

If large pots have to be used, a good fibrous loam with a little wood ash and bone meal mixed in is effective, but do not add animal manure unless it is well decayed. If possible, stand, or partly plunge the pots in a richly prepared bed, enlarging the drainage holes in the pot bottoms to allow the roots to find their way through easily. Alternately, if the greenhouse has a tiled or concrete floor, the pots may be plunged in boxes containing enriched soil. Leave a space of 2ins. at the top of the pots for top-dressing later on.

Seeds should be sown now in pots in a cold frame and the seedlings grown along hardily and sturdily in the manner fully described in THE GARDEN of October 1st. Towards the end of January, bring in the plants in their pots and let them remain a few days in the greenhouse before transplanting. Water the trenches several days before planting out, taking care not to get the soil too stodgy and sodden. Then plant the seedlings firmly, 6ins. to 8ins. apart and do not water (except sparingly, if necessary) until they have recovered from the slight check of transplanting. Endeavour to maintain a fairly equable temperature at all stages of their growth and make no attempt to force them. Plenty of fresh air should be the rule. Short twigs will support the plants until rapid growth commences, then their permanent supports must be given. Wide mesh cord netting makes a fine support, sticks as a rule take up too much room. Do not feed the plants in their early stages, just water with pure soft water when they need it, frequently loosening the surface soil with a hoe to prevent "caking." When the plants commence flowering, apply a surface mulch of loose horse litter or spent hops round their base and assist them with periodical feedings of well diluted liquid manure and soot water. In the early summer, any tendency of the greenhouse to become too hot should be counteracted by syringing whitening over the glass and giving all the ventilation possible. If greenfly makes an appearance, spray the plants with a good insecticide, cleansing the foliage about twenty-four hours afterwards by spraying with pure water. Not often does mildew affect them, but this can be checked by spraying infected plants with a solution of liver of sulphur, ½oz. to the gallon of water.

As previously intimated, some varieties are more suitable for under glass culture than others. All those having a fair proportion of salmon or orange in their "make-up" are excellent, an especial favourite of mine being that vivid orange, Royal Sovereign. Here are a few other really first-class greenhouse sweet peas. Wizard and Colorado (orange), Gold Crest (salmon), What Joy and Matchless (cream), Ivory Picture (ivory), Venus, W. J. Unwin, Miss California and Magnet (shades of cream-pink)—Magnet is most delightful under glass—Mrs. Horace Wright, Hebe, Mrs. Chas. W. J. Unwin, Del Monte and Supreme (pink shades), Grenadier (scarlet-cerise), Charming, Centaur, Coralline and Peggy (cerises), Chieftain and Royal Mauve (mauve), Powerscourt, Mermaid, Gleneagles and Austin Frederick Improved (lavender shades), Dainty Maid and Elegance (blush), George Shawyer, Royal Pink and Crusader (orange-pink), Mammoth and May Unwin (orange-scarlet), Model and Avalanche (white).

C. H. A. S.

PROTECTING TENDER ROCK PLANTS in WINTER

Many amateurs who grow attractive rock and wall plants, such as the androsaces, will find some useful hints given in the following article on how to bring them successfully through the winter. In many districts great difficulty is experienced in keeping the plants. This writer has succeeded and his advice may prove useful to others.

AS a group, these valuable and exceedingly pretty alpines well repay a little extra and individual attention in autumn, with a view to their health and safety during the winter, which, in most parts of this country, is vastly different from that of their native habitat.

In the first place, there is no doubt that all the varieties benefit greatly by a suitable mulch, properly applied in early autumn. If this is done as soon as convenient, it will carry them through the winter and will be all the attention the roots will need until next season, and will go far towards good growth and freedom of bloom next spring and summer.

An ideal mulch may be formed by thoroughly mixing a quantity of well rubbed peat with about an equal amount of fairly light and very gritty soil; any good loam which is quite free from manure of any kind—the latter being deadly to androsaces—plus plenty of really coarse sand, will answer the purpose. The mixture should be sprinkled, not only on the ground surrounding the plants, but also among and over the rosettes themselves, and worked well in between them with the fingers. This method will be found to be much more satisfactory than watering-in the mulch, for, unless the water is very carefully applied, the tendency will be to wash the mixture away down the slope of the rockery, rather than in among the rosettes. Should the plants be situated in a dry wall—they do quite well there—some of the mixture may be stuffed in around the rosettes and between the stones, and a number of smaller stones wedged in wherever they can be got, to hold the mulch so that it does not so easily fall or wash out.

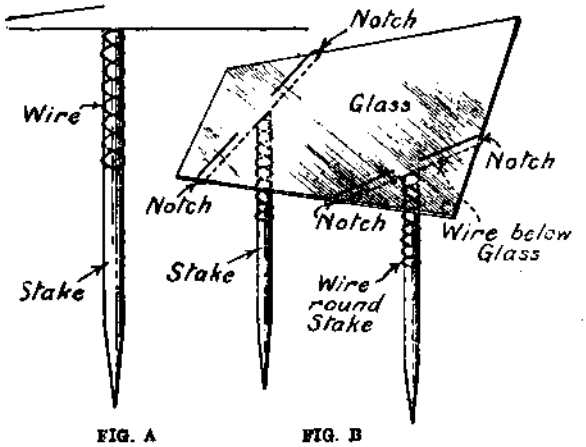

FIG. A FIG. B

The second duty is more difficult to undertake successfully. Many of them have, to a greater or lesser degree, woolly, downy foliage, and, in common with other such plants, an excess of overhead moisture is highly detrimental to them, if not actually deadly.

Some means, then, must be employed, in such a wet winter climate, to prevent undue moisture falling or resting on the foliage, particularly in damp neighbourhoods where the rainfall is excessive, when, in long, wet periods, there is little drying-off of moisture by evaporation.

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The writer has found it generally advisable in such districts to cover his androsaces in October and to leave the covering on until March at least. Now, the bald instructions of the text-book, or "Garden Notes of the Week": "Cover androsaces with sheets of glass," would seem quite inadequate for any but these most accustomed to the process, for it is easier said than done—that is, satisfactorily! The position of the plants between the stones and in the more or less vertical fissures in which the androsaces seem to delight renders the actual covering anything but easy, and the fixing of the covers to withstand wind and snow and accidental disturbance is a matter demanding ingenuity and care.

Cloches, bell glasses, miniature frames and so forth, even if they could be fixed, will not do, for at no time, even in the severest and wettest weather, must the plants be without the free circulation of air and light to which they are accustomed when totally uncovered; neither must the covering be such as will prevent adequate supply of moisture to the roots. Moreover, some arrangement which allows of easy access to the plants without removing the covering is useful in case of emergency.

After many experiments, I have found a method, described below, which seems to be most efficacious and satisfactory from every point of view. Everything, except the actual fixing, may be done indoors on a wet day, some time before the covers are needed, and once constructed they will last two or three years, perhaps longer, according to the durability of the materials used.

A number of sheets of glass—the lighter the better—must be obtained, such as may have come from old windows or frame lights, and they must be well cleansed before use. If some are broken and irregular in shape, they will be none the worse, for they will be found convenient for fitting between rocks and in places where a regular sheet would not go. Next, a quantity of fairly strong but not too thick or clumsy stakes, of lengths varying from 1ft. to 2ft. 6ins., must be procured and sharpened. Natural stakes from shrubs or trees, such as are often used as chrysanthemum or gladiolus sticks, are much to be preferred to canes—firstly, because they are less conspicuous, and secondly, the wire which we shall use will grip or lick the support more tightly and will not slip. Some strong but fairly pliable galvanised wire is the only other thing needed. The pliability should be such that the wire may be easily bent and twisted with the pliers. A strand of this, say a yard in length, should be taken and, beginning about half-way down a stake, tie and secure one end. Then wind the wire clockwise and upwards round the stake, as tightly as it can be drawn, until the top is reached. Repeat the process with a similar strand, working this time "anti-clockwise," and finish so that the last wind of each strand nearly coincides with the tip of the stick. The two pieces of wire must then be twisted and tied at the top securely, so as to form, as it were, one length, lying across the top of the stake. The result will be, as may be seen in the rough sketch in Fig. A, the form of a T.

All that is necessary now is to take the glass and prepared supports and, by visiting each plant in turn, select a sheet of glass of sufficient size and suitable shape to fit the position as regards the surrounding rocks, in each case.

If the glass is in various sizes and forms, a little interchange will soon result in a satisfactory choice. Then revisit the plants in turn, and hold the chosen piece of glass temporarily in its position, and note approximately where two (generally sufficient) or more of the stakes may be safely and securely inserted in the ground without injury to roots. Remove the glass, drive in the supports with hammer or mallet, only sufficiently far to be firm, and to clear the surrounding stones comfortably; or, if there are none, to clear the group of rosettes by about a foot. Then place the glass flat on the top of the two or more "Ts" thus fixed, and notice where the wires cross the glass. At the edges of the glass at these points, a slight notch may then be easily made by a nip with the corner of a pair of sharp pincers or pliers. Having done this, re-lay the glass in position on the wires, make sure there is no rocking, and turn up the surplus ends of the two wires across the upper surface of the glass to form a kind of tight socket, and nip the bends as tightly as possible without cracking the glass. A reference to Fig. B in the sketch will show what is intended.

In some cases the natural slope of the rockery will be sufficient to ensure that water will run off the glass quickly and clear of the plant. If, however, this is not so, the lower side of the supports should be driven in deeper than the upper; in this way an adequate fall is assured and all chance of drip avoided. If the glass is heavy or large, there may be some slight swaying; but if well fixed it will be negligible, and the writer has found that this arrangement, if carefully carried out, is completely effectual and quite secure, even in high winds and heavy snow; and only very rough usage will result in displacement.

For those who do not care to go to the trouble of making these protective coverings a ready and effective substitute can be found in the Alpine Plant Protectors supplied by the Chase Continuous Cloche Co.

These covers, being open on all sides, admit all the light and air possible, access is readily gained to the plants, and, if ingeniously placed, the glass wards off all excess moisture. The method has also the advantage of being cheap and, if fixed with care, the arrangement is not unsightly or dangerous. Such a method may, of course, be adopted with subjects other than the androsaces, and which dislike too much overhead moisture. J. R. K.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints (which should not exceed 150 words in length) is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

An Ideal Way of Storing Onions.

Onions will want considerably more drying this year owing to the wet season. A good way to store them is on trays made of small mesh, about 1in., wire netting. A piece of netting 3ft. to 4ft. will be wide enough. Thread a stick through each end and suspend them shelf-like in tiers about 8ins. or 10ins. above one another. These trays enable the air to pass between the layers of onions from the bottom as well as the top and prevents many of them going bad through dampness. This method of storing does not need much space and allows them to dry thoroughly.—A. J. F.

Double Arabis.

Arabis albida flore-plena for Spring Bedding.

This most useful plant is generally associated with rockeries, but is also most valuable for a groundwork in any scheme of spring bedding. A good display may be obtained in the following manner: At bedding-time, in early October, secure good, strong cuttings and prepare in the usual way, planting three or four in a bunch in the prepared flower-beds. These root readily and in spring will produce fine sprays of blooms resembling miniature stocks. This is a great saving of labour, thus obviating the necessity of preparing plants as is usual with such subjects as aubrietia, etc. Double arabis interspersed with Tulip Pink Beauty forms a pleasing and effective combination.—C. N.

To Keep Echeverias.

I find the following a very simple and efficient method of keeping these attractive and useful edging plants during the winter.

In a sheltered position of the garden, preferably against a fence, bank up the soil several inches above the surrounding soil. Plant the echeverias, as closely as possible, in this raised portion and then prop pieces of glass, a few inches above them, on bits of firewood driven into the soil around and between the plants. Smaller pieces of glass should be placed round the sides, but not to exclude too much air. Stones will keep the glass in position during windy weather. I prefer this method, as one can practically forget the plants all the winter, whereas cold frames require attention. I find my echeverias come into bloom weeks before it is safe to plant out and I very rarely lose any.—E. B.

Autumn Sowing of Sweet Peas.

The autumn sowing of sweet peas is a matter of vital importance to exhibitors and others who desire first-class blooms early, and it invariably results in the choicest flowers being ready in good time. Where cold frame culture is favoured, and it is generally advisable, the seeds are usually sown in pots or boxes. Being short of small pots, I have adopted the following method with good results: Procure some good loamy turves and lay them in the frame, cutting them to fit close together. They should then be cut into squares of about 3ins. and two seeds sown or planted in each square of turf. When planting out time comes in the spring the squares of turf can be taken out separately, thus doing away with the risk of damaging the roots through digging them up out of a solid bed or box.—H. A. H.

Economical Plant Supports.

When cutting down tall herbaceous perennials, such as solidago or Michaelmas daisies, do not throw away the faded flower-stems, for these, if dried, make useful plant supports for next year. Cut back the perennials fairly close to the ground and gather together all the stems. After stripping off the leaves and faded flowers, tie the stems in bundles and hang them up or place on a rack in the potting shed to dry. The leaves can be stripped off quickly and easily, by rubbing the stems downwards from the top to the bottom with a piece of cloth or sacking. When dried, these stems are woody and rigid, and they make inconspicuous and highly satisfactory supports for many kinds of plants, including border carnations and annuals.—T. B. T.

To Preserve Bamboo Canes.

When taking up the bamboo canes previous to storing them, procure a jam-jar half filled with creosote, into which dip each end of the cane. This not only preserves the cane, but all insect life is killed. A pint of creosote will do a hundred canes.—H. B.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

TRULY the climate in Scotland is a source of great perplexity to all horticulturists. So far, October has been a month of glorious summer weather that partly compensates for low temperatures and rain experienced in August and September. The display of roses at this late season has exceeded all expectations, and given satisfaction to amateur growers who take pleasure in sporting a buttonhole of their favourite variety. General McArthur, Earl Haig and W. C. Gaunt among the crimson classes, and Mrs. Henry Morse and Betty Uprichard in the pink shades have been outstanding, but Shot Silk has been the gem of the autumn.

It is a common practice when flowering is over to cut down the stems of early chrysanthemums and leave the roots undisturbed in the ground in the hope that they will survive the frosts of winter and bloom again in the following season. Occasionally these expectations are realised, but the risk is great and certainly not justified by the gardener who has a frame or cold greenhouse at his disposal and who aims at propagating new stocks by cuttings. The safer plan is to lift the plants and transfer them to a frame, where they may obtain the shelter that is necessary during spells of severe weather and throw up a plentiful supply of fresh green shoots for cuttings, which are usually struck in spring. While the absence of a frame is a handicap to the amateur in respect of preserving chrysanthemums, he will find a simple alternative that will insure him against total loss in boxing the roots in ordinary garden soil and storing them in a shed or outhouse, where they can be covered during periods of frost. He may only be able to treat a limited number in this way, but these will be sufficient to preserve his stocks, with the addition of any specimens that may survive the winter in the open. Chrysanthemums depreciate after their second year, and the finest blooms are obtained by raising new plants annually from cuttings.

The treatment of the loganberry is very similar to that of the raspberry, which is one of its parents. Cut off the old fruiting canes level with the ground, and when selecting the new shoots that are to be retained for the future furnishing of the plant, see that plenty of space is provided for the development of the lateral growths. Owing to its natural, vigorous habit the canes require to be properly trained and tied, otherwise they may form a tangled mass and encroach on the space occupied by other subjects. A wire fence or a wooden paling such as is used as a boundary to housing scheme gardens offers ideal conditions for the successful cultivation of that useful fruit. This is a good time of the year to put in new plants, while established specimens benefit by a dressing of stable manure at this season. If that material is difficult to obtain, substitute bone meal or kainit, 1lb. of which is sufficient for three bushes.

Sweet peas that were planted about the end of September or early October, and have been germinated in gentle heat, should be removed to a frame and grown on under cool conditions. Plenty of air is conditional to the production of sturdy, short plants, and except during hard frost the lights may be taken off altogether in daytime. In that case it may be necessary to cover the frame with wire netting of a close mesh so as to protect the seedlings from the attention of birds. The transference of the pots or boxes to the frame affords a suitable opportunity for checking the germination of the seeds. Where blanks occur a careful search should be made for the seeds by removing the covering of soil with the blade of a pocket knife. It may be that the seed has decayed, but frequently it will be found to be as hard and sound as when it was sown. In that event chip the skin and put the seed back in the soil, where a fair percentage of germination usually follows.

Though strong to start with, many wallflower plants present a disappointing appearance by the time spring comes round. A large percentage have only single stems, thin and drawn out, while the leaves on the lower parts are conspicuous by their absence. In that condition they are neither useful nor ornamental, for the bloom, if any, is sparse and irregular. To prevent such unfavourable results, the tops of the seedlings should be pinched in autumn, so as to promote the growth and formation of strong, bushy plants. When the seedlings are transplanted in their permanent position the opportunity should be taken to cut back the long tap root. This treatment promotes the formation of a root system composed of numerous thin fibrous shoots which also contributes to the production of healthy, vigorous growth, followed by a profusion of bloom.

Much may be done during the autumn and winter months to check the ravages of fungoid diseases and insect pests by cleansing fruit trees and bushes. Any caustic winter wash applied as a spray will destroy the dormant spores and invisible eggs that winter on the trees, and, as an additional precaution, the ground should be dressed with lime and kainit. The preparation of winter washes involves both time and trouble, which may be prevented by purchasing one of the reliable proprietary preparations obtainable from any seedsman, and applying it according to directions. Gooseberry and currant bushes, and all descriptions of fruit trees, benefit by an occasional spraying between the months of November and March. Old clothes and an old pair of gloves should be worn when spraying is done.

Fruit trees that have made too much wood at the expense of the crop may be restored to a condition of fruitfulness by root pruning. It is an operation, however, that should always be performed by a skilled person, because in the hands of an inexperienced operator the work associated with the amputation of the roots involves the danger of serious and permanent injury to a tree. As in the medical world it is a job for the specialist, and in any case consultation in the first place is the wisest course, because the trouble may be due to other causes which may be remedied without recourse to such extreme treatment. It is probable that the trees may not want root pruning at all, but the disuse or greater restriction of the knife in winter.

Tomato plants grown in a bed of soil in small greenhouses have now been removed, and the problem which presently confronts the amateur is the utilisation of the vacant space during the coming winter. Frequently no attempt is made to cultivate the ground, because of the absence of artificial heating, and the owner may not be inclined to incur the expense of providing an oil stove, nor be troubled with the care and attention which its management involves. The solution, therefore, lies in the direction of growing subjects which succeed under glass without the aid of artificial heat. Such conditions are ideal for the cultivation of daffodils, hyacinths, tulips and other bulbs, which will serve the double purpose of a floral display in the greenhouse and the supply of cut flowers for the home. In the event of a small collection being grown in fibre, these bulbs can also be used to replenish the bowls from time to time, and thus maintain a succession of bloom indoors. If the aim be to produce something out of season, the amateur may easily raise a crop of green peas for his Christmas or New Year dinner by sowing a couple of rows of an early dwarf variety, such as the Sherwood or Thomas Laxton.

ST. MUNGO.

WHAT OUR READERS SAY

CROCUSES FOR THE ROCKERY.

SIR,—I have only just read Dr. H. Stewart Wacher's article on "Crocuses for the Rockery" appearing upon page 526 of THE GARDEN. It is full of interest. Will you, however, allow me to question the identity of a few of the species described, and will Dr. Wacher forgive me for doing so?

Dr. Wacher's "Crocus cancellatus" cannot be the type form, which is white more or less striped with purple. It must, I think, be either the variety cilicicus or the much rarer white-anthered form cilicicus lilacinus. Its very early flowering suggests the latter, and I should have less doubt about this were it not that this form does not at present appear to be upon the market.

I do not know what the "C. corsicus" which flowers with C. speciosus can be. It can scarcely be the species named, for that flowers in late winter, and to the casual glance is not unlike a dwarf C. Imperati. What the "C. Korolkowi" with purple blooms in November is I think I can guess. If Dr. Wacher obtained it from the source I imagine he did, it is almost certainly C. Saltzmannii erectophyllus. The true crocus of Korolkow flowers in January, and is of the same greenish tint of yellow internally as the celandine buttercup and with the same high polish. Externally it is more or less stained, freckled or feathered with brown. Its colour contrasts strongly with the deep orange yellow of other species flowering with it.

Dr. Wacher's pale lilac "C. Olivieri" is puzzling. It might be so many things, but on the whole his description best fits C. minimus. The true C. Olivieri is a little yellow crocus which does not now appear to be upon the market. I usually receive for it either a deep yellow form of C. candidus or that C. suterianus which, under its synonym C. Aucheri, Dr. Wacher himself mentions. C. Olivieri differs from this latter mainly in possessing broader leaves and in lacking a certain brownish stain at the top of the corolla tube.

The "C. lævigatus," described as being similar to the lilac "C. Olivieri," presents much the same difficulties and possibilities. The true C. lævigatus is a white crocus, feathered with purple, and with a rich golden throat. It flowers early in October, is very dwarf, and in appearance a frail, delicate, fragile beauty. There is a major form, with slightly larger flowers faintly tinted with lilac, which flowers a month or so later in the year; and yet another form, the variety Fontenayi, of a bright lilac colour, very richly feathered externally, and flowering with me in December and January. Perhaps this is Dr. Wacher's plant, though I have never had it in bloom quite so late in February.—H. A. GREATOREX

SEPTEMBER NOTES FROM AN AMERICAN GARDEN.

SIR,—One of the most striking plants in bloom at present is the beautiful Clematis paniculata—a species which does not succeed particularly well in Britain; around New York, however, it

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is extensively planted and allowed to ramble over every conceivable kind of support, and at this season of the year it is literally smothered with its pure white four-petalled flowers, which emit a strong hawthorn-like scent. As a subject for training over an arch it is ideal.

Euonymus patens is another useful September flowering subject—the small pale green flowers, although not conspicuous individually, are pleasing in the mass, and as the plant retains its leaves during the winter it is valued here, where broad-leaved evergreens are not so numerous as in Britain.

The various forms of Hibiscus syriacus do remarkably well in this part of the world, and at the present time they are adding colour to our shrubberies with their single and double white, red, blue, purple and striped flowers. In a more formal part of the garden are some shaped standards of this shrub which are clipped into shape in the early part of the year and allowed to flower on the current season's growth.

Among berried shrubs of note may be mentioned the well known snowberry (Symphoricarpus racemosus), now bearing its large waxy white berries at the termination of every shoot. The vivid scarlet fruits of the mountain ash (Pyrus Aucuparia) make a brilliant splash of colour only equalled by those of the pyracanthas. Lonicera tartarica has small red berries resembling currants, which, although not very showy from a distance, are interesting when a closer view of them is obtained. Other berry-bearing shrubs now in fruit are Cotoneaster moupinensis, C. divaricata, Viburnum dilatatum, V. Wrightii, V. cassinoides, V. hupehense, Lonicera pileata and Berberis emarginata. Berberis Thunbergii—the best of all the barberries in this locality and the plant used extensively in place of box for edging purposes—is carrying a good crop of fruit which will colour a little later; and so, also, is Cotoneaster horizontalis.

Mention must be made of Ailanthus glandulosus (the Tree of Heaven), the female trees, of which are bearing immense crops of seed which are now assuming bright autumn tints.

A splendid plant for rambling over a large boulder or training over an arch is Vitis heterophylla and its beautiful variegated variety; the berries produced by these are now changing from a deep purple to a bright turquoise blue, and either hue is equally attractive.

In the rose garden a few varieties are still making a brave show, among these Premier, Duchess of Wellington, Briancliff, Mme. Butterfly, Lady Alice Stanley, Caroline Testout and some of the dwarf polyanthas are most deserving of note.

Rudbeckias (including the purple-flowered R. purpurea), calliopsis, gaillardias, phlox, heleniums, asters, delphiniums, Eupatorium ageratioides, Sedum spectabile, Gazania splendens and Cimicifuga dahurica form the chief features in the herbaceous borders, and between these are planted our such things as cannas, helichrysums, zinnias (which thrive in the hot summers experienced here), petunias, cleomes, celosias, nicotianas, salvias, etc.

Although I should, perhaps, have included Buddleia variabilis in the shrubs, it is grown here among the herbaceous plants and is cut down to the ground each year, the result being that vigorous young shoots 4ft. or so in length spring from the ground level and bear the sweetly scented flowers at their termination. Buddleia variabilis is commonly known and listed as the Butterfly Flower, owing to the fact that butterflies and bees are continuously at work upon it. — GREYSTONE, *New York, U.S.A.*

TRAILING LOBELIA MAKES A FIRST RATE ROCK PLANT.

TRAILING LOBELIA USED AS A ROCK PLANT.

SIR,—This useful plant is well worth a trial on the rock garden. Its pale blue flowers and dark shining foliage form a fine patch during the summer. It also has the advantage of withstanding rough weather better than many annuals.—G. S., *Golders Green, N.W.4.*

A CHINESE ANEMONE.

Anemone hupehensis.

SIR,—Anemone hupehensis is a Chinese form of A. japonica. Compared with the type plant, it is more dwarf and flowers from two to three weeks earlier. The flower is an uncommon shade of pink, with a suspicion of pale mauve, and the reverse prettily shaded with a deeper pink. The general bearing of the plant is most attractive, and it is a free bloomer. The plants illustrated have been flowering for about eight weeks. It should be a useful subject for the semi-wild or woodland garden, as well as for the herbaceous border. Here, it is growing in a shrub border in partial shade.—D. E. D., *Moniaive, Dumfriesshire.*

A CHINESE FORM OF THE JAPANESE ANEMONE, A. HUPEHENSIS.

ROSE EXPERIENCES THIS YEAR.

SIR,—Having recently referred to "New Roses Worth Noting," it may, perhaps, be of interest and serve somewhat as a guide to those intending to grow roses if we consider the behaviour of some old-established favourites during the recent wettest season for years past. First of all, a word of warning is necessary to beginners not to be in too great a hurry to commence planting.

In this district the ground is much too wet, and the better plan will be to dig a trench and lay the trees in it in a slanting position, drawing the soil well up, and leave them until the ground becomes drier and more friable. In the meantime the trees will take no harm in their temporary home, and nothing will be lost by waiting, whereas to plant while the soil is sticky is to court failure, and is not giving the trees a fair chance.

Among the bushes I have had for some years, none has done better than Betty; in fact, it has never shown to such advantage either in quantity or quality of blooms. In contrast to this another old favourite, Mons. Paul Lede, has never done so badly, many of the blooms balling and others being ill-formed. Of the yellows, Mabel Morse did not bloom until the middle of July, but has since made a lot of new wood; Florence L. Izzard, Golden Emblem and Christine have been up to the average, although the blooms of the last named have been a trifle smaller than usual. Margaret Dickson Hamill, Gorgeous and Clarice Goodacre have all been disappointing, the latter balling badly. Red Letter Day has been very floriferous and appears to have revelled in the rain, while K. of K. has had fewer flowers which have also lacked the brilliancy of former years. Isobel has done exceedingly well, the first blooms being of remarkable size, and at the time of writing (October) is still producing fine blooms. A rose that always does well whatever the weather is Independence Day, which bears an abundance of perfectly shaped blooms, and this year has proved no exception to the rule. An old rose that cannot be dispensed with is Pharisaer, which still competes successfully with the modern varieties. Others that have done well are Sunstar, Mrs. Pearson, W. F. Dreer, Los Angeles, Ophelia, Mme. Butterfly, Betty Uprichard, Irish Fireflame (bush and rambler), General McArthur and Colonel Oswald Fitzgerald; while among the comparative failures have been Harry Kirk, Marquis de Sinety, Sunburst, Lady Pirrie and Miss Alice de Rothschild, the latter balling very badly.—R. C., *Derby.*

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FRUIT AND KITCHEN GARDEN

Planting Raspberries.

PROVIDED the conditions of soil and climate are favourable, raspberry canes may be planted from now onwards in ground that has been well dug and liberally manured. The R.H.S. recommend that planting should be done on Lord Mayor's Day, November 9th, and the canes cut down the first year on Candlemas Day, February 25th. Such specific limitations are unnecessary, as planting may be carried on throughout the winter in mild weather and the canes cut back to 12ins. or 15ins. either in February or at the time of planting. While the raspberry is not fastidious as to soil and situation, best results are obtained in medium loam and an open situation. In small private gardens it is a common practice to grow raspberries in a single line as a screen or dividing fence, but the system of growing the bushes in rows in bed or border also finds favour. In the latter case the distance between the rows should not be less than 4ft., and when planting the canes 3ft. to 4ft. apart the roots should be spread out to their full length. As is the case with the planting of roses, a little fine soil scattered over and around the roots has a beneficial influence on the root system. Various methods of training the canes are practised, and the reader can choose between the wire trellis and the practice of growing each plant on a single upright stake as is followed in field cultivation. Good varieties for summer ripening are McLaren's Prolific, an early cropper and free bearing; Storrie's Invincible, a large dessert fruit; and Superlative, a well known and desirable sort. These are all red summer-fruiting varieties, and if a yellow-coloured raspberry is wanted, either The Guinea or Yellow Antwerp is fertile and well flavoured. Lloyd George only succeeds in favoured localities north of the Tweed.—K.

Repotting Fruit Trees.

FRUIT trees that are grown and fruited in large pots require special attention. There is only a small space for the roots and their larder—the soil. The latter must be of the best quality, full of fibre, of a lasting nature. The drainage of each pot should be quite sound—that is, it must not be blocked by soil or the roots of the trees. Several times each year it is necessary to examine the drainage and especially in the autumn, when the leaves have fallen. Trees that are found to be pot-bound should be shifted to larger pots or be top-dressed if larger pots are not available. Deeper top edges may be made by placing hoop-irons there or by fixing broken pieces of pots round the sides and connecting the pieces with a cement mixture—1 part cement to 2 parts of fine sand.

When repotting a tree, provide clean dry pots and crocks. As there is not much space for soil, use as few crocks as possible, but let them be strong, hollow and carefully placed. Such will answer the purpose better than many crocks badly placed. On the crocks place some of the most fibrous of the turves; firm these with the potting-stick, then arrange the old ball of soil and roots on them and fill up with the general mixture, making all new soil quite firm. Do not use the potting-stick on the old ball of soil and roots. Remove the old crocks, of course. A good single handful of bone-meal to each bushel of chopped or pulled turves will be ample in the way of manure. Directly the trees are potted arrange them on a firm bed of ashes where the base is dry; pack dry ashes between the pots as high as their rims, then tightly pack short, dry litter on the surface of pots and ashes to a depth of 9ins. A few days after the potting, water thoroughly once or twice.—CHRISTCHURCH.

Treatment of Ripe Grapes in the Greenhouse.

FROSTS, fogs and stagnant atmospheres are very bad for grapes that are ripe and must be kept for a time on the vines. The varieties Muscat Hamburgh and Muscat of Alexandria require some artificial heat or the berries will decay. The variety Gros Colmar needs such heat, not only to prevent decay of berries but to get them well coloured, a task that sometimes tries the skill of very experienced cultivators. The variety Black Alicante will keep better than any other in a cool temperature provided the atmosphere is not constantly moist. If subjected to a high temperature after the berries are quite matured the latter will sometimes turn soft and even decay. On a bright, sunny day the top ventilators should be opened gradually to 4ins. in extent, and the house should be closed one hour before sunset, then the internal temperature will be raised several degrees. It is only necessary to have the pipes just "warm to the feel" with a steady fire banked-up at bedtime and the grapes should keep well. The following morning note whether there is condensation on the berries or whether they are quite free from moisture. If there is moisture on them, disperse it gradually by opening the top ventilator a little. If opened very wide the inrush of air would cause a chill and thus shorten the keeping qualities of the grapes. Path and borders must be dry on the surface.—HANTS.

A Note on Apple Stocks.

MANY readers will shortly be ordering fruit trees for planting this autumn and winter and no doubt some will be greatly puzzled by certain figures behind the name of the apples. For instance, Bramley's Seedling, Type IX and Type II. These figures refer to the stock on which the variety is worked. No doubt many readers know that the East Malling Research Station has, for a number of years, been examining and experimenting with fruit-tree stocks. The apple has claimed most attention, because it is the most widely grown of our trees and also because the different stocks have been segregated more than with the other fruits.

Until the Malling Station undertook the great work of classifying and testing apple stocks, we were accustomed to think of there being two classes of stocks, namely, paradise (for dwarf trees) and crab or free stocks (for large growing standards). It is true that some of our leading nurserymen had selected special types of paradise stocks of uniform growth and were working only on these, but often a batch of trees of the same variety worked on so-called paradise stocks, varied enormously in their strength of growth and cropping capacity.

When Mr. Hatton commenced his experiments, stocks were collected from every possible source at home and abroad, were carefully classified and after several years work with these stocks a list was published with full descriptions of the types found and notes on their value. Altogether some twenty different types of paradise were described, varying in vigour from very weak growers to some which grew quite as strongly as the crab. The most suitable types of these stocks are now in use by the trade and the figures referred to at the commencement of this note relate to the type of stock on to which the tree is budded or grafted.

The types in greatest use are numbers IX, II and I, and this note is intended to outline their characters as far as they influence the growth of the tree.

Type IX (Jaune de Metz paradise) is a very weak grower and therefore is much in demand for cordon trees and quite recently for very small bush trees in sheltered places. Its great value lies in its tendency (owing to its weakness of growth) to produce early crops. It is doubtful if it will remain in good healthy condition for more than twenty years, although I recently heard of a tree on this stock fifty years old. Of course, much depends on how the tree is treated with regard to manure, spraying, pruning and thinning.

Type II is a rather brittle-rooted stock, rather more vigorous than Type IX. Perhaps the most useful stock for bushes in amateurs' gardens, as it does not, under careful treatment, make too large a tree and it commences to fruit quite early in its career. It is scarcely suitable for exposed places, especially for strong growers, such as Newton Wonder and Bramley's Seedling, which are better grown on Type I (broad-leaved English Paradise), which is stronger in growth and has a better roothold for heavy topped trees in exposed positions.

I have, in writing this note, had in mind bush trees, for really bush and trained trees, such as cordons, espaliers and fan-trained trees, are, to my mind, the only suitable trees for the amateur to grow, unless he has a grass orchard.

To sum up—Type IX for cordons, Type II for bushes, especially in sheltered spots, and Type I for large bushes in exposed situations. Of course Bramley's Seedling (a very strong grower) will always make a far bigger tree than Stirling Castle (a weak grower) if worked on the same type of stock; in fact, I doubt whether Stirling Castle on Type IX would make sufficient growth to remain in health.—N. D. H.

The Rotation of Crops.

THE following general hints may prove useful to cultivators who have recently taken a practical interest in growing vegetables. If possible, you should ascertain what kinds of crops have been grown in the old garden in recent years. This would help very much. If it is a new garden, then a clear beginning can be made and you can crop according to a set plan to a great extent. It is rarely advisable to grow the same kind of plant on the same plot in two successive years. If they are quickly maturing subjects, even, an intervening crop of different character should be grown, and one that soon matures, too.

Fibrous-rooted plants, such as savoys and cauliflowers and the others which are included in the brassica family, should be followed by tap-rooted or bulbous plants, as the brassicas are great exhausters of the soil and should not be grown at all in a poor rooting medium, as they would not afford the cultivator an adequate return for his labour. Turnips, potatoes, carrots, beet and parsnips are suitable for following or preceding, preferably the latter, as their deep cultivation has a beneficial effect in preparing the soil for the brassicas. Surface crops, such as lettuce, onions and endive, may follow. Such crops as artichokes and asparagus, seakale and rhubarb should be left out of the rotation scheme, as it is advisable to prepare ground specially for them and in a specially selected part of the garden. Before any planting of these is done the ground must be deeply trenched.—GEO. GARNER.

Forcing Chicory.

THE first batch of chicory may be forced now. Forcing in the true sense is not suggested here, as all artificial heat can be dispensed with. So those who do not possess hot-beds or heated structures may obtain nice white chicory. Lift the strongest roots, twist off any foliage and then place the roots, almost touching each other, in deep boxes

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or in heaps of soil in cellars or sheds. Finely sifted soil is the best to use. One watering should be sufficient. Of course, chicory can be forced in boxes in the greenhouse, but a high temperature is not advisable as it does not conduce to good flavour. Darkness is essential to perfect blanching.—G. G.

Planting Horse-Radish.

HORSE-RADISH is a plant to keep in a special corner of the garden owing to the way in which the plant spreads to positions where it may not be wanted at all. Quite a small bed will, with reasonable treatment, produce a good many "sticks," as the roots are called. The soil should be deeply dug, and it is better that it should be on the light side. In the case of heavy land it is well to work in sand, road grit, etc., fairly freely. In soil of this nature horse-radish not only grows better, but it is much easier to dig up the roots. In making a new plantation the crowns may be planted a foot deep in holes made with a crowbar, the openings finally being filled with light rich soil. Another way is to plant the long, straight pieces of root, placing these in rows 18ins. apart, at intervals of 9ins. in the row. Before planting, the fibrous roots should be rubbed away, as long, straight stems without forks are the best. Horse-radish may be planted any time between November and March when the weather is open.

Apple Trees and Fungoid Disease.

AMONG fungoid diseases that attack apple trees, that known as canker is quite the worst. After the fall of the leaf, growers should examine their trees and take prompt measures to deal with the trouble if it appears. Although all kinds of apples are liable to canker, some varieties, such as Ribston Pippin and Lord Suffield, are much more prone than others. The presence of canker may be traced to various causes, such as wet and poor soil, abrasions of the bark, rubbing of the branches and, especially, from the wounds caused by the attacks of the woolly aphis. When planting time is on, it should be remembered that canker may be largely prevented by choosing suitable varieties, such as nurserymen would recommend, and the setting of the trees on soil of good quality which is well drained. If the appearance of canker is recognised at an early stage a good deal may be done by scraping the diseased parts and then making an application of Stockholm tar. Another plan is to rub the affected parts with a solution of sulphate of copper in the proportion of a quarter of a pound to every nine gallons of water. This method is best carried out in the middle of the winter. Where branches are very badly affected, the only way is to cut these right out, taking care to burn them, so as to destroy the spores of the fungus. When winter pruning is in progress, remove, or tie up, any branches which are tending to rub one against the other. If there is reason to believe that poverty of the soil has something to do with the appearance of canker, the following mixture, to be applied in mid-winter, will be found to be very beneficial: 6lb. of superphosphate, 5lb. of nitrate of potash, ½lb. of sulphate of iron, 2lb. of sulphate of lime, 1½lb. of nitrate of soda. Apply the mixture at the rate of 4 oz. per sq. yard.

MAKING A PROPAGATING FRAME

EVERY gardener feels the need of some kind of plant propagator. It is far more interesting to raise one's plants from seed and in some instances more satisfactory. Many amateurs possess a small, unheated glasshouse. It may be impossible for them to maintain a reasonable temperature owing to the fact that all day they are away at business. Recent articles have shown how many plants may be grown in such structures, for instance, many amateurs grow tomatoes in unheated houses, purchasing the plants when ready for final quarters. The use of a propagator would provide such gardeners with plants for greenhouse decoration or bedding purposes. To those who possess no greenhouse, a propagator of the form shown would be useful if the gardener also had a cold frame. Quite a simple form of propagator can be made from an old box, with half of one side removed (Fig. 1). Two battens are screwed to the end of the box. On these battens a strong zinc or iron plate rests. This plate has a hole in it and above is placed a tin (with lid) containing water, beneath is an oil lamp. The top of the box is covered with sheets (or one sheet) of glass. Round "shortbread" tins, 1in. or 2ins. deep, are quite suitable for water containers. With a lamp of suitable size, it is possible to maintain a temperature of 60 degrees in such a small propagator. Fibre, etc., is placed on the plate and pots containing seeds and cuttings are plunged into it. This arrangement, however, is rather crude and many amateurs will prefer to make something more worth while. Figs. 2 and 3 show propagators of which no gardener need feel ashamed and which will render very useful service, paying for themselves over and over again. A glance at the rough sketches shows their simple construction. The size, of course, will be determined by what the propagator is expected to do. A frame mounted on legs is made, into which is placed the "heating arrangement." The heater is the most difficult part to construct and in most instances it will be better to give the work to a local plumber or tinsmith, or to purchase a ready-made heating apparatus from firms who specialise in this kind of work. The type of heater required should be as simple as possible and should consist of lengths of ¼in. or ½in. copper tubing together with a T-piece which connects the lengths of tubing, and also a funnel-shaped arrangement with which the lamp is adjusted. A sheet iron or zinc trough, from 2-3ins. deep, is then made. The funnel or diminisher is unscrewed and T-piece and tubes soldered in trough. Two filling tubes are fitted into lid of trough and made fast. The heating arrangement is now ready. It should have been stated that the tubes from T-piece should project a little (three-eighths of an inch) through trough and all joints be made watertight. The rest is simple. The sketches make clear how the thing works. A lamp is placed under the funnel connected with the heating arrangement, the tank is filled with warm water—the lamp lighted and in a short time the temperature of the propagator will be at least 60 degrees. Just a word about lamps. The most suitable type of lamp is one with an incubator lamp burner. The great advantage of these burners is that they are *practically* fumeless. These lamps are now readily obtainable in various sizes from horticultural sundriesmen who advertise in this journal. Also, if a container that holds half a gallon of paraffin, is obtained, the lamp will burn for a considerable time. The burners are obtainable in all sizes from ½in. to 2ins. or 3ins. When all is fixed up, fibre, leaves, etc., are packed inside the frame, into which pots of seeds, cuttings, etc., are plunged. The end of the propagating case should have an outlet for the hot air. For use inside a cool house, Fig. 2 is useful; Fig. 3 may be placed in a light shed, or even outside. However, if used outside, the bottom of stand must be boarded round, with air holes left near the base, and a door fixed in order to adjust the lamp,

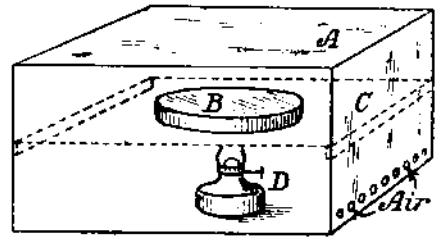

FIG. 1.

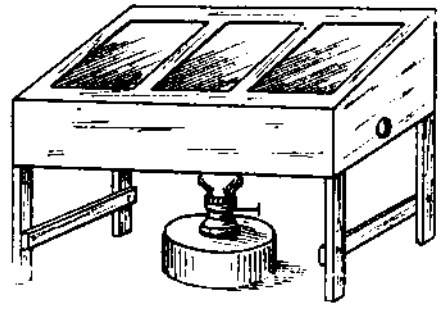
FIG. 2.

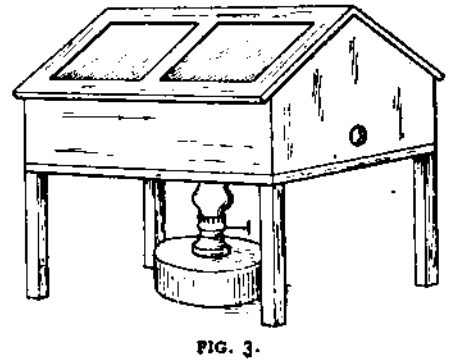
FIG. 3.

The uses to which these may be put are many. If the propagator be made 18ins. deep and no less than 4ft. 6in. long it may be used as a miniature greenhouse, and it will be found possible to force bulbs in it—a few pots at a time—thus keeping up a supply for the table. The size of the tank for a propagator 4ft. 6ins. long should be 2ft. 9ins. by 3ins. deep. This, heated with the lamp already described, should keep up an even temperature round about 55 to 60 degrees. An alternative plan is to make a tank 2ins. deep and let it go the full length of the propagator. For a tank 3ins. deep, the size of the heating tube must be half-inch; for one 2ins. deep, three-eighths will do. Copper is, of course, best, but brass or iron will answer. In such a structure as has been described the writer has seen bulbs forced for winter table decoration, and in a propagator of this type tomatoes might be raised, as well as many seeds requiring a somewhat higher temperature than the average amateur can maintain. A good many amateurs keep their greenhouse at a very high temperature during winter, with the intention of germinating seeds or propagating certain plants to the detriment of certain flowering plants (primulas, cinerarias, etc.). The amateur may easily work out dimensions of the propagator best suited to his own needs. There is no reason why two lamps or at any rate two burners, should not be used, and the propagator made into a miniature glasshouse for those who wish to force certain plants. PRACTICUS.

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, 20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with each enquiry.

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Diseased Madonna Lilies.

Kindly tell me what is the matter with the two Lilium candidum bulbs I have forwarded to you for examination. Apparently all fibrous roots have been destroyed. They are planted in a long, narrow border, where the bulbs are partly shaded by other plants. I also notice they were planted in sand. There are several clumps of this lily in the border, and in early summer they all appear of normal growth, but gradually begin to discolour in the leaves until they look all dried up. This trouble starts at one end of the border and there are two or three clumps at the far end which are not affected.—C. F., Scarborough.

The bulbs sent for our inspection are attacked by a fungoid disease, known as Botrytis cinerea. This lily is very subject to this disease, especially in such an adverse season as we have experienced. The foliage and stem are first affected, the disease in bad cases spreading to the bulbs. It would be unwise to plant them again, although you could lift and dry them for a few days, and then dust them thoroughly with flowers of sulphur before planting them on fresh ground. During the growing season you should try spraying with a solution of liver of sulphur, at the rate of one ounce to three gallons of water. A little soft soap added to the mixture would render it more adhesive. Do not cut off the old stems while they are green; as they dry up you can gradually cut them down.

Apples for a Small Garden.

I have a small garden rather enclosed, and am desirous of growing an apple tree. Would you please tell me how to prepare the ground; when would be the time to plant same; which kind you would recommend? I, personally, am rather disposed to try a Bramley Seedling, but do not know if they are self-fertile and also if the soil (which is clay, pure and unadulterated) would suit it.—E. P., Honor Oak Park, London.

The ground should be thoroughly trenched, and as you say it is a heavy clay, we should advise leaving it exposed to the action of the weather and planting in the spring. Incorporate some good loam and leaf soil when planting. In this case we advise you to plant your tree in the spring, but usually the autumn is the best time to do this. Bramley Seedling is only partially and rarely self-fertile. Self-fertile varieties are Stirling Castle (early, culinary), Early Victoria (culinary), Lord Grosvenor and Lord Derby. Allington Pippin and Worcester Pearmain are partially self-fertile.

Mealy Bug on Vines.

Would you kindly advise me as to the best treatment for mealy bug on a Lady Downes vine. I took over this place last year, and in the winter washing I scraped the rods in the usual practical manner and painted them once with Gishurst's Compound, then again with a mixture (which I had used years before with success on other vines) consisting of blue clay, tobacco and sulphur. I also washed all the woodwork of the house with caustic soda and removed about 4ins. of soil from the border. All the operations were done in their due season. I may say that the vines have been in a bad state for years, with vermin. Could you tell me of anything with which to spray the bunches that will not do any injury to the berries, as it seems the only way? I have tried methylated spirit, but I would like to take the sticky substance from the fruit. I am a gardener, but have never had such a bad experience of pests before.—J. D., Fife.

You have followed the right course in trying to get rid of the mealy bug on your grape vine. The trouble is that odd insects do escape the applied mixtures and then, in spring, when natural heat comes again, they soon increase in numbers. The only thing to do is to treat the rods with the Gishurst Compound again this winter, and to look out for and destroy odd insects that may be found next spring. It is not possible to apply any remedies to the bunches. You can only syringe them, when cut, with clean water. Try to prevent the mealy bug infesting the bunches.

Dying Back of Apricots.

I enclose a branch of an apricot tree on a wall here. The whole of the upper portion of the tree has shrivelled up and died, like the enclosed specimen. It began about three months ago. The lower portion of the tree and some of the side shoots seem unaffected. A red currant on the same wall has gone in much the same manner. Can you tell me the cause of this and what you recommend as a cure?—C. M., Yeovil.

The dying back of apricot branches is a trouble that has mystified gardeners for many years. At the present time there is still no definite cure or means of preventing their dying-back. It is generally found, however, that the stronger the tree grows the more liable it is to suffer; and again, the harder the tree is pruned the more prevalent is the die-back. Root-pruning in the first few years and light pruning of the branches seem to make for healthier trees, and it is essential that the border in which the tree grows should be well supplied with lime in some form or other. Whenever a branch dies back it should be cut clean away, beyond any dead or sickly part, at once, and burned. The death of the red currant branch is not likely to be due to the same cause. The branch should be cut out at once and a new young shoot trained up in its place. In practice it is best to remove the old branches in a red currant bush as soon as they show signs of weakening, taking out a branch every year so that the bush is continually being refurnished with young branches.

Treatment of Clematis.

In the spring I purchased two Clematis Henryi, planted them against a wall facing south, where they started off all right and each sent out about half a dozen buds which came to maturity, since which time all the leaves have dried up and dropped off. Now one is completely bare, and the other has broken into sickly growth at the top. What do you advise—to cut them down near to the ground, or to leave them to chance? I have a Jackmanni, on the same wall, which has done splendidly and is at the moment covered with flowers. Is Henryi of the same nature, or does it flower on the old wood? Is it likely to flourish on a wall facing south, or could you recommend another good white which would?—W. R., Ormskirk.

Clematis Henryi belongs to the Lanuginosæ section, flowering successionally on short lateral summer shoots. Pruning should take place in February, and consists of removing the weak, straggling and overcrowded branches C. Jackmanni belongs to the Jackmanni section, which thrives best when the previous season's growths are cut hard back during the winter or early spring. As a rule, a south wall is considered too hot for clematis—west or north-west is better; but we have had no hot sun this year sufficient to split the bark. Probably the violent winds have swayed the stems backwards and forwards, causing the bark to split, and there is probably also damage to the stem. The only hope is to cut the plants down to where the stem is sound and see if they will make new shoots.

Roses for a Hedge.

My neighbour and I have agreed to replace a well-grown dividing hedge of privet by roses. The ground is yellow clay and is at the back of the houses, which on that side have a south-south-eastern aspect. There is a laburnum tree near the middle which I have already lopped and a lime tree at one end which I intend lopping this October (both on my side of the hedge); indeed, the privet happens to be in my garden, as it was planted on one side of a low wooden fence (which has since disappeared). The hedge is now about 3ft. 6ins. high (after drastic cutting). I hope to move the privet soon and then to place in open trench a load of stable manure, to be kept exposed until rose-planting time in November. Would it be feasible to plant hybrid perpetuals of strong growth, and if so, would you kindly name varieties and number to be planted in 18yds. Alternatively, climbers have been mentioned, but these entail rustic work. On the other hand is it practicable to obtain a rose hedge which will present a pleasing appearance in winter. We are about twelve miles west of Kinder and the Peak District and stand about 300ft. above sea level. It is therefore somewhat exposed. One desire I have in mind and that is to grow really good roses for cutting, if that is possible. The beds on each side have a decided slope and this we hope to flatten somewhat.—T. H., Stockport.

As the roses are to form a hedge, we suggest the effect would be much more pleasing if you planted only one variety, either Gruss an Teplitz or Zephyrine Drouhin. These are perpetual flowering. We should not recommend hybrid perpetuals as they are not free-flowering enough. If you prefer additional sorts, plant also Frau Karl Druschki, Hugh Dickson, Prosperity, Pax, Moonlight, Vanity and Fellenberg. The bushes should be planted 3ft. apart for a hedge.

Maggots in Raspberries.

The fruit on my raspberry canes is very maggoty this year, and I have noticed that the wetter the year the worse the pest is. Books I have consulted describe the treatment for various fungoid diseases, as also for a stem-burrowing grub, but I fail to see any reference to the prevention of infestation of the fruit with larvæ.—A. S., Bradford.

It is almost certainly the raspberry beetle that is spoiling your raspberries. The beetle maggots (larvæ) feed in the berries and render them unfit for use. Unfortunately, no really satisfactory method of dealing with this pest has yet been discovered. Perhaps the best measure is to run fowls among the canes, since they devour the insects readily in all stages. Many gardeners find it worth while to tap or jar the canes periodically while in flower, causing the insects to fall within reach of the fowls. If this is impossible, the beetles may be shaken off the canes on to newspapers or sheets laid on the ground, and destroyed. Under experimental conditions spraying the open bloom—where the beetles are egg laying—with lead arsenate has given promising results, but it is open to objection, firstly on account of poisoning bees, and secondly because the length of the flowering period would render several sprayings necessary. Trapping in spring, when the canes are in flower, and the employment of fowls, seem the most useful remedial measures.

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THE GARDEN

VOL. XCI.—No. 2918. NOVEMBER 5, 1927. PRICE TWOPENCE.

SOME GOOD AUTUMN PLANTS IN A SMALL GARDEN

The Outcome of this Year's Experiences.

ONE of the most striking features in the little garden this autumn has been the gorgeous display made by the tall heleniums, which seem to have enjoyed the rainy season, for never have their flower-heads been larger nor their colours richer. They include Riverton Gem, deep red streaked with gold; the scarcely less brilliant H. autumnale rubrum, the fine yellow ones H. Gartensonne and Riverton Beauty and the newer Bronze Queen. A group of these heleniums combined with Rudbeckia lacineata—the single type, not the double variety which blooms earlier—and kniphofias, of which Mount Etna and H. G. Mills are two good recent introductions, with Rudbeckia speciosa, montbretias and perhaps some deep yellow chrysanthemums as front row plants, makes a glorious mass of colour in September and October, especially if seen against a background of dark shrubs. All the heleniums, including those of the dwarf pumilum and cupreum types, are invaluable for cutting.

As many Michaelmas daisies as space will permit are grown in the little garden. They include some of the best of the Novæ Angliæ, Novi-Belgii and amellus sections—among them Barr's Pink, Little Boy Blue, Little Pink Lady, Climax, Wonder of Colwall, Beauty of Ronsdorff, King George and Perry's Favourite—and room is also found for such species as Aster acris, whose pretty mauve flowers almost conceal the feathery foliage in October (the dwarf white variety of this is a very dainty thing, by the way); A. tradescantia, one of the latest to bloom; the Winchmore Hill variety of A. Thomsoni, A. corymbosus and A. diffusus horizontalis, the "Farewell Summer" of old cottage gardens, with its neat sprays of clean-looking tiny red and white flowers. Aster grandiflorus, the Christmas daisy, is here too in spite of the painful fact that in nine seasons out of ten its handsome violet-purple flowers are spoilt by frost. Both Pyrethrum uliginosum and the Boltonias B. decurrens (white) and B. asteroides (pale pink) occupy too much room for a small garden, but they are so useful for cutting when the rest of the autumn flowers are nearly over that they are allowed a place in an out-of-the-way corner without much sun where the pyrethrums, if not the boltonias, are quite happy. Far more suitable for a little plot of ground is the yellow ox-eye, Buphthalmum salicifolium. Its round, compact bushes have been a mass of gay yellow blossoms during the summer.

Clematis orientalis on a bit of wall behind the rockery has done well this season, and is still a sheet of golden blossoms like tiny lanterns, interspersed at this time of the year with fluffy, silvery grey seed-pods. It seeds itself freely, although the young plants are slow in starting. Close to the clematis on the wall is a good specimen of Cotoneaster horizontalis with a splendid show of scarlet berries in their setting of glossy green leaves, and another of that quaint shrub with grey-brown, white-backed leaves, Corokia cotoneaster.

On the rockery itself there is not much to note, but Crocus speciosus is thrusting its big purple-blue orange-anthered flowers up through patches of Campanula pusilla alba still dotted with some little white bells. Planted thickly under almost any of the dwarf campanulas, or of the saxifrages of the "mossy" class, this autumn-flowering crocus makes a most beautiful edging for a bed or border and deserves to be grown much more extensively than it is, especially as the bulbs are not expensive. The soft rose-pink of several colonies—mostly self-sown—of Cyclamen Neapolitanum makes other pleasant touches of colour, while the autumnal tints of Ceratostigma plumbaginoides (which, to quote Mr. E. A. Bowles, "we used to call Plumbago Larpentæ and were quite happy in so doing while we knew no better"), Berberis Thunbergii, the foliage of some of the hardy geraniums and Cassinia fulvida provide a stronger note. There are some good clumps of Sedum spectabile, too, but they have bloomed so late this year that we have missed the pretty sight of the Red Admiral butterflies feeding on the big pale pink flower-heads. Sedum spectabile Brilliant is a brighter pink than the type, and decidedly more attractive than S. s. atro-purpureum.

The autumn tidying-up which all gardens must have is specially necessary in a very small one which gets quickly overgrown. Annuals must be pulled up—their flowering season has been a long one in most cases—to make room for the spring bedding in which in this particular garden the gay little double yellow wallflower Harpur Crewe, grown from last year's cuttings, will be used freely, sometimes combined with mixed cottage tulips, sometimes with Myosotis Royal Blue or dark red polyanthus as a carpeting. Clumps of rampant-growing things, such as Senecio tanguticus, Campanula glomerata, Michaelmas daisies of the Novæ Angliæ and Novi-Belgii sections, most varieties of helianthus and the Japanese anemones will need drastic reductions. An exception is made in the case of Nepeta Mussini, the old stems of which are always left to protect the roots.

This Week's Work

For Gardens in the South and Midlands.

Plant out wallflowers, polyanthus and forget-me-nots.

Lift dahlias and gladioli and store in a frost-proof shed.

Plant gooseberries, currants, loganberries and all hardy fruit trees.

Tie up and train all climbers on walls.

Lift rhubarb and seakale for forcing, and make a sowing of broad beans.

Begin renovation work in the herbaceous border.

Clear up the rock garden and cut back overgrown alpines.

Provide protection for all tender plants.

Plant out May-flowering and Darwin tulips.

This Week's Work

For Gardens in Scotland and the North.

Dress established rose beds with basic slag.

Plant myosotis, sweet william and wallflowers.

Lift dahlia and gladioli roots.

Cut down border chrysanthemums.

Plant deciduous flowering shrubs.

Erect new arches, pillars and pergolas.

Transplant rhubarb roots for forcing.

Strike cuttings of black currants.

Plant dwarf, standard and rambler roses.

Begin alterations to borders and beds.

Continue planting daffodils and tulips.

Start trenching heavy land.

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ASTILBES AND SPIRÆAS FOR THE BORDER

NEVER before in the long history of gardening has there been such a wide variety of new hardy flowers from which planters might choose when preparing plans for the fast approaching planting season. Among these, few show such a marked advance as the astilbes, which, formerly somewhat on a par with the spiræas, now far surpass them in numbers, and beauty of colour, vigour and attractive foliage.

This remarkable development is largely the result, one may even make bold to write entirely, due to the introduction of the violet-crimson flowered Astilbe Davidii from China. Beginning by crossing this with Astilbe japonica and A. floribunda (Spiræa astilboides), so popular for greenhouse culture, the work of crossing, recrossing and selecting has gone on until to-day we have plants which in habit, colour and beauty, we should have described twenty to twenty-five years ago as impossible to attain, at least in such a short period of time.

Formerly associated more with the bog garden and waterside, the newer varieties of astilbes are fitted to take their place with the phlox, delphiniums and other hardy perennials in the mixed flower borders. The shades of pink and rose are a distinct and pleasing colour addition, the season of blooming extending from July to September.

For cultivation in pots the two early hybrids Peach Blossom (flesh rose) and Queen Alexandra (light rose) are well known. The newer hybrids are also very valuable plants for greenhouse decoration, the essential conditions, as with Astilbes japonica and floribunda, being abundance of water and liberal supplies of liquid manure during the growing season. If the conditions are at all dry in the greenhouse stand the pots in saucers of water.

Soil and Position.

The astilbes and spiræas are invaluable subjects for planting by the waterside, in the bog garden, in damp half-shady borders, and in the moist open woodland or wild garden. They are equally attractive and grand plants for the perennial and mixed flower borders, where they thrive and flower freely in well cultivated ground. The two conditions to avoid are a hot, dry, sandy soil and very chalky ground.

Few hardy perennial plants repay the grower better for the deep cultivation and manuring of the ground previous to planting. Follow this up with liberal mulchings of old decayed manure and leaf-mould, with soot or wood ash mixed in, if available, in early summer. Failing this, give plenty of weak liquid manure during the growing period to groups in the borders, and use the hoe freely. Especially is watering and hoeing necessary in dry weather, as few plants suffer more quickly from lack of moisture.

Astilbes and spiræas are very valuable hardy plants for the borders of small town and suburban gardens, in fairly light positions, but somewhat shaded or sheltered from the sun by houses and fences. They should be planted when the soil is cool and moist. The grower should liberally cultivate and manure the ground. Both spiræas and astilbes are readily

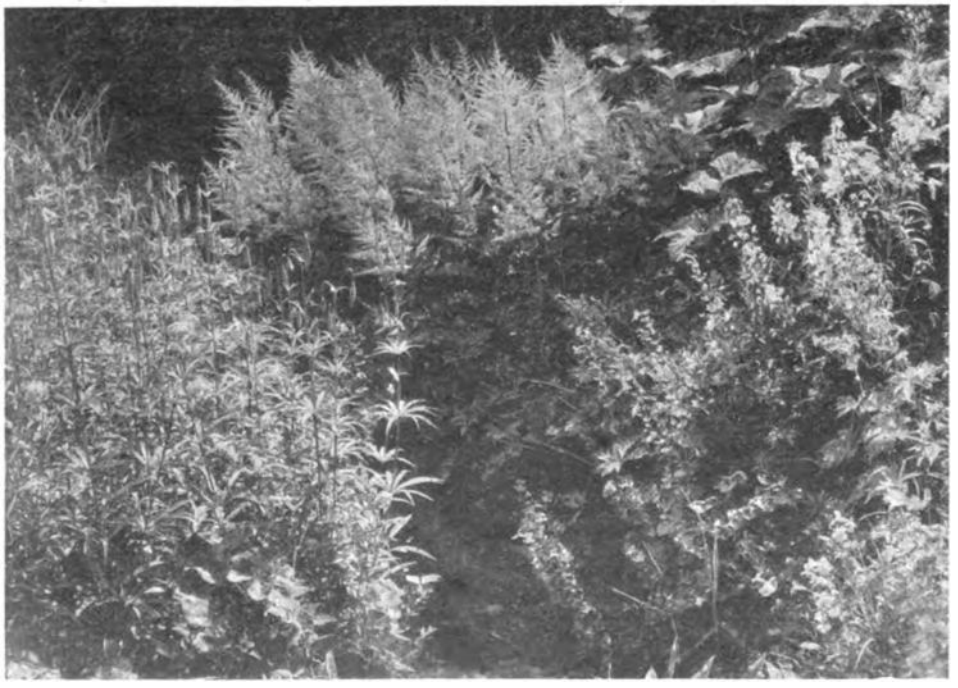
Increased by Division

in late autumn or spring. Planting and replanting may be carried on through the winter whenever weather and soil conditions permit, but in practice the best results are usually obtained when planting in the flower borders is completed by mid-November.

Planting in large groups and masses by the waterside and in the bog garden may be done equally successfully in early spring. The positions being naturally moist, there is not the same possibility of the plants suffering in the event of a dry spell in spring following immediately after the planting of the roots. The present-day race of new varieties of astilbes give a wonderful range of colours from pure white and creamy white through innumerable shades of pale and deep pink to rose, rosy crimson and purple.

The twelve varieties shown in the coloured illustration on the front cover of this week's issue include some of the best and most distinct of the newer sorts. Amethyst is a very distinct and beautiful astilbe with violet-purple flowers borne on strong branching panicles up to 3ft. or more in height. Granat is one of the brightest colours to date, quite a rich red, the plant 2½ft. to 3ft. high. Rubin is another effective colour, a rosy crimson, vigorous in growth, 3ft. or more tall. Grandis rosea magnifica is a tall variety with attractive deep green foliage and dainty pale pink blossoms on vigorous stems up to 4ft. or more in height. Its flowering season extends into September. Gunther is another tall-growing sort, the pink flowers a deeper shade than the last named on stems 3½ft. to 4ft. or more in height. Pink Pearl is one of the older but still indispensable varieties, a dainty pale pink, compact in growth and about 3ft. high. Professor V. D. Wielen is a very beautiful white variety, having immense drooping plumes of snowy blossoms, the plants in the rich moist soil of the bog garden reaching a height of 5ft. to 6ft. Salmon Queen, as the name suggests, has flowers of a light salmon pink shade, a pretty contrast with other sorts, and plumes 2½ft. high. Simplicifolia rosea is the result of crossing

ASTILBES ARE EMINENTLY SUITED FOR PLANTING UNDER TREES IN SHADY CORNERS OF THE GARDEN—



—AND ARE USEFUL FOR PLANTING IN BOLD CLUMPS IN THE HERBACEOUS BORDER.

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Astilbe simplicifolia with A. Arendsii. It has elegant foliage and sprays of dainty pink blossoms, useful and attractive in the rock garden or along the front of the mixed flower borders.

Other varieties of particular merit include King Albert, one of the giants of the family, from 5ft. to 7ft. high, according to position, with strong dark red flower-stems topped to a length of 2ft. to 2½ft. with pyramidal plumes of creamy white flowers. Siegfried is a dainty shade of rose-pink with dense flower-heads 2½ft. to 3ft. high. Betsy cuperus has elegant drooping plumes of pale pink and white flowers 4ft. or more in height. Meta Immink is a beautiful soft pink shade of colour, the flowers on dense spreading plumes 3½ft. high.

Asked to name a selection of six varieties, my choice would be King Albert, Granat, Professor V. D. Wielen, Siegfried, Amethyst and Gunther.

Though now rather overshadowed by the many new varieties of astilbes, several of the herbaceous spiræas or meadowsweets are indispensable in the bog garden and waterside. The most distinct is Spiræa palmata, a dwarf plant 1½ft. to 2ft. high with carmine-rose plumes; var. alba, white, and var. elegans, pale pink. S. Aruncus is a tall goat's-beard 4ft. to 6ft. high with massive creamy white plumes in July, very effective by the waterside. Also worthy of note are the double-flowered dropwort, S. Filipendula flore pleno with creamy white flowers which are useful for cutting; and S. venusta var. magnifica, a plant often 5ft. high with rich pink blossoms in July and August.

The heights given must only be taken as approximate, so much depends on the soil and other conditions. On very rich, moist ground a variety may grow 2ft. or more taller than the same sort in the sunny mixed flower border of ordinary soil. A. O.

A PLAN FOR THE HERBACEOUS BORDER

Practical Points on Designing and Planting.

PARADOXICAL as it may appear, the modern herbaceous border does not consist of a collection of herbaceous plants. Used in a strictly botanical sense the adjective pertains to or is of the nature of, herbs, having a soft stem that dies to the root annually, but in present-day parlance a much wider interpretation is applied to the term which is usually accepted as a convenient and comprehensive name for a mixed border of flowers, whose occupants comprise a number of herbaceous plants augmented by hardy biennials, annuals and other subjects that testify to its democratic character. This development has been beneficial in its effect, for it has been the means of enriching the colour display during a longer period of bloom, thereby extending the sphere of usefulness of the so-called herbaceous border and raising it to a height of popularity never before experienced in the world of gardening.

One of the attractions of a mixed border of hardy plants is its adaptability to variations of environment. Small and large gardens alike are improved by its presence and success is attainable in the colder regions of the north of Scotland, as well as in the genial climate of the south of England, provided that care is exercised in the selection of the plants. To the amateur who is endowed with enterprise and initiative and a little spare cash, it possesses great possibilities in the methods of treatment, and although changes may be made from time to time and losses made good, its claim as an economical proposition appeals to all classes. When the gardener can say "that bit is all wrong and that clump must be taken up, for the flowers that clash there will make another part of the border a joy," a long stride has been taken in the education and training which form a wonderful post-graduate course in the school of horticulture.

Among the factors which contribute to the success of all herbaceous borders are the preparation of the soil, the arrangement of the plants, and the adoption of a colour scheme that has for its object a harmonising and pleasing effect throughout the season. While the situation must also be considered, it is of secondary importance, because the wide and varied ranges of genera contains plants that thrive under conditions that exist in most gardens. Some there are which revel in sunshine, others prefer shade, some like wet ground, others are very tolerant of drought. A medium loamy soil that has been deeply cultivated is suitable to the general requirements of the plants, but as they are intended to occupy the same position for several years, the ground should be enriched by the addition of organic manure, chopped turf, leaf-soil and wood ashes. Incorporate horse manure with heavy soil and cow manure with a light medium because the cow manure is more retentive of moisture. All preparatory work is better to be completed a few weeks before planting, and when digging to a minimum depth of 2ft. the surface may either be left flat or gently sloped from the back to the front. In small gardens the width of the border may range from 4ft. to 7ft., but even the latter measurement would be out of proportion in a large garden where the broad turf walk is flanked by a long stretch of ground. There the herbaceous border sometimes extends to a width of 12ft. That, however, may be regarded as exceptional, and suggests that in the making of a new border, the breadth should have some relation to the length. Six or seven feet is an ideal width for the average garden and less than 4ft. is not desirable, as vigorous growing subjects would not be seen to advantage in such a narrow strip.

Opinions differ regarding the period of planting. Much has been written on the advantages and disadvantages of autumn planting, but when all is said and done the question can only be determined by climatic considerations. In the warmer southern districts, autumn or early winter involves little or no risk, but in cold and exposed districts, spring planting is preferable. Certainly this rule holds good in Scotland, where, owing to the cold, wet weather, it is safe to postpone planting until March. Before beginning operations the ground should be plotted out and the habit of the plants and the colour of the flower studied. Avoid overcrowding. Give every occupant room to develop without overlapping its neighbour, and see that no tall plants are placed near the front to screen the dwarfer specimens in their rear.

A BORDER WHICH IS BOTH WELL SITUATED WITH REGARD TO THE HOUSE AND WELL PLANNED.

A stretch of grass between double herbaceous borders is always effective.

Then there is another point which affects the arrangement and the choice and allocation of the plants. One of the first things the gardener has to decide when considering alternative plans is the system of grouping. Are the subjects to be planted singly or in groups that will produce broad splashes of colour? Admittedly a little bit of colour provided by a single plant never makes the same impressive show as that obtained by grouping a number of plants of one kind and colour, but common sense dictates that masses of colour should be reserved for expansive areas and the collection in a comparatively small border confined to single representatives. All plants, however, do not require the same space, and it is possible to effect a compromise by planting liliums, gladiolus, geums, montbretias, pentstemons, salvias, aquilegias and the like in groups of

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three, while single examples of the larger subjects—astilbe, phlox, iris, thalictrum, etc.—will suffice. In a large border the size of the clump should be regulated according to the space available, but with few exceptions, of which asters, erigerons, lupins, spiræas, certain forms of dahlias and papavers are typical. Three is recommended as the minimum number of plants in a group. Irregularity of size and shape should be the aim. Similar conditions apply to the dwarf collection forming an edging, but in arranging the number of each plant it is well to remember that several species increase rapidly, and after the first year are difficult to keep within their allotted space.

As some plants take a long time before their roots are firmly established in their new position in ordinary garden soil, amateurs are recommended to use a special compost, made up of the following constituents:—two parts turfy loam, one part leaf soil, one part decayed manure, supplemented by wood ashes, a few handfuls of sand and a 6in. potful of bone meal to a barrow load. Thoroughly mix these ingredients and place a layer of the mixture below and above the root system, then press it gently and fill up the remainder of the space with the soil that was taken out of the hole. This treatment means a little extra time and trouble, but is worth it.

The accompanying sketch represents a border 30ft. long and 7ft. in depth. It may, however, be adapted to suit larger or smaller areas without affecting the general arrangement or colour scheme. If a reduction of space is necessary the subjects at either end should be deleted, while the bed may be increased by the addition of other varieties or by augmenting the number of plants in individual groups, which would further emphasise the effect obtained by massed colouring. For instance, Salvia harbinger, Geum Mrs. Bradshaw, montbretias, the aquilegias and tritomas and the clump of Scabiosa caucasica would certainly be improved by enlargement, but the substitution of other occupants is not advised unless plants of similar colour and habit are available. The ground has been plotted on the basis of three plants to a group, except in the case of bushy examples, of which the peony, astilbe and Gypsophila paniculata are typical, and in these cases the allotted space will only accommodate one representative. On the other hand, it is not advisable to specify a fixed number of plants to form the various dwarfer groups in front, which are intended to be irregular in size and shape. Any arrangement should, however, give prominence to the end groups (Sedum spectabile and Heuchera sanguinea) and the central space occupied by Saxifraga purpurescens, and if narrower groupings are preferred, the surplus space may be occupied by clumps of Mrs. Sinkins pinks and catmint (Nepeta Mussini), or additional varieties of primula. The plants have been selected with the object of providing a succession of bloom from the flowering of the pyrethrum and aquilegia in early summer, until autumn, when the phloxes, artemisia and Michaelmas daisies are at their best. J. Y.

CLIMBERS for ARCHES, PERGOLAS and PILLARS

MODERN conditions associated with house-building and land charges prevent the gardener of to-day indulging freely in what we may call landscape gardening, but no one can deny that this is in great measure atoned for by the artistic use of arches, pergolas, pillars and similar erections adorned with flowering shrubs. These erections may be of wood, stone or iron; wood is undoubtedly best, but stone, in the hands of a man with an eye to beauty, is not far behind; iron is substantial and much more kindly to plants than most people think, while, when fully clothed in its flowering shrub, the stiffness which is its drawback almost entirely disappears.

Climbers may be planted in autumn—now—or in early spring; after a good winter, the autumn-planted stuff will prove best, but at times there is little advantage in hurrying things on. No matter when planting is completed, however, the site should be prepared at once. With due precautions concerning the safety of the erection, dig out a hole a yard square and 2ft. deep. See that drainage is efficient, for, remember, the shrub is to be there for a lifetime in all probability and a sweet, freely drained soil is an essential first step. Fill in a layer of stones and rubble, cover with turf or freshly-fallen leaves and then fill the hole in with a friable, rich compost. The basis of this compost must be a good loam, to which is added manure, but not excessively, sand or gritty matter, a little broken leaf-mould, a liberal dusting of old mortar or non-active lime, and a couple or three spadefuls of the charcoal ash refuse from a garden bonfire. Mix, fill in loosely if planting is not to be done just now and bank it up on top meanwhile. Get this done at once, a fortnight at the very least before planting, and let it settle. Purchase of a climber for the site should not be mere haphazard, send-off-a-postcard chance. Carefully think the matter over, study the blossom and its effect, consider the general appearance of the erection clothed in the climber. Order the plants from a good source, do not grudge a shilling or two to get "first quality," and see that the planting can be completed on arrival.

HONEYSUCKLE MAKES A MOST DECORATIVE CLIMBER FOR A GARDEN ARCH.

I should place roses first in my list of favourites. There are climbing tea, hybrid tea, hybrid musk, noisette, Wichuraiana, multiflora and other kinds to choice, and the following are a few of each in order:—Bouquet d'Or, Mme. Cochet, E. Hermanos, Niphetos, Gloire de Dijon and Mme. Butterfly; hybrid teas are more plentiful, including Chastity, Gruss an Teplitz, Climbing Ophelia and others; Moonlight, Wm. Allen Richardson, Lady Gay, Sander's White, Blush Rambler, Dorothy Perkins, Excelsa, Snowflake, Yvonne and Jersey Beauty; American Pillar, Goldfinch and Crimson Rambler; Climbing Caroline Testout, Mme. Melaine Soupert, Lady Hillingdon, Conrad Meyer, and many others. One may, indeed, please any taste in roses. The clematis is another popular shrub for such positions, and we may choose the rampant-growing montana, the sweet flammula or, the most common of all, Jackmanii; dozens of fine varieties could be named, but we merely mention a few like Gipsy Queen, Comtesse de Bouchard, Miss Bateman, Crimson King, Lawsoniana, Sensation, President, Kermesina, Lucie Lemoine and Fairy Queen. Leaving the above two extensive classes from which even the most fastidious buyer may find something he loves, we pass to mention equally common

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climbers, where the choice is more restricted. Ceanothus is a beautiful shrub and one may have such fine kinds as Mauve Queen, Gloire de Versailles, Mme. Simon or Topaz. The winter sweet, chimonanthus, is notable because it bears its yellow blossom in mid-winter, but it requires a warm spot. Honeysuckles are fairly good, especially the Dutch varieties, and some of the newer Chinese kinds. Pyrus japonica is also very fine and well known; Choisya ternata will do well in mild districts; the jasmines may include the common, the winter, the new Chinese and Lemoine's Pink hybrid; the passion flowers are very tender subjects and so, too, we may class the wistaria and its varieties; Polygonum baldschuanicum is well known and a rampant grower. It produces masses of pure white flowers in long panicles. It will ramble over an arch or old tree stump. H.H.A.

CHINA AND POLYANTHA ROSES

Hints on the Selection of Varieties for Present Planting.

THE China roses are, undoubtedly, the most perpetual of all roses, and they generally begin to flower in early June and continue until frosts put an end to the activities of all plants. It should be stated that China roses are not subjects for gardens where the smoke of large towns is a trouble to the grower. China roses resent a smoky atmosphere, but in gardens in country places they are beautiful things and grow, flower, and thrive well. I have seen many beds of these roses in various parts of the country, and in every case they have been really splendid. They are, pre-eminently, bedding roses, but many of the fine old sorts are now difficult to procure from nurseries as they have gradually been discarded. This is really a pity, because where a profusion of flowers is required over a long period for a show in bedding, the Chinas will hold their own with the varieties in any other section. The advance in the improvement of the hybrid teas, however, caused the attention of growers to be focussed almost wholly upon the sorts in that section, and the fine Chinas were neglected.

Of the sorts which survive and are still offered by nurserymen, there are several which are worthy of attention, and these are now noted. Perhaps the best known is the old sort called Common Blush. The colour is a blush pink. Hermosa, sometimes Armosa, is very closely allied to Common Blush, and is practically similar in colour. There were several beds of this rose at Balmoral Castle for many years, and the plants made a brave show. Cramoisie Supérieure is, to those who know it, still a great favourite. It has flowers of a deep, rich crimson colour, produced in great abundance. Irene Watts is a very sweet variety with its wealth of delicate rose flowers which are shaded with a seductive tint of salmon. Mme. Eugene Resal is another rose coloured sort with long tapering buds flushed with orange. Queen Mab is an extremely pretty thing with its soft rosy-apricot blossoms shaded with vivid orange. Mrs. Bosanquet is a very pale flowered variety, the blooms being a pale flesh colour. Mlle. de la Valette is one of the most lovely of the Chinas. The colour is a golden yellow flushed with coppery red. Titania is a companion to the latter. Titania has gorgeous little orange and crimson blossoms. Comtesse du Cayla, another very old China, is notable for its striking flowers of red, toned with orange and vermilion. Queen Mab, soft rosy apricot flushed orange; and Laurette Messimy, a charming rose coloured thing shaded with yellow, are now the pick of the old Chinas.

There are several roses closely allied to the Chinas, but these are not dealt with here, as it is questionable if they are now required in gardens when we have the hybrid teas. The most of the hybrid Chinas are evidently bred from hybrid teas, and many of them, I have observed, are inclined to take mildew badly. That is one reason for leaving them alone. In so far as the Chinas are concerned, it is well to say that they are almost immune from diseases of all kinds. They are grand, floriferous bedders, but, as already stated, they resent smoke. There are, nevertheless, many gardens in country districts where these roses might be employed more largely than they are at present. They are thoroughly hardy. Some of the Chinas are very strong growers and on that account are valuable for making hedges.

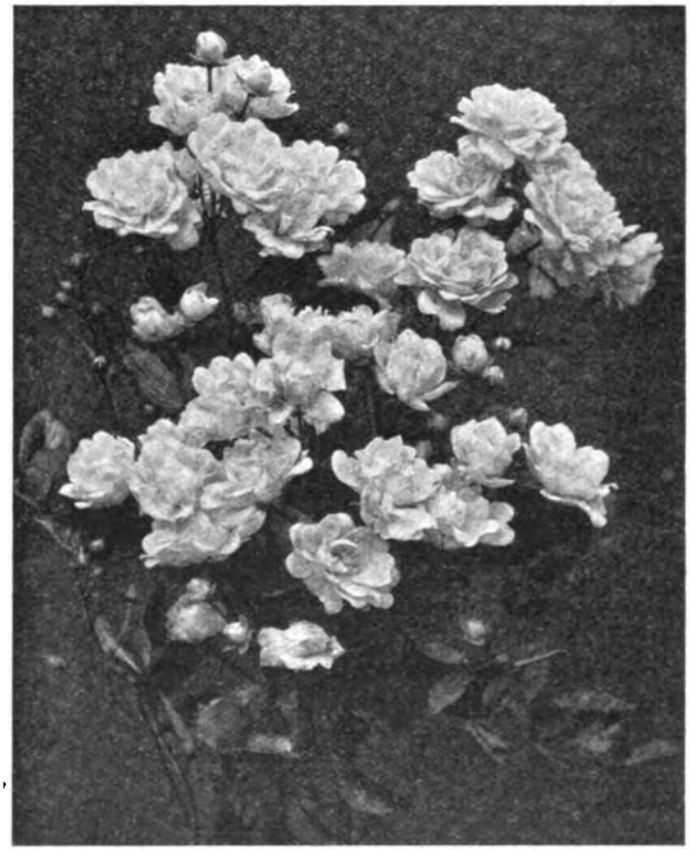
Rosarians are indebted the the late Rev. Joseph Pemberton for the re-introduction of the musks or musk hybrids, and practically all the best sorts sent out during recent years have been raised by him. I am convinced that the musk hybrids have a great future. In the average garden they can be used with great effect either for hedges or for planting in the middle of the beds as outstanding bushes. These stronger growing musks will, therefore, be dealt with when I write about roses for hedges.

One or two of the sorts recently raised are more of the bedding habit than the earlier sorts and these are mentioned now. Nur Mahal, sent out in 1924, although semi-double, is an attractive crimson rose. Penelope is another beautiful musk. Its flowers are a lovely shade of tender, shell pink, flushed with salmon. Aurora is a companion to Penelope. In Aurora we have a fine yellow rose of a wonderfully rich tone of colour.

The number of polyantha roses in commerce is now very large and they are introduced every year at an alarming rate, principally from France and Holland. Of the newcomers, however, few survive the trials they receive at the hands of the nurseryman. A marked change has come over the polyanthas during the last decade, and the original really dwarf type, like the old Gloire des Polyanthas, is practically lost. Originally of dwarf stature some of them are now as tall in habit as a vigorous hybrid tea. Else Poulsen may be quoted as an example. It is quite a good rose for the garden, and is, indeed, a wonderful flowerer, but it is too tall for association with other sorts. Raisers have got away from the standard and it appears to be no one's business to keep them to it. The N.R.S. may awaken to this fact some day.

There is a large number of polyantha sorts now in commerce that are simply sports from one of the older kinds, and the same sport, occurring in several places, will be found under another name in many lists. The trouble with these sports is that they are inclined to revert to the parent, and it is quite common to see, say, Orange King with one half of the plant with its typical orange flowers and the other half red.

Polyanthas are profuse bloomers, and are fine either for bedding where a display of dwarf growers is wanted or for making an edge to a bold rose border. The following kinds are recommended:—Eblouisante, a real gem with deep crimson flowers; Orleans Rose, cherry red with enormous trusses; Mme. Jules Gouchault, vermilion red; Yvonne Rabier, the best white; Coral Cluster, shell pink; Baby Tausendschon, pink shaded crimson; Orange King, bright orange pink; Mrs. Cutbush, deep clear pink; Perle d'Or, yellow and orange and an ideal polyantha; Erna Teschendorff and Edith Cavell, two good crimsons; Ellen Poulsen, bright rose; and Eugene Lamesch, orange yellow shaded rose. Leonie Lamesch, a very beautiful sort with coppery red flowers, is best grown by itself, as it will make a bush 3ft. or more in height. GEO. M. TAYLOR.



CORAL CLUSTER, A GOOD DWARF POLYANTHA FOR EDGING A ROSE BORDER.

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THE BUSY MAN'S PAGE

November Reminders.

THIS month may be regarded as the first in the garden year.

The soil should be deeply dug, trenched or ridged up when the weather permits. Ground that is to be planted in the spring may be manured.

Young fruit trees and bushes of all kinds should be planted.

Established fruit trees may be pruned according to their special requirements.

Distinguish carefully between the fruit-buds and the leaf-buds. Also remember that fruits are borne on the young wood in the case of black currants, peaches, nectarines, morello cherries, etc., and on the older wood in red and white currants, sweet cherries, apples, pears, etc.

Cuttings of gooseberries and currants may be inserted.

Prune and clean old vines.

Finish the lifting of such roots as carrots and beet. Parsnips are better left in the ground to be pulled as required.

A sowing of broad beans may be risked this month.

Rhubarb, seakale, asparagus and chicory may be lifted for forcing.

Provide protecting material for sheltering celery, lettuces, cauliflowers, etc., if frost should suddenly set in.

All kinds of deciduous trees and shrubs may be planted now, also bulbs and spring-flowering plants, such as wallflowers, forget-me-nots, etc.

This is the best time of the year to plant roses with the possible exception of teas, which in cold localities may be held over until March.

Provide stakes for outdoor chrysanthemums which are coming into bloom.

Holly and privet hedges may be clipped.

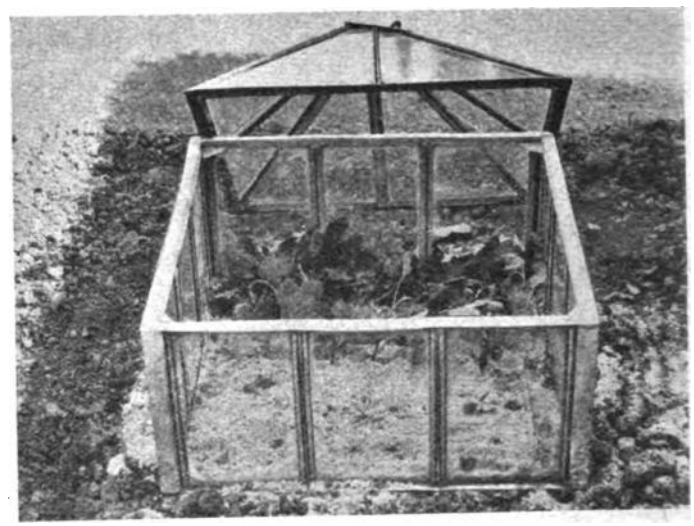
All climbing and wall plants should be carefully nailed or tied up, and old stems which no longer flower well and are bare near the ground may be cut out; but no other pruning should be done.

Complete the lifting of half-hardy bulbs and tubers, such as dahlias, gladioli, etc., and store in any frost-free and fairly dry place. The best way is to spread them out for a few days to dry after lifting, and then to cover with dry sand or earth.

Continue to give as much ventilation as possible in a glass-house or a frame. Only in foggy or very bitter weather should the structure be kept closed during the best hours of the day.

Arches, pergolas and other erections for climbing plants should be put up now, so as to give them time to settle before planting.

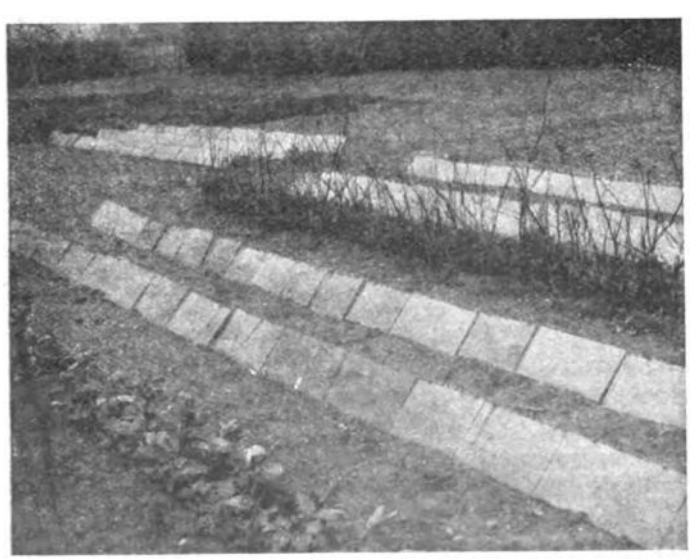
Leaves as they fall should be swept from paths and lawn and carefully stored for the making of leaf-mould or use in the formation of a hot-bed.



STRIKING CUTTINGS UNDER A HANDLIGHT.
These handlights can be used for many purposes.

Cloches for the Winter.

OUTSIDE the French gardens cloches are comparatively scarce, and yet they are very useful from mid-autumn until the advent of summer. What better method is there of guaranteeing a 100 per cent. rooting of cuttings of shrubs than by striking them under a cloche in the open? Larger sizes may be used to cover cauliflowers and continue the supply until late in the year. Lettuce may be grown on well into the spring under their care. Tender flowers are safe if covered by their kindly glass, and winter-flowering plants are beautiful when the cloche is employed to protect them. In spring seedlings may be safely raised in the open and plants grown on to maturity while yet they cannot be risked outside. Good crops of salads may be ensured with the cloche and some manure below it, and even in the greenhouse they can be used to cover individual plants and so make a greenhouse within a greenhouse. The older cloches are all more or less bell-shaped. The newer continuous cloche (Chase) is also very handy, particularly where rows of plants have to be covered or where seedlings are being raised. In essence they consist of a ridge of glass held together by wire, which can be laid neatly over the plants. Easy to handle, easy to store, and easily repaired when a part becomes broken, they have much to recommend them, and a few dozen soon repay the outlay necessary.



ROWS OF SEEDLINGS PROTECTED BY THE CHASE CLOCHE.
A handy and suitable cloche for protecting young plants.

Autumn Work in the Rock Garden.

IN order that the rockery may remain an attractive feature of the garden during winter and at the same time remain in fit condition for the plants therein, a sort of general overhaul is required this month. First of all structural alterations may be carried out; parts found to be wrongly designed, places which have given way in the stress of a wet summer and new additions may all be completed. After that has been seen to, take the garden shears and clip off all spent flowers. Not only does this lead to tidiness but it prevents seeds from becoming blown about where they are not wanted. At the same time there must be no hesitation in cutting back tufts which are inclined to trespass beyond their allotted area; this can be neatly done and the plants look tidy and under control. It is also a wise plan in many instances to lift dense tufts of foliage and dust underneath with lime or soot, or in bad cases with a soil fumigant, because various pests may find such places a happy home in which to pass the winter, and they must be discouraged. Choice alpines often resent stagnant water or continuously soaked soil round them. Remembering this, it may prove advantageous to take a handfork and loosen the soil in pockets which have been beaten hard in the recent spells of heavy rain. Chips of stone may also be wedged in the soil or placed round plants, not merely to promote the necessary drainage, but also to keep the plants in conditions they love, at least somewhat like the mountain side and moraine conditions. Many take the opportunity to mulch the pockets of soil at this time, but in some cases it is better to wait until spring before top dressing the rockery. A pile of loam is built up in the shed; to this is added well-rotted manure, teased out fine, and sifted leaf-mould. Coarse bone meal is also good when manure and mould are not too plentiful. Smaller heaps containing much lime in one instance serves for dwarf wallflowers, androsaces, arabis, etc., and, in the other, peat is employed almost alone for heaths and dwarf rhododendrons. This compost, filled into pails, is carried to the rockery and pressed firmly round plants. Clear away all drifts of fallen leaves; not only do these harbour various kinds of pests, but, when once thoroughly soaked, they never really become dry again and rot out the plants underneath. It may be necessary at other later dates to repeat this very important task, as fallen leaves are a danger among small plants. Overhead protection in the form of sheets of glass may be given to plants exposed to rain. Small pieces of mat will save many a plant apt to be ruined by strong sunshine after frost. Half-hardy roots ought to have a mulch of sand or fine ashes, and a handful of ferns may save something choice if applied in time.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Autumn Fruit Planting.

AUTUMN tints are showing. This should remind us that the planting time for trees and shrubs has arrived. Sap is moving, scars are being hurriedly sealed over with layers of cork, and root activity is being reduced. Autumn is the best planting season, and a spell of fine autumn weather works wonders with newly planted trees. What fruit to grow in the average home garden is a common problem. It is sometimes thought that acres of land are necessary for fruit culture, but this is not so. But in a small garden it is important to select suitable kinds of fruit.

If I were the owner of a small garden of five or seven rods, I should select the following: Twelve black currants of a good variety, like the Baldwin—this because black currants (fruit) are dear to buy and easy to grow—four loganberries, again easy to grow, and very useful for training over fences or sheds; four bush apples, two James Grieve for dessert and two Bramley's Seedling for cooking—these two flower at about the same time and would pollinate each other, thus ensuring a good crop; twenty-four raspberries, preferably Lloyd George, which is both a summer and autumn cropper; twelve gooseberries, six Whinham's Industry, red, and six Golden Drop. I should also grow one Morello cherry as a wall fruit. Plums and pears I should leave out, as both are uncertain croppers, especially in a small garden.

I do not suggest that fruit should monopolise all the garden, and, of course, there are many other excellent fruits which might be grown; but the amateur's difficulty is to know what to ignore.

For the larger garden the following are all reliable varieties:

Apples.—Dessert: Beauty of Bath, August (plant with others to ensure pollination); James Grieve, September-October; Cox's Orange Pippin, November-January (plant with others). *Cooking:* Grenadier, August-September; Rev. W. Wilks, October-November; Newton Wonder, December-May. These six apples should give a continuous supply of fruit from August to May.

Pears.—Jargonelle, August (this does well on a north wall); Williams' Bon Chretien, September; Louise Bonne of Jersey, October. Pears as a rule do not crop so well as apples, and this should be remembered when deciding what fruits to grow.

Plums.—Cooking or Dessert: Czar, early August; Victoria, September; Late Orange, October.

No time should be lost in ordering fruit trees. Order from a reliable firm and preferably one with a reputation to keep up.

Preparation for planting.

Preparation of the sites for fruit trees and bushes should be started at once. For trees, dig a hole a yard square. Thoroughly break up the sub-soil, and mix with it a few forkfuls of decayed manure, a couple of handfuls of bone-meal, and a spadeful of lime or mortar rubble. Leave the holes open to allow sun and air to weather the soil until the trees arrive. Examine the roots of the tree. Cut away bruised pieces with a sharp knife before planting. Use the soil mark as a guide for the depth to plant. Water if the soil is dry, and do not plant when the soil is either very wet or frosted. Prune the shoots half-back a couple of months later. Bush fruits are best planted in rows, using a line as a guide. Plant raspberries, currants and gooseberries 3ft. to 6ft. apart each way. Loganberries grow rapidly, and a strong plant will cover 20ft. of fencing in a season.

Treatment of Garden Steps.

IT is not difficult to produce an artistic setting for the few steps which often have to be constructed where one part of the garden is on a different level from the rest. Most gardeners can contrive to clothe the step-sides where these are in full sunshine, for such plants as arabis, cerastium and mossy saxifrages find a natural home in the crevices between stones or bricks. But in the garden shown here the steps are in a very shaded position. Two stone vases are planted with funkias, whose broad leaves are a constant joy all through the summer months. Ferns on the sloping banks at the side are quite at home in this position, and grow luxuriantly. A tree stump at the lawn edge has been thoughtfully allowed to remain, and been covered with ivy. Such an approach to the flower-bordered strip of grass adds greatly to the beauty of this small garden.

AN ARTISTIC SETTING FOR GARDEN STEPS. FUNKIAS WITH THEIR HANDSOME FOLIAGE OCCUPY THE TWO STONE VASES.

Plants to Treat with Respect.

NOT long ago I heard of an amateur gardener who had bought some peonies, planted them, watched them make their leaves during one season, and then had dug them up to see what was the matter with them because they had not flowered! He had not yet learned the lesson that flowers, like some human beings, cannot be hurried, but must be allowed to develop in their own way. Peonies resent disturbance. When once they begin to flower they should be watched, and not moved until they show signs of deterioration or overcrowding.

Another plant which likes to be left severely alone when the rest of the border is going through its triennial renovation is the Oriental poppy. The roots of this plant are fleshy and are very easily broken. In fact, it is almost impossible to lift one, even with a good ball of soil, without doing damage to the roots. The result is that even if flowers do appear the following season, they are poor in comparison with the flowers on plants that were left undisturbed. Madonna lilies and Christmas roses are also plants which like to remain unmolested for fully six years at a time. The latter may be lifted and divided now, if this is necessary, but it will probably not bloom for a couple of seasons after this treatment.

Multi-coloured Border Edges.

IN a moist situation, with a rich loam, such as they delight in, the St. Brigid anemones will thrive and increase from year to year. These delightful flowers with their extraordinary colour variations, make excellent edgings to borders in places where they are allowed to grow undisturbed. A shady situation, such as that beneath a light pergola, will suit them as well as a sunny one, and as the blooms make good cut flowers they are doubly useful. They are not altogether hardy, and a little protection from frost is beneficial during very cold spells. Leaves, ashes or dry litter would give sufficient protection.

On a north border, the scarlet windflower, Anemone fulgens, would do better than the St. Brigid anemones. They are more hardy, and will make a brave splash of colour in the sunless border. Both these fine anemone may be planted now, from 2ins. to 3ins. deep and from 3ins. to 4ins. apart. If they are to be planted on soil which does not retain moisture, a good layer of farmyard manure, or leaves placed a foot below the soil surface will help them. In any case, the subsoil must be well broken to ensure good drainage.

Preparing for Early Rhubarb.

DURING early spring, when fruit is scarce, only those who are fortunate enough to possess a store cupboard of bottled fruit can enjoy their own garden produce in their pies and tarts. Then it will be that we shall watch eagerly for the first few sticks of tender rhubarb. Now is the time to ensure that the rhubarb shall be early and up to quality. Clean up the beds, remove the dead leaves from the crowns, and give a good dressing of leaves and manure over the tops. This will keep them warm until growth commences, when cloches or other coverings can be put over the plants to force early growth.

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THIS WEEK IN THE FLOWER GARDEN

An Evergreen Flowering Privet.

ALTHOUGH the privets are commonly grown for their foliage, there are a few species which form really attractive flowering shrubs. Probably the best of these is Ligustrum lucidum, which is worthy of a much wider cultivation than it secures. The shrub is evergreen, has dark shining leaves and forms a large bush, upright rather than spreading. In September the panicles of white flowers are produced on a generous scale just when flowering shrubs are scarce. L. lucidum is perfectly hardy and has proved itself to be a very good subject for the town garden. There are several varieties with variegated leaves, of which that known as aureo-variegatum is perhaps the best. On the whole the type is the most desirable, for it flowers much more freely than the other forms and its shining leaves are pleasing throughout the whole year. This privet succeeds best in a loamy soil, although it is very accommodating. To secure a vigorous growth it is important before planting to dig the soil deeply. Take special care to spread out the roots well and tread the soil down firmly. L. lucidum is not a difficult plant to propagate, and cuttings of well ripened wood may be taken in the autumn and winter and set in sandy soil. These may be placed out of doors, but much more certain results are secured if the cuttings are kept in rather a close frame for a time. When the cuttings have rooted pinch out the tops in order to encourage the development of a bush-like growth.—L. B.

IN THIS ATTRACTIVE FRONT GARDEN EXCELLENT USE HAS BEEN MADE OF FLAGSTONES FOR A PATH, AND ALSO AS A CLEAN EDGING TO THE BEDS AND THE LAWN.

Trees and Shrubs for Thin and Chalky Soils.

IN a general way trees and shrubs of nearly all kinds thrive best on a well worked loam. Thin soils, especially on chalk, are much more difficult to plant successfully. In such cases it is important to select subjects which have been proved to be suitable. In planting these it is well to break up a few inches of the chalk and place manure on it. Surface dressings of manure will be very helpful and these should be put on in the autumn every year. Here is a list of plants which will succeed in thin soil :

Trees.—Acers (maples), copper beech, mountain ash, Pyrus floribunda, almonds, peaches, cherries, thorns of all kinds, laburnums, catalpa, holly.

Shrubs.—Berberis, box, spiræa, brooms, kerria, mock orange, ribes, euonymus, St. John's wort, lilacs, viburnum, Magnolia conspicua, sumach, laurels, acuba.—L.

Flagstone Edges to a Lawn.

THE edges to a lawn are a problem to the busy amateur, and should the plants on the border encroach over the grass it is soon spoilt. The idea of using flagstone, as shown in the illustration, is an excellent one provided that the stones are not raised above the grass. Square pieces are used in this example, but odd-shaped stones will do equally well if they have one straight side to face the border.

A Dwarf Juniper for the Small Rock Garden.

Juniperus hibernica compressa.

A GOOD rock garden is incomplete without the presence of at least a few of the dwarf-habited shrubs and trees, forms of taller subjects. One of the most delightful of these is Juniperus hibernica compressa, the dwarf form of the Irish juniper. It has been long in cultivation, but no doubt its price has stood in the way of its acquisition by many amateurs of limited means. It still remains a choice subject, for which a charge of about five shillings is made : but it must be said that it is worth the money, especially when we consider that plants on their own roots take a good while to attain a saleable size. At most this juniper grows little more than an inch in a year, and it never attains a stature making it unsuited even for the small rock garden. It is exceedingly pleasing and attractive, with its small shapely columns of blue-green foliage, so shapely as to delight everyone. It is not difficult to grow in the rock garden, but I consider that it is liable to suffer somewhat from drought if in too dry a position. It is thoroughly hardy.—S. A.

Perennial Larkspurs to Plant Now.

THERE are several species of these stately plants, but it is with the garden hybrids and varieties that will be dealt with in this note. The wonderful creations of recent years are not to be compared with the larkspurs of thirty or forty years ago. The grand spikes smothered with flowers of perfect form and wonderful size are only one side of the flower's progress. It is in the magnificent shades of colour that we find cause for astonishment and admiration. There is represented every shade of rich purple and violet, every grade of blue from the very deepest to the palest of Cambridge blues ; then there is every mixture of mauves and lilacs. As a contrast to these rich-coloured kinds we have the wonderful range of varieties with white and creamy flowers.

Most soils, provided they are not too retentive, will grow them. It is important to dig deeply and to incorporate with the soil a generous supply of decayed manure. If the soil is heavy it may be rendered serviceable by the addition of leaf-soil, sand, wood ashes or any substance which will increase its porosity. In the case of a very light soil it may be improved by the addition of cow manure. Autumn is the best time to prepare heavy soils, but for soils of a lighter nature spring digging will do. Planting may be carried out in autumn or spring, but my long experience with these plants leads me to recommend spring planting. The plants must be well protected from slugs and snails by placing rings of soot and ashes round the plants, as these pests are very fond of the young growths. Old-established plants have a tendency to die off in the centre, therefore it is advisable to lift them every four or five years. The opportunity then occurs to divide the plants and increase the stock, and also to take cuttings if desired. Secure the latter with "heels" of the old growth attached, and insert in sandy beds under hand-lights. This operation, of course, takes place in spring. Delphiniums may also be raised from seed sown under glass in February or in spring in the open. In the latter case care must be taken to ward off slugs and snails, or the seedlings will soon be eaten off. Delphiniums should always occupy an open position.

There are now so many beautiful varieties that it is difficult to say which are the best. The following, however, will be found excellent : King of Delphiniums, indigo blue suffused plum blue ; Millicent Blackmore, blue and mauve ; Norah Ferguson, light blue flushed with mauve ; Rev. Edward Lascelles, rich violet blue ; The Alake, deep purple blue ; Lizzie van Veen, Cambridge blue ; Mrs. Townley Parker, sky blue ; Queen Mauve, pure mauve ; and, among the famous Wrexham strain, such varieties as Monarch of Wales or Joybells are most decorative.—F. M. H.

Diplacus glutinosus for a Sunny Wall.

THIS is a shrubby member of the musk or mimulus family, and, although well known as a greenhouse subject, it is not often met with outside. At Castleford, Chepstow, a plant has flourished at the base of a sunny, warm wall for several years. During frosty weather it receives the protection of a straw hurdle, and occasionally the growth is killed back to the old wood. In the spring, however, it makes rapid progress, and soon recovers

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lost ground. Mild winters hardly affect it, and after such a season the plant is very showy, and covered with flowers the greater part of the summer. D. glutinosus is a native of California, and the colour of the flowers is a buff orange, while the varieties coccineus and Sunbeam are a richer shade. These two forms are not such a success outside, but in sunny situations both are particularly bright and effective. All are readily increased by cuttings, and good-sized specimens are often employed in the scheme of bedding, or mixed flower beds, so much in vogue in many districts. If grown as a greenhouse plant, it requires the same treatment as is meted out to fuchsias.—T. W. B.

Plants for the Shrubbery Front.

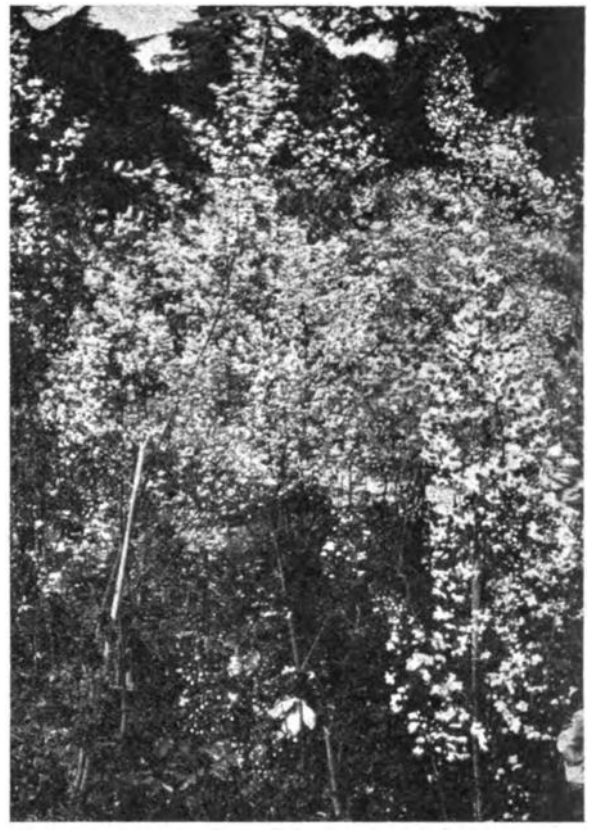
A PLEASING effect may be obtained by planting certain flowering plants among and in front of the foremost occupants of the shrubbery. In the case of newly planted shrubberies there will be vacant spaces for several seasons if due regard has been paid to the future development of the various subjects, while, where space is limited for the cultivation of border plants solely, certain kinds, being specially suitable for associating with shrubs, may be allowed to remain indefinitely. Established clumps of tritomas are responsible for brilliant flame-like splashes in many shrubberies, and flag irises are equally at home there. To get the best results these should be placed so that when in bloom they harmonise with the shrubs flowering at the same time in close contact with them. There are various lilies that may be used similarly, Lilium auratum being particularly attractive, while groups of tigrinum, pardalinum, elegans and chalcedonicum are very effective when in bloom. Tree lupins, too, may be regarded as permanent tenants of the shrubbery. Peonies, delphiniums, hollyhocks, Oriental poppies, Japanese anemones and rudbeckias may be introduced to fill empty spaces while the shrubs are developing. Discrimination must, however, be used when planting, otherwise it will be found necessary to remove many of the plants before they have had time to develop fully in consequence of the shrubs taking up more space than was contemplated when planting. The latter must not be unduly restricted for the benefit of their temporary associates. As an edging to the shrub border polyanthus are most effective and they flourish even in semi-shade.—C.

POLYANTHUS PRIMROSES MAKE AN ATTRACTIVE EDGING TO A SHRUB BORDER IF PLANTED CLOSELY.
Other subjects can be planted among the shrubby inmates.

An Attractive Meadow Rue for the Border.

Thalictrum dipterocarpum.

AMONG plants suitable for the herbaceous border this meadow rue can safely be placed in the first fifty, for it is indeed a most beautiful subject. It was introduced by Messrs. J. Veitch and Sons from western China, where it was found at elevations of 4,000ft. to 5,000ft., and there is no question about it being hardy in this country. It somewhat resembles T. Delavayi, especially in the pretty glaucous green, fern-like foliage; but the tall, graceful panicles exceed in height those of the species mentioned. The flowers are numerous, being a lavender mauve with prominent yellow stamens. When well grown this plant will reach 6ft. in height, but the average length when in flower is from 4ft. to 5ft. Much depends on the soil, and the best results are secured from a deep loam, although some recommend a more or less stony root-run. No one, however, need fear planting it in the average border, and it is worthy of being planted freely in the reserve garden for cutting purposes, its light and graceful spikes rendering it extremely attractive, both for the dwelling-house and exhibition purposes. Plants can be obtained at a reasonable figure, and a profitable method is to raise a batch from seeds. Last March a few seeds were sown which soon germinated in a cold frame, and in September the best of the plants were beginning to flower in the open ground. Naturally, they are only 2ft. high, but next year will show a considerable improvement. The normal flowering period is August for established plants, and they remain in full beauty for several weeks. Moreover, they set a good crop of seeds, and the word "dipterocarpum" refers to the flattened winged-like appearance of the ripe seed-pod. It is a perennial of the first water, and I have a few plants that have annually produced their spikes for the last eight years.—B.



THE BEST OF THE MEADOW RUES.
Thalictrum Dipterocarpum, an admirable plant for the herbaceous border.

Perennial Flax.

THE perennial flaxes (linum) are most useful for the front portion of any dry, sunny borders and they are sure to succeed even in the most ordinary garden soil. In a mixed border, groups of from six to a dozen are really very effective as the flowers, which are freely produced, present a variety of very gay colours. All these flaxes are easily propagated by the division of roots in the autumn or by seeds sown in the open border in the late spring. The best kinds for ordinary purposes are as follows. L. perenne, a very graceful plant which grows to the height of about 18ins. and produces quantities of pale blue flowers in June and July. There are white and rose coloured varieties of this form. L. flavum, with yellow flowers, grows about a foot high and will remain a mass of golden blossoms for a long while. L. narbonense has very fine blue flowers which are borne in great profusion. L. arboreum is shrubby in habit, although the plant does not grow more than about 18ins. in height. In a warm, sunny position, this species will become covered during the summer with yellow blooms.—L. B.

A Decorative Viburnum.

THE genus viburnum is composed of many different species, which vary greatly in appearance. Viburnum rhytidophyllum is, however, one of the most singular, on account of its handsome foliage. The evergreen leaves which are deeply channelled and grooved, are of a dark, shining green and often become as much as 8ins. in length and 2½ins. in width.

Large panicles of creamy white flowers develop at the extremities of the shoots and these are succeeded in the autumn by fiery red berries which persist well into the winter.

The plant succeeds well on a sunny wall; it may also be grown as a bush in a sheltered position. Little pruning is needed with the exception of the removal of sufficient shoots to keep it in shape. A light, well drained soil should also be provided, as it is detrimental to its well being for its roots to be in a water-logged soil in the winter.—G.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

"THE best laid schemes o' mice and men gang aft agley," and when the old saying is applicable to garden work it is generally the weather that is to blame. When writing about the lifting of dahlia tubers and gladioli corms one could hardly anticipate a three weeks spell of glorious weather in October, which, by prolonging the period of bloom beyond the normal season, upset all calculations and interrupted routine work in the garden. The change came on the morning of the 20th, when nine or ten degrees of frost were registered in exposed situations. A few favourite flowers that had contributed to the gaiety of the autumn display survived the ordeal, but succumbed when exposed to the low temperature on the following night. This sudden passing of the season's bloom naturally created mixed feelings in the heart of the gardener, for, although the combination of autumn tints and the rich colourings of the dahlias, roses, phlox and gladioli produced a charming picture that delighted the onlooker, there was the desire to overtake the arrears which had accumulated by reason of the mild weather. There is nothing now to prevent the amateur from undertaking the work of "redding up" his beds and borders and transferring his plants to a place of safety for the winter.

Altogether it has been a most remarkable season. Roses blooming freely so late in the year is by no means unusual, but it is surely a rare experience to see the noble spikes of gladioli clad in a floral garb in the third week of October. The primulinus hybrids have been prominent in that respect, and the art shades of salmon, pink, yellow and orange were probably appreciated and admired more than was the case in late summer. A few weeks ago an English raiser of roses paid tribute to the free-flowering qualities of the new dwarf hybrid polyantha Kirsten Poulsen in autumn, and here in Scotland it has maintained its good reputation until near the end of October. This beautiful seedling from Orleans deserves a place in every collection. It was first exhibited in 1926 by Messrs. James Fairley and Co., Cairneyhill, Fife, and its large trusses of vivid scarlet with golden anthers carried erect on stiff stems commanded unusual admiration. There is no other variety of polyantha to compare with it for brilliancy of colour, and, apart from its decorative value in the garden, the flowers keep well in the cut state. Some rosarians are rather prejudiced against the polyantha species generally, but if they could only see a bed of Kirsten Poulsen, or when grown as an edging to a rose border, they would probably modify their opinion.

While writing on the subject of roses, it may not be inappropriate to mention the beneficial effects of basic slag when applied at this season as a surface dressing. This by-product obtained in the manufacture of steel is a cheap phosphatic manure and, being slow of action, may be safely used at the rate of three or four ounces per square yard. The manurial efficiency of basic slag depends in great measure upon the fine quality of the powder, and next to the percentage of phosphates that is the most important consideration.

It is a common practice among amateurs who do not raise biennials from seed to delay the planting of wallflowers, sweet william and myosotis until spring. They justify this procedure on the ground that it minimises the risk of loss or injury sustained during severe weather in winter, but they overlook the effect of similar conditions in March before the plants are established in their flowering quarters. In any case, the bloom of late-planted biennials, whose season is associated with the months of April and May, is seldom so satisfactory as that produced by the seedlings that were transplanted in autumn. As all the members of that popular trio are presently on sale at local nurseries, they may still be planted either by themselves or in combination with bulbs. The cultivated forget-me-not makes a pretty edging to a bed of early tulips, daffodils or wallflowers, and its decorative usefulness is accentuated when employed as a carpeting in a spring bedding scheme. A great advance has been achieved in size and colour of sweet william, and when planted in clumps or as an edging to a mixed flower border the salmon pink and scarlet forms brighten the garden in early summer when the spring flowers are over.

Any spare time in November may be put to a profitable use by allotting an hour or two in the rapidly shortening day to such practical operations as the digging or trenching of heavy land that has a tendency to retain stagnant water. A clay soil is invariably wet and cold, two conditions that are resented by, and sometimes prove fatal to plant life. Some classes of vegetables may succeed in a medium of that kind, but flowers and fruit are never happy. Some writers advocate early spring digging as the most beneficial for plastic ground, but I consider that the advantage lies in late autumn or early winter tillage, which leaves the surface rough or in ridges. The broad principles which govern the management of farm land for the production of potatoes and other root crops are equally applicable to garden ground where vegetables are to be raised, so that the procedure to be adopted by amateurs during the coming weeks is to prepare the soil by deep digging and manuring. This method is also suitable for the cultivation of certain flowers, such as dahlias, sweet peas, peonies, iris, delphiniums and all herbaceous plants which benefit by the breaking up and porosity of the sub-soil. The garden ground attached to many of the housing schemes in Scotland consists of a clayey soil quite unsuitable for cultivation and presenting a discouraging problem to the tenant entering into occupation for the first time. The prospect of laying out a garden under such conditions is not inviting, especially to the novice who has never before attempted to grow flowers and vegetables. Two methods of treatment are available. He may decide on the easiest course which consists of simply digging over the ground, and thus postpone indefinitely the task of improvement; but if he is wise he will emulate the example of the owner of the Championship Garden at Glasgow and devote his spare time in the coming winter to trenching. It means a lot of hard work, but trenching is the only satisfactory solution, and it will be instrumental in preventing disappointment in future and prove in the end a real saving of labour. Fine weather in November also offers a convenient opportunity for carrying out any alterations or rearrangement of beds and borders which may be considered expedient. The plants are now in a dormant condition, and when lifted with a substantial ball of soil attached to the roots they may be accommodated on the surface of a vacant piece of ground until the new site is ready for their reception without much risk of injury. It is an occasion, too, that facilitates the work of dividing subjects which have exceeded the space allotted to them.

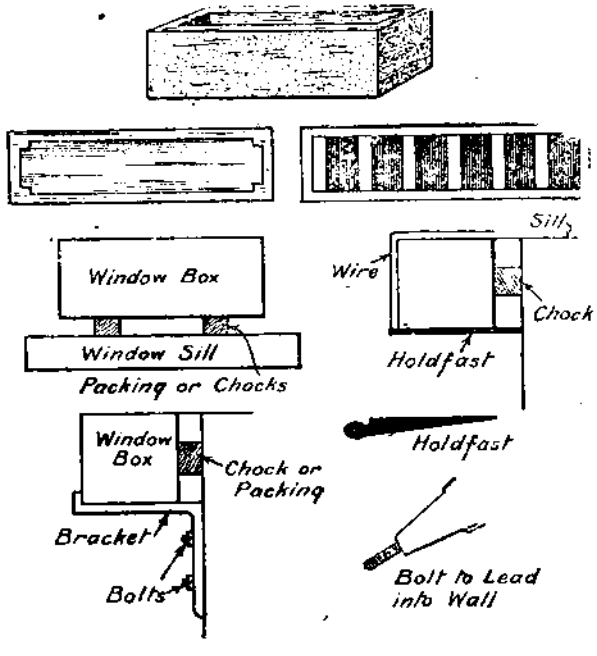
ST. MUNGO.

MAKING A WINDOW GARDEN

How to Overcome Difficulties.

Preparation.

THE possibilities of window gardening have been fully exploited during recent years and even in the meanest streets of our grimy cities one may often see these miniature gardens ablaze with colour during the summer months. Not infrequently window gardening is objected to on various grounds. It is said that window boxes attract undesirable visitors, such as insects, spiders and earwigs into the room! They are damp! They not only block the view, but make it a most difficult task keeping the bottom corners of the windows clean. With all these complaints I sympathise, and particularly where that old-fashioned "atrocity" the cork-covered window box is used. The crevices in virgin cork offer ideal retreats for all kinds of insect pests. It is also quite true that a box placed upon a window sill not only blocks the view, but it is not pleasant to look upon. However, there is no need for the window box to *be* on the *sill*, and surely virgin cork is not a necessary decorative adjunct. The ideal and hygienic way to get up a window box is against, or rather on the face of the window sill. A glance at the plan and elevation shows the ideal method of fixing. No water can run into the room, no blocking of view from the window, the fear of insects coming into the room is reduced and yet the full beauty and effect of the plants are retained. The back of the box bears "chocks" or packing pieces to keep the box from the wall. Holdfasts are driven into a "seam" in the brick or stonework to support the weight of box and from these irons a



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strong wire is taken to a screw eye (iron ring) made fast to window framing. A more professional way of carrying out this idea is as follows. Have some iron brackets made of a suitable size and strength to bear the weight of the window boxes. Now have some bolts made as shown in sketch. The bolts are made to "lead" into the wall. A hole is made (drilled) with an iron chisel and the bolt let in until the screwed or threaded part protrudes half an inch plus the thickness of the bracket. The brackets are bored and slip on to the bolts, the nuts are tightened and a firm bracket on which a good heavy window box may rest results. The advantage of this method of fixing is—that should one desire to remove the window boxes for a season (*i.e.*, winter), the nuts are simply unscrewed and afterwards put in place again, leaving no unsightly iron projecting. If the amateur feels himself incapable of doing this work, a local carpenter will do it at small cost. The bolts are made fast by leading—that is running hot lead into the hole. Window boxes may be made almost any size, but should be made of *red* deal, in fact, the gardener will be well advised to insist that all frames, greenhouse woodwork, etc., are made of red and not white deal, as the former is much better for outside work. The decoration of the outside of the window box is a matter of personal taste. The neatest window box is quite plain, painted stone colour, and sand dashed upon it while wet gives a stone-like appearance to it. There is no reason why the box should not be moulded. Black or dark green and white tiles look fairly well. The smartest ornamental window box, however, is one covered with beaten metalwork. The metal need only be sheet tin, not too thick. The box made, cut enough metal to cover it, then lay this down upon a piece of old carpet on a firm table and with a punch proceed to hammer. If desired some design may be worked out. Copper, of course, may be used in place of tin, but tin when treated with *very* thin black japan looks quite well. The mode of doing this is to warm the metal over a gas ring and apply the *thin* black japan. The tin must not be made too hot and if the work is carefully done a pleasing bronze effect will result. When ready fix the metal in position with fine brass shoe nails and a decorated box of a novel kind is yours. The box should *not* be painted inside with tar preservative. Use good paint to which a small amount of paraffin has been added—this keeps away pests. Having taken so much space in describing how to prepare and fix the window boxes, there is little left for the all important part of furnishing them. However, one cannot go far wrong; annuals, half-hardy annuals, pot plants of all kinds. Good soil is needed, but not too rich, and drainage must be made. A very popular plan is to keep the plants in pots, the pots being plunged into moss, fibre or sand. These and other matters relative to the subject will doubtless be dealt with in these pages later. Needless to say, all the fixing must be made secure and those who are doubtful of their ability to do the work properly themselves should call in a practical man. T. H. H.

WHAT OUR READERS SAY

PRIMULA RUSBYI AND P. ELLISIÆ.

SIR,—In my illustrated article on hardy American Primulas, published in THE GARDEN on August 1st, 1914, I stated that I could not grow P. Rusbyi in the open. Since then I have changed my opinion, as I have it doing well in a shaded rose border.

P. Ellisiæ is a plant also from the Rockies, and resembles P. Rusbyi in many ways, but it is a larger and stronger grower and much more hardy. With me it does well in the open border shaded from the direct rays of the sun. It flowers fully a month earlier than P. Rusbyi, but the flowers are not such a good colour, being a duller shade of deep lilac as compared with the crimson purple of P. Rusbyi. As will be seen from the illustration the leaves, instead of being erect, as in P. Rusbyi, have a distinct tendency to roll backwards. They are also of a lighter shade of green and of softer texture. I had both species on my stand at the Chelsea Show last May, and pointed out the differences to several people who were interested in primulas.—JOHN MACWATT, *Morelands, Duns*.

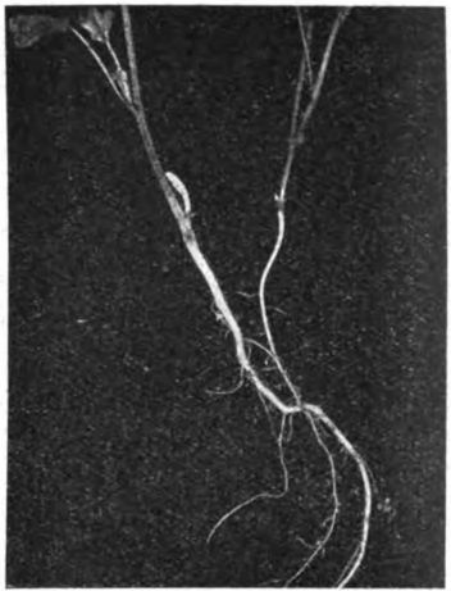
PRIMULA ELLISIÆ, SIMILAR TO P. RUSBYI, BUT IS OF MORE ROBUST HABIT AND FLOWERS EARLIER.

"WANTED NAME OF AN OLD SINGLE CHRYSANTHEMUM."

SIR,—Seeing the letter from Mr. G. A. Russell, Radlett, and your reply to same, it may help him to know that many years ago I sent plants of single chrysanthemums to a friend of mine at Wallington, Surrey, and one of them answers to his description. It was called Bronze Pagran. There is also another very old beautiful single, called Edith Pagran, and also I consider that there is no yellow single to beat the old Altrincham Yellow. These varieties I have never seen in the catalogues, but probably some firms may be able to procure them if ordered.—A. W. W., *Colwyn Bay*.

NATURAL ROOT GRAFTING.

SIR,—The enclosed photograph shows a remarkable case of what may be natural root-grafting which has taken place between two plants of lucerne (Medicago Sativa L.). The plants were two of many thousands dug up from some plots sown two months ago at Upper Slaughter, Gloucestershire. Part only of the leaf system is shown; both plants are of a healthy dark green.



A NATURAL ROOT GRAFT.

The "graft" has occurred 2ins. below the crown; the root of the thinner stemmed plant has pushed through the middle of the thicker root; the latter is also of a quite healthy appearance, though in the illustration a slight blackening, due to the lighting effects, shows at the juncture. Since attempts to pull out the ingrafted root were unavailing, there is probably organic connection between the two; this will be verified or otherwise when sections of the junction have been examined.—P. H. H. GRAY, *Rothamsted, Harpenden*.

[Cases of natural root grafting are not uncommon and those interested should keep a look-out for the phenomenon.—ED.]

A FEW GOOD AUTUMN FLOWERS.

SIR,—At the time of writing, as one looks around the garden one notes with sadness the increasing scarcity of flowers. Yet still there might even now be a few if people would choose to grow such as I shall now mention. First and foremost in my mind are pentstemons (Southgate Gem). I have this still in full bloom in my garden, and it has been in this state all through the summer. Its brightest of scarlet flowers are most cheering, and I know even the first frost or two will not do much damage to it. It is quite easily struck from cuttings taken in September or even as late as this month. Inserted in sand in a cold frame they will stand the winter well, and if kept well pinched will make fine bushy plants by next spring. Of perennials we have, of course, the Michaelmas daisies, of which there are some grand varieties in Barr's Pink, Beauty of Colwall, Sam Banham (the best white), Pink Perfection, Climax and King George. Of annuals I would praise verbenas, cosmos, and antirrhinums. The great secret of encouraging the second crop of blooms lies in keeping old dead flowers cut off. When this is done regularly shoots are soon thrown up from axils of leaves forming the late flowers.

In the rockery I would recommend the rock roses, still flowering here. I have Jubilee (double yellow), Fireball (double red), and next month hope for the usual display of Iris stylosa, which provides my Christmas decorations.—W.

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NURSERIES OF THE BRITISH ISLES.—X

MESSRS. AUSTIN AND McASLAN OF GLASGOW.

LIKE all other industries, horticulture has had many viccissitudes in its process of development all over the country. Many nurseries have sprung up at different times in past years only to die out during periods of depression in gardening, and it is always interesting now to come across a link with past history when we are so much concerned in recent comparisons of post and pre-war horticulture. It is agreed that interest in gardening has never been so great as it is to-day, but the fact that this self-same interest can be found away back 200 years ago should not be lost sight of. There were a number of keen enthusiasts who may be regarded as the pioneers of the modern nursery trade who did a great deal towards the development of horticulture and gardening in the eighteenth and nineteenth centuries, and among them is the firm of Austin and McAslan of Mitchell Street, Glasgow. Scotland has always been proud of her place in the world of gardening, and rightly so. She has produced gardeners and nurserymen whose names are well known in horticultural history, and it seems fitting that recognition should be paid to one of her long-established nurseries. Indeed, Messrs. Austin and McAslan are probably one of the oldest nursery and seed firms in the country which are still trading under their original name. They have had an interesting and varied history, and a brief account of their activities in their early years may not be without interest.

The business was founded in 1717 by John McAslan, who rented a piece of ground in what is now the central part of Glasgow. Along with the nursery a small seed shop in The Trongate was opened, whose activities can be traced from advertisements appearing in local papers about the date 1760. This shop was rented on a nineteen years' lease, and it is interesting to note the rent, which was £12 per annum. In the year 1782 Robert Austin, who was a foreman in the nursery, was taken into partnership, and the business was then styled McAslan and Austin. Mr. Austin served for a time in the nursery of Mr. Grimmond at Chelsea, and also at Hunt's nursery at Putney and Mr. Chamier at Epsom, and returned to Glasgow in 1779 to join the firm. He took an active part in the public affairs of the city and, among other things, was elected a corresponding member of the Royal Horticultural Society of London in 1817. Various changes took place in the site of the nursery about this time, necessitated by the extension of the city, and in 1798 it was removed to Little Govan, later in 1828 to Coplawhill and in 1868 to Titwood, where it remained until 1886, when further removal became necessary, to its present site in Cathcart. In 1803 the title of the firm was changed to the present one of Austin and McAslan, and a number of changes occurred in the control of the business. The shop was retained, but was removed to Buchanan Street, where it remained until the premises were burned down in 1888; new premises were then found at 89, Mitchell Street, the present headquarters. From 1850 until the present time many changes took place in the constitution of the firm, until now the three partners in the firm are Mr. James McMichael, Mr. John Cairns, who was for many years general manager, and Mr. H. S. Paton, who joined the business in 1924. From 1850 until 1880 the business was greatly extended and developed, and in recent years the extension has been marked until the firm is now one of the largest in Scotland.

In the early years it appears from the old records and letters which exist that a great interest was taken in shrubs and roses. Quite extensive collections were built up, and manuscript lists were sent out by the firm offering their stock for sale. Mr. Austin was particularly interested in the growing of the Double Scotch roses, and about the year 1816 a collection of some 208 varieties had been made, all grown on from seed in the nursery. That he was very proud of his collection is revealed in old correspondence to Mr. Wm. Aiton, the then Curator of Kew Gardens, and to various members of the Royal Horticultural Society of London, who were growing

Catalogue Double of Scotch Roses published by Austin and McAslan in 1817.

1. Achates	C.B.	102. Cimon	B.	101. Hanno	B.	61. Maiden's Blush	B.	117. Orpheus	L.R.
2. Achilles	L.R.	115. Cleopatra	L.R.	13. Hector	S.B.	167. Malvina	C.B.	154. Oscar	L.R.
45. Acis	M.B.	126. Clydesdale		94. Hecuba	L.B.	48. Marchioness of Bute	L.R.	151. Ossian	L.B.
33. Adonis		173. Conon	L.B.	106. Helena	S.B.	41. Marchioness of Hastings	B.	109. Palastina	B.
35. Adria	P.B.	128. Cora	L.B.	80. Hercules	M.B.	113. Marquis of Anglesey	L.R.	74. Palmyra	P.
36. Ægina	T.W.	143. Corinna	L.B.	127. Hermione	D.P.	6. Mentor	S.Y.	120. Paris	B.
170. Æneas	C.B.	10. Countess of Dunmore	P.B.	122. Ianthe	R.	153. Miltiades	L.P.	104. Penelope	S.B.
134. Agricola	B.	52. Countess of Glasgow	D.R.	69. Iphigenia	T.C.	67. Minerva	P.B.	105. Pericles	L.B.
37. Agrippa	B.	165. Crassus	P.B.	15. Janus	D.P.	112. Miss Aiton	B.	138. Phœdra	L.P.
44. Ajax	W.	110. Creusa	D.R.	99. Juba	T.W.	100. ,, Campbell	L.B.	148. Phaeton	B.
150. Alexandria	B.	107. Cyrene	M.B.	124. Jugurtha	R.	188. ,, Dale	M.B.	135. Phillis	L.R.
43. Alcmena	P.	149. Cyrus	L.B.	118. Juno	D.R.	89. ,, Douglas	B.	96. Philippa	L.B.
137. Althea	C.B.	22. Daphne	D.B.	193. Kelburn	W.	172. ,, Gordon	D.B.	144. Phocion	B.
95. Andromache	C.	5. Darius	L.R.	183. Kildaloig	L.P.	60. Mrs. Aiton	B.	191. Pinmore	L.R.
114. Andromeda	T.W.	81. Diana	L.R.	196. Killearmont	M.B.	56. ,, Alexander	M.B.	66. Pomona	L.B.
50. Antiope	T.B.	46. Dido	P.	200. King George	D.R.	26. ,, Bogle	S.B.	174. Pompey	M.B.
55. Antonius	C.	169. Duke of Wellington	P.	12. Lady Baillie	Y.	51. ,, Campbell	B.	202. Possil	R.
141. Apelles	M.B.	130. Dumbreak	M.	77. ,, Bankes	M.B.	182. ,, Dixon	D.P.	152. Priam	L.R.
142. Apollo	D.P.	59. Duchess of Argyle	S.B.	11. ,, Blantyre	S.P.	4. ,, Finlay	M.P.	54. Princess Charlotte	L.B.
199. Ardoch	D.P.	40. Duchess of Gloucester	P.	209. ,, Campbell	B.	103. ,, Fullerton	P.	25. Princess Elizabeth	D.B.
29. Arethusa	P.B.	28. Duchess of Hamilton	D.P.	64. ,, Castle Coote	D.B.	181. ,, Gordon	M.B.	171. Proserpine	B.
27. Ariadne	B.	32. Duchess of Montrose	W.	78. ,, Clive	M.P.	97. ,, Halladay	B.	14. Proteus	L.B.
155. Aristides	C.B.	82. Duchess of Northumberland	D.R.	210. ,, Colquhoun	B.	24. ,, Hamilton	M.B.	63. Queen Mary	T.Y.
85. Artemesia	M.	47. Dwarf Bicolor	L.P.	91. ,, Compton	L.P.	93. ,, Hopkirk	B.	7. Romulus	S.R.
159. Atalanta	M.	129. Earnock	D.M.	16. ,, Dalrymple	L.B.	125. ,, Hooker	M.B.	205. Rosemount	M.B.
187. Auchincruive	T.C.	194. Eglinton	B.	21. ,, Douglas	D.B.	176. ,, Horrocks	M.P.	192. Rosneath	P.B.
189. Auchtintorlie	B.	23. Erebus	D.P.	147. ,, Duncan	L.B.	57. ,, Johnson	B.	207. Rozelle	
161. Augusta	D.P.	68. Eurydice	W.	139. ,, Fergueson	B.	177. ,, Macintosh	S.B.	133. Sappho	D.B.
9. Aurora	B.	42. Eva	P.	20. ,, Finch Hatton	D.P.	39. ,, Malcolm	T.P.	72. Saturnia	C.
190. Balamyle	M.R.	108. Exonia	D.R.	53. ,, Gwydir	M.B.	49. ,, McLean	L.B.	88. Saxonia	B.
204. Belhaven	B.	166. Fingal	P.	84. ,, Harriet Wynne	B.	71. ,, Perston	B.	83. Scotia	P.
62. Bellona	T.B.	31. Floribunda	L.B.	18. ,, J. Montgomerie	D.B.	87. ,, Robertson	B.	146. Scyphia	L.B.
132. Berenice	M.B.	92. Formosa	C.B.	116. ,, Kennedy	C.	179. ,, Smith	D.R.	70. Sergia	C.B.
145. Brigantia	D.P.	158. Galatea	T.P.	76. ,, Liston	D.P.	178. ,, Stirling	P.	136. Sibylla	S.W.
3. Cæsar	C.B.	162. Gallia	R.	58. ,, Moncrieff	L.P.	206. ,, Struthers	D.R.	203. Stonfield	D.P.
208. Caldwell	C.B.	123. Hamilcar	P.B.	163. ,, Riddell	C.B.	98. Mutabilis	B.	175. Striata	S.P.
131. Cairnbroe	D.P.	157. Hannibal	T.Y.	30. ,, Stuart	L.P.	73. Nerva	C.	164. Superba	L.R.
34. Caladonia	P.B.			121. Leonidas	B.	119. Numa	D.R.	19. Sylvia	D.B.
65. Callista	W.			201. Levenside	L.R.	186. Ochtertyre	R.	198. Tilliquheun	B.
180. Carronvale	L.R.			184. Linthouse	C.B.	160. Olympia	B.	17. Transparent	L.B.
195. Carstairs	M.P.			38. Lord Lynedoch	L.B.	168. Ophelia	M.C.	75. Venus	M.R.
197. Castle Toward	B.					79. Orestes	M.R.	111. Viscount Exmouth	B.
185. Cathkin	B.					90. Orion	B.	8. Xerxes	D.B
140. Cato	D.R.								
86. Celia	B.								
156. Cicero	D.P.								

Abbreviations.—B., blush; C., cream; D., dark; L., light; M., marbled; P., purple; R., red; S., striped; T., tinged; W., white; Y., yellow.

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several of these in gardens in the south. In 1817 a catalogue of these roses was issued in manuscript form, and since it may be of interest to many readers, and especially to keen rose growers, we give this catalogue in full, since it indicates the interest that was taken in the rose over one hundred years ago, not only by the growers but by gardeners who were keen to add any new varieties to their collection. As far as we know, none of the varieties listed in this catalogue is in cultivation in this country now, but if any of our readers have plants we should be pleased to hear from them, as many of the varieties listed according to their descriptions are well worth reintroducing to our gardens. This old rose catalogue must have been one of the first to be put out by any firm, and it is interesting on that account, since it shows the kind of rose culture at that time.

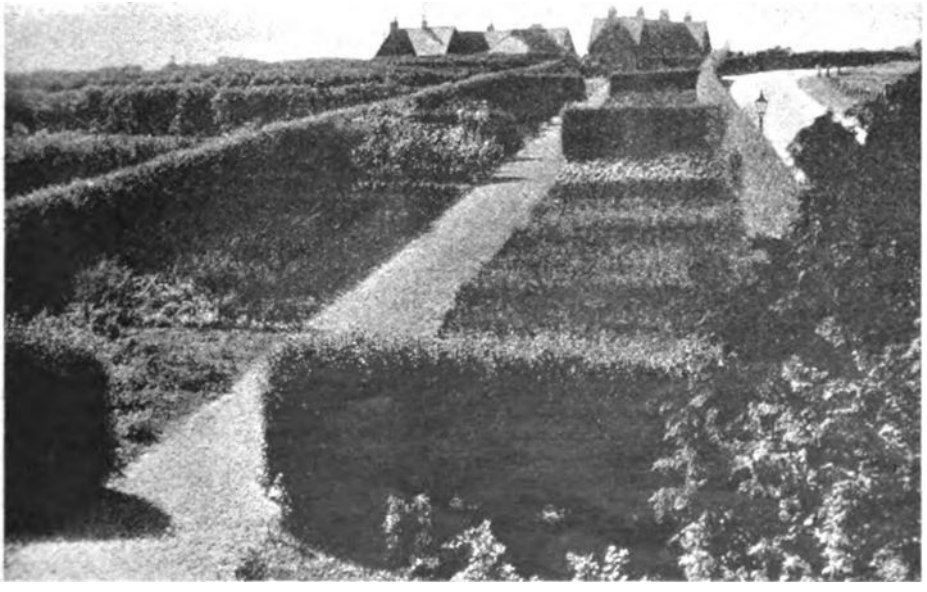
Coming to our own day, the firm occupies a prominent niche in horticultural circles, not only in Scotland, but elsewhere. The west of Scotland is the home of many fine gardens largely on account of its favourable climatic conditions, and Messrs. Austin and McAslan have done much to extend and develop the love of gardening in the wide area surrounding their headquarters. It is a firm with considerable initiative and enterprise. The business has moved with the times, and while formerly the connection was mainly with the larger Scottish gardens, it now has been widened to assist and cater for the large army of amateurs who are engaged in gardening as a pleasant hobby. That the directors of the firm realise the importance of the amateur gardener is evidenced by their desire to help and stimulate them to further effort. To that end the firm in 1926 instituted a spring flower show on their own account, and the widespread interest it created in horticultural circles, not only among amateurs but also professionals, has more than warranted the continuance of their enterprise. In other ways also they offer help to the amateur by conducting various trials in their nurseries and inviting all amateurs who are interested to see the results. This idea of co-operation between the nurseryman and the amateur is one that deserves to be fostered, as it will do more to promote a love of flowers and gardens among the vast majority than anything else. The nurseryman should be ever ready to help and assist the amateur with his difficulties and also to improve his knowledge of horticulture. Messrs. Austin and McAslan do both. This year the firm undertook a comprehensive trial of sweet peas, which has already been referred to in our pages, and the results were open to the inspection of anyone interested.

A BREAK OF MAIDEN ROSES OF ALL VARIETIES IN THE NURSERIES.

The firm's nursery at Cathcart, situated about five miles from the centre of the city, is well worth a visit during the summer months. They occupy between forty and fifty acres, and contain a wealth of garden plants. For many years a great interest was taken in the growing of fruit trees, since the supply of such formed an integral part of their business, and this still forms an important part, although it is now only regarded as a branch of the tree and shrub department. During the last four years, under the able charge of Mr. H. S. Paton, the nursery has been extended and the stock greatly increased, until now an admirable collection is to be seen. The shrub border in the nursery, set out for the advantage of visitors, houses representatives of almost every first-class garden shrub. Special attention has been given to those suitable for culture in amateurs' gardens, such as berberis, cotoneaster, philadelphus, deutzia, escallonias, spiræas, etc., while many ornamental conifers suitable for choice positions in the rock garden or the lawn or for hedge purposes are also grown. A number of less hardy shrubs which are commonly found in gardens on the west coast of Scotland, such as Desfontainea spinosa, metrosideros, berberidopsis, etc., are all to be found flourishing outside in the shelter of a hedge. All the shrubs, including the conifers, seem to take kindly to the conditions so near the town, which is testimony to the good nursery cultivation. The forest trees were a picture of health on our visit. Japanese larch, Scots pine, Corsican and Austrian pine, Norway and Sitka spruce are the principal trees grown. The high standard of quality of not only the trees and shrubs but of all the plants in the nursery was most marked. The plants are grown in blocks, each one roughly a quarter of an acre in extent, and each is separated by thick shelter hedges to break the wind. In addition to acting as a protection against the wind, the hedges serve to regulate work in the nursery.

One part of the nursery is given over to fruit trees. Apples were in good health and all the leading varieties are grown. In Scotland the kind of tree which proves most successful is the half-standard feathered type, and the rows of young trees in the nursery were excellent both in habit and quality.

The firm carries out every year a series of trials of vegetables, and at the time of our visit we were particularly interested in the lettuces which were in fine condition. Special attention is given to the selection of varieties of fine quality, and which stand well before running to seed. Vegetable production has always been kept in the forefront of the firm's activities, and the awards which amateurs have gained at Scottish shows from this firm's seeds testify as to their high quality.



THE DOUBLE ORNAMENTAL SHRUB BORDER WHERE A WIDE SELECTION OF SHRUBS AND TREES IS ON VIEW.

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A choice and representative collection of alpine plants is also grown. The selection is wide and up to date. Many primulas are grown, including all those species that will become favourites in our gardens once they become better known, such as P. japonica, Bulleyana, pulverulenta, sikkimensis, Florindæ, mooreana, Red Hugh, etc. Gentians are also to be found in profusion, with G. sino-ornata and Farreri doing particularly well. The culture of the alpine plants is carried out with considerable skill, and the plants are robust and healthy, so that they will readily accommodate themselves to the varying conditions in the different gardens where they will ultimately find a home.

Messrs. Austin and McAslan also specialise in roses, and visitors to the nurseries will find much to interest them by a tour of the rose beds. Large breaks of roses form a decorative feature of the nursery, as from 10,000 to 15,000 bushes are planted in each break. In addition to the many varieties of bush roses that are grown there are rows of very fine standards. All the best and modern varieties are to be seen, including many of this year's novelties, and their worth as decorative varieties for Scottish gardens can be appraised first hand. The varieties are conveniently grouped so that one may be readily compared with another, and the good and bad points seen at a glance. At the time of our visit we were much struck with the excellence of Shot Silk and Ivy May, two roses that have stood up well to this inhospitable summer. Both show that they are first-rate varieties for amateur gardens in Scotland and also in the south.

Gladioli, another speciality of the firm, at the time of our visit, were at their best. The majority of the early and mid-flowering sorts were in flower, and the display of colour was most striking. Despite the lack of sun and the continual rain this summer, the plants were looking in good condition with spikes of extraordinary size and vigour both in the large-flowered and primulinus sections. As with roses, a very wide range of varieties is grown so that the best may be selected for recommendation to Scottish gardeners. The majority of our Scottish readers will have already seen what the firm can do in the way of gladiolus culture by the fine groups that have been staged at the autumn shows this year that gained for them numerous high awards.

The firm has various other activities too numerous to deal with in this short space. Suffice it to say that they keep quality in the forefront of their policy throughout the year, and that whenever possible they do their best to assist and co-operate with the amateur gardener in his gardening problems.

FRUIT AND KITCHEN GARDEN

This Month in the Fruit Garden.

PLANTING.—The planting of fruit trees and bushes may be continued this month. Remember to plant when the weather is fine and give the roots of the newly planted trees every opportunity of starting well; dig the holes large enough and work in some fine soil among the roots. Plant firmly and stake where necessary. Trees that are to be transplanted may be lifted and replanted now. Trim the roots, remove any tap roots and make your cut on the under surface of the root.

Pruning.—Finish the cutting out of old raspberry canes if that was not done last month and continue the pruning of gooseberries and currants. Take cuttings of your prunings if you desire to increase your stock. Remember to take your cuttings from healthy trees.

Cultivation.—Dig in between fruit trees in suitable weather and apply artificial manures, such as basic slag, etc., at the time of digging.

Pests.—Old pupæ of the raspberry beetle will be found in old canes. Therefore collect up and burn the prunings.

The eggs of the lackey moth may be found in bands round apple and pear twigs. Remove these and destroy them.

Autumn Cultivation in the Fruit Garden.

AFTER the leaves have fallen in the autumn it is good practice to cultivate between the trees or bushes. A spade should never be used among fruit trees except for the purpose of lifting or root pruning the trees. For cultivation between the trees use a fork. The cultivation necessary is merely the breaking up of the surface so that the air may get into it, and the plantation broken up after the treading that has been done in picking the fruit. There are a few points to be borne in mind in autumn cultivation. First of all, choose a fine day for the operation, especially if the soil is at all heavy, otherwise puddling may result and the last stage will be worse than the first. Secondly, avoid injury to the roots of the trees, *i.e.*, dig shallowly and use a fork. Thirdly, fork in the leaves, but be sure to bury them, otherwise it is best to sweep them up and burn them, as they harbour certain insects and fungus pests. Any manures which are to be applied, such as bone meal, basic slag, rock phosphate or other slow-acting manure, may be applied at this time. Horse manure may either be scattered on top as a mulch after forking over or turned in when forking over. The former is preferable where severe frosts are likely to occur, as it acts as a protection to the roots and may be turned in during the early months of the year.—H.

When Planting Currants and Gooseberries.

ALMOST everyone fortunate enough to have sufficient space at his command, likes to have a few bushes of these popular small fruits in the garden, so that a few words on this subject will not be out of place at the present time and should prove especially helpful to those who contemplate planting bushes this season.

In the first place, let it be said that the earlier this operation can be performed after the leaves have fallen, the better it is for the future of the plants, because early planting means that new rootlets will push forth and take a hold on the soil before the advent of severe weather and, consequently, the bushes start their normal growth in the spring, without any appreciable check.

When purchasing fruit-bushes always deal with a firm of repute, for "cheap" stock obtained through auction rooms or from foreign firms of doubtful reputation invariably turns out dearest in the long run. Very frequently it is weakly, diseased or wrongly named. If it is possible to view the bushes prior to purchase, so much the better, and the buyer should make sure that the bushes are free from diseases and pests, such as big bud, reversion, or American gooseberry mildew.

The preparation of the ground is very important. Gooseberries and black currants thrive best in a good retentive loam, rather moist and cool, although the former will do well on almost any ordinary garden soil, providing the position is open and sunny. Red and white currants do not require such a strong rooting medium and succeed admirably on any ordinary soil, well manured and not wanting in lime; they are excellent subjects for north borders or walls, in this latter case trained as cordons. In all cases the ground should be trenched or bastard-trenched and enriched by the addition of well rotted manure, and allowed to settle for some few days prior to planting.

The condition of the ground at the time of planting is also an important factor in the success of the operation. It should be in a crumbly, friable state. Planting in wet, sticky soil is exceedingly bad practice. Far better lay the bushes closely together in a trench and cover the roots with soil until better planting conditions obtain. On the arrival of the bushes from the nursery they should be carefully examined and any damaged roots or branches neatly trimmed away with a sharp knife.

The correct distance apart for planting bushes is 5ft. each way, and with currants, under suitable conditions, an additional foot will prove both desirable and advantageous. Take care that the holes are made sufficiently large to admit of the roots being well spread out without any suspicion of "cramping." Plant the same depth as the plants have been in the nursery—this is ascertainable by noting the position of the soil mark on the stem, and tread the ground firm, but not hard, as the work of filling in the holes proceeds. Pruning is best delayed until the spring, but it is advisable to remove and burn the soft tips of the gooseberry shoots, for if any American gooseberry mildew is present, it will be located in that portion of the plant at the present season.—T. H. E.

Root Pruning Fruit Trees.

WHERE a fruit tree produces poor crops or shows an excessively sappy growth, very beneficial results often arise from root pruning. It is a good thing to undertake this business while the weather is still open, as is usually the case in November. The process starts with the making of a trench 2ft. or 3ft. deep all round the tree. The actual position of the trench should be about a foot beyond the outermost branches. Cut back all the thick roots which are generally travelling some distance away from the tree, taking care to leave all the fibrous feeding roots. After the roots are cut dress the wounds with tar. For the cutting use a knife, or, in the case of very thick roots, a saw may be required. Some judgment must be used as to the extent to which the root pruning is carried. Trees that are growing very luxuriantly and bearing little or no fruit require the removal of a greater number of roots than those that are only moderately luxuriant. With large trees it is usually advisable, the first season, to make the trench half-way round and cut the roots on that side, leaving the other side until the following year. After the pruning fill in the trench with a compost formed of fibrous loam and well rotted manure. Tread well down and if the soil is dry give it a good soaking of water.

Planting Peaches and Nectarines.

CAREFUL preliminary preparation is a powerful factor in the future success of these fruit trees, and no efforts should be spared at planting time. First of all dig out the soil to a depth of 2ft. or rather more. If drainage is not good, lead a field drain along the bottom and, whether that is placed in position or not, fill in a 6in. layer of rubble, clinkers or stones. Cover this over with a 3in. layer of turf or leaf-mould. This being done, prepare a compost of good loam, preferably turfy loam, coarsely chopped up. To every barrowload add half

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a stone of old mortar or a quarter stone broken shell, ground carbonate of lime or well slaked lime. Mix this with the soil and then add a liberal sprinkling of bonfire refuse containing much charred wood. Sand may also be needed, but grit or burnt earth will serve, its purpose being to keep the soil from "binding" and to promote porosity. Fill the soil compost into the hole and tread it firmly down to such a depth that just sufficient room is left to allow each tree to be planted at the same depth as in the nursery. Plant firmly and finally mulch some light littery stuff over all. The prepared border should be at least a foot beyond the spread of the roots. Next winter another foot may be prepared beyond this, and so on for a time, new rich soil being available for the roots as they extend. Always plant in dry weather and keep the prepared compost until it is required for the work under cover.—L.

Put Your Herb Borders in Order Now.

HERBS for storing should be cut, dried naturally and stored when they are in flower, then they will be harvested when at their full strength. But many cultivators have neglected to store the bunches. It is not too late, however, to cut, bunch and store some kinds now. Very little drying will be necessary. When the herbs are being bunched tie a small piece of clean paper to the stems so that, when the bunches are suspended, the flaps of paper will collect dust, thus preventing it lodging among the stems and leaves. Lightly fork up the soil between the rows of plants, clear away any weeds, put on a light mulch of rotted manure and cover the latter with about 1in. of ordinary soil.—HANTS.

Lifting Salsify.

THE present is a suitable time for lifting salsify and storing the roots. The latter should be carefully graded, the best-shaped ones being stored for the kitchen department and the ill-shaped ones for forcing during the winter months. The large, well shaped roots should be stored in sand in a cool, dry shed; the heap may be ridge, conical or flat-shaped. If flat, then the roots should be arranged in an upright position, placed as close together as possible, and quite dry sand be sifted over them until all spaces are filled right up to and just over the crowns. The smaller roots and those that are forked should be stored with as much care, then they will respond to treatment when forced for use as a salad.—CHRISTCHURCH.

Club Root or Finger and Toe.

CLUB root is a disease which may attack all members of the Crucifer Order, including cabbages, wallflowers, turnips and the like; it does not attack any other garden plant like the potato or the onion. The disease lives in the soil. It loves a wet, sour soil and, in a year like this, it appears with destructive virulence in many parts where it was not noticed before. Infested crops seldom come to maturity and, as they are centres of disease, they must be burned or buried deeply. After that has been done order 1lb. of quick lime for every square yard of infested ground, place it in a heap on the vacant land, scatter about an equal bulk of water over it gently, and leave it to slake and crumble overnight. Scatter uniformly next day and at earliest thereafter fork it into the upper spit. Later on refork the land to make certain that soil and lime are intimately mixed together. In addition to liming the soil in order to cure the sourness and kill the fungus disease, do not grow any susceptible vegetable there for at least two years. Beware of the great infectiousness of the disease and see that no soil or pieces of diseased root ever find their way to an immune patch of the garden. It is advisable that after such a bad gardening season every vegetable grower should lime the ground intended for cabbages, cauliflowers, radishes and so on next year. Half a pound per square yard will support the old statement that prevention is better than cure. Keep down charlock, cress and other cruciferous weeds in infested plots, as they also carry the disease.—C.

Sprouts and Savoys.

THE lower leaves of Brussels sprouts may be removed with a knife, the stems of them being cut through, leaving a stump of a few inches. The idea in doing this is to let sunshine and fresh air have free access to the sprouts themselves in order that they may mature in correct fashion without opening up. The top crown of leaves remains untouched to the last, but side leaves can be cut away in advance of the cropping of sprouts as they are picked off from below upwards. Do not feed sprouts so late as this; simply see that they are firm and not overcrowded. Remove a spadeful of earth from the soil near savoys which are almost mature, on the north side, pull the plants right over, and then tramp the soil over the roots to hold them in that position. This prevents the flat, solid hearts from suffering in rain, snow and frost, so that they keep fresh until required. Do not disturb the latest kinds which are just beginning to heart up nicely, unless it be to make sure that earth is firmly banked round the roots.—CLYDESDALE.

GREENHOUSE NOTES

The Care of Primulas Now.

FROM the time of sowing the seeds in May or June until the early part of the autumn, the cultivator does not experience much trouble with the resultant plants where a frame in a cool position is available. It is during the depth of the winter that the plants suffer most where the structures are unsuitable for them. Excessive damp, combined with a frosty air in the house, cause most harm. But it is a fact that primulas—sinensis, stellata and the Bulleyana hybrids—do not require a very high temperature—just high enough to keep the atmosphere buoyant. If the greenhouse is cool then the obconica and japonica sections are the most suitable. It is economical as regards heating to have double sheets of brown paper tacked on light wooden frames—such as may be made of builders' ceiling laths—to place between the glass and the plants. Sheets of lighter paper may be laid above the plants; a few pointed sticks keeping the paper from actual contact with the foliage. I have done this, had moisture actually frozen on the sheets, but by leaving the latter in position until a natural thaw came harm was not done to the plants. Keep the plants sturdy by avoiding overcrowding; place some plants on empty inverted flower-pots so that the brittle leaves are above others a little and all have room. All these things should be attended to now.—G. G.

Geraniums in Winter.

THERE is no doubt that the zonal geraniums (pelargoniums) are extremely useful for livening up a greenhouse or conservatory during the winter. These plants make a good show even in a cool house, providing actual frost can be kept away and, where it is possible to prevent the temperature from falling below 50 degrees Fahr., a fine display of bloom is certain almost until the spring. Many people grow geraniums from cuttings taken in June, but old plants, such as can be lifted from the garden at the present time, serve the purpose almost as well. The specimens should be removed carefully and then potted rather firmly in any garden soil, care being taken to see that the drainage is good. Do not give any water for about a week and remove any leaves that begin to die. If these are left it is very likely that they will become mildewed and the plants as a whole may be damaged. Keep the geraniums in an airy place, giving the plants as much room as possible. It is a good plan until mid-November to pinch out all the flower buds before these develop, as if this is done the plants will produce a wonderful show of winter bloom. When the pots are full of roots, it is an advantage to give the geraniums liquid manure which must be weak, once a fortnight. In growing geraniums indoors, damp is the greatest enemy. This may be fought with fire heat or, where this is wanting, free ventilation whenever the outdoor conditions are favourable. Now and again the geraniums will be all the better if the soil in the pot is allowed to become almost dust dry for a few days.—L. B.

Greenhouse Berried Plants.

RIVINA HUMILIS is a pretty little plant, graceful and decorative, which, at the end of the season, literally clothes itself with pendulous red berries, after the inconspicuous flowers fade. Although nominally a stove plant, it is, at this stage, much more useful and lasting if placed in a cooler and drier atmosphere. Another pretty berried plant is Ardisia crenata, an evergreen which also may be classed as a plant for the warm greenhouse. The berries are again scarlet, but a white-berried variety can be had. These berries hang for a long time. Callicarpas purpurea and lanata differ in bearing purple berries, produced plentifully on the semi-pendulous stems, which are just about the height of their glory at this time. A light, airy condition is best for keeping them hanging a long time. All three do best when grown in a loamy compost enriched with a little peat. Seed is readily obtained at this time, and it may be sown in spring. Cuttings may also be used in propagation, young shoots being inserted in April and rooted over bottom heat.—LANARKSHIRE.

Fuchsias for Greenhouse and Garden.

FUCHSIAS are not only useful for conservatory decoration, but as standards they make a very good effect if planted in the corners of flower beds with a groundwork of ivyleaf geranium or other summer-bedding subject or, again, at the back of the mixed flower border they add a touch of quality to the general appearance. If lifted and potted before severe frost reaches them and stored in a cool greenhouse for the winter, pruned and started into growth in the spring, they may be kept in good condition for many years. Cuttings may be rooted at almost any season of the year, but the present is a very good time to make a start. Select young growths free from flower-buds, cut through below the third or fourth joint and insert four in a 3in. pot in a compost of loam, leaf-mould and sand in equal parts. Place in a close propagating frame or in a deep box covered with a sheet of glass and keep moist until rooted. Pot off as soon as ready into small pots, using a similar compost, but with less sand.

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Place in a light position in greenhouse and keep the plants growing all through the winter in a temperature of 60° to 65°, moving to larger pots as soon as the roots touch the side.

Do not pinch out the point of the leading growth if either standards or pyramids are desired, but in the case of the former remove all side shoots until the required height is reached, then remove the tip of the growth and a head can be formed by selecting from four to six of the topmost breaks, these in turn to be pinched at every second joint until flowering size is reached.

For pyramids pick all side shoots as they form at the second joint and keep all blooms removed until a well-balanced specimen is obtained.

For the later pottings it is a good plan to add some well-rotted manure and old mortar rubble to the soil.

Feeding with liquid manure should commence when the final pots are full of root and flowering has begun.

Treated liberally, cuttings rooted now will make good plants for conservatory decoration next summer, and in the following season can be planted outside in June.—F. W. W.

OUR SERVICE BUREAU

Remedies for Black Spot on Roses

I have great difficulty here in growing roses. The soil is poor and hungry, being mainly flinty gravel. Briar roses (Penzance), Pernetianas, R. Moyesii and Hugonis, etc., do magnificently. I give the hybrid teas and hybrid perpetuals a liberal dressing of cow manure every spring, but they do not make the growth they should. I am now going to try Clay's Fertiliser. This year most of them have had black spot badly. I have been picking off and burning the affected leaves and spraying with flowers of sulphur. Could you tell me with what I should treat the beds during the winter to disinfect them? Is Rosa Rugosa Conrad F. Meyer particularly subject to black spot?—H. H., Amersham.

Black spot is very likely arising from your Pernetianas. Conrad F. Meyer is also very susceptible to this disease. See that all fallen leaves are carefully gathered and burned. Apply lime in November at the rate of three ounces to the square yard of surface on the rose beds. Do not dig it in, but allow weather conditions to take it into the soil. Lime in fine powder form, such as is generally sold for horticultural purposes, is best. You will find Clay's a most excellent manure. Apply it after pruning in spring and hoe it lightly in. If black spot has been very severe it may have affected the stems of your plants. If so, this can be easily determined, and it will then be necessary to prune hard back in due season in order to get rid of the affected wood. The stock on which your roses are grown may not be suitable to your soil. It would pay you to experiment in this respect. There are other stocks than seedling briar.

Difficulties with Climbing Roses.

In February, 1926, I planted the following climbers in my garden: Albertine (2), Paul's Scarlet Climber, Tea Rambler, Emily Gray, Romeo, Alberic Barbier, Crimson Rambler, Mermaid and American Pillar. These were all cut down at once to ground level and all made good growth that summer, except one Albertine and Crimson Rambler. The latter, after running up about 8ft., suddenly, in late summer, collapsed, the foliage going a dark grey or black, and withering. The plant, however, threw up a further vigorous shoot this year, which also died back in the same way. I have now dug up the plant, but can see nothing wrong with the root. In September, 1926, one Albertine started to wither, the leaves turning yellow and dropping and the growth dying back. The plant grew well again until August of this year, when the same thing happened. This year Romeo has partly followed the Crimson Rambler, but some shoots are quite healthy, while others have died. Also, the other Albertine has shrivelled and died back. To my great disappointment, Mermaid, which made intensely vigorous growth and flowered well this summer, has collapsed in the same way as Albertine, leaves turning yellow and dropping. On the other hand, some new shoots appear to be still alive. Could you kindly let me know the cause of this and the remedy (if any)? I may say that the garden is a new one, but the ground was well dug and manured with hop manure before planting. The pillars upon which the climbers grow were treated with creosote before erection. Also, I feel I may have put rather a strong lot of hop manure under the roots. It was, however, well down and not touching the rootlets. The ground did, of course, contain a good deal of builder's rubbish, but I cannot think of anything which I found which would poison the plants. I have no failure with other things in the garden. All the other roses mentioned have done splendidly. I may say that I am not a novice at rose growing and I have never lost plants in this way before. THE GARDEN has helped me in hundreds of ways and a great deal of my success in the garden and in exhibition has been due to its help.—R., Teddington.

It is difficult to advise with the knowledge that one has arrived at the correct cause of your losses with your climbing roses, but there is a clue in your letter which leads one to suspect the reason. There is nothing more dangerous than creosote, and it is suspected that the posts upon which the ramblers have died back have been coated with this substance right down to the bottom. The roots are likely to have come into contact with it, and the plants have, consequently, sickened and died. It is not likely that the hop manure is the cause. It would be well, therefore, to examine the bottoms of the posts. We have frequently seen serious losses from this cause. Posts coated with creosote should be allowed to lie exposed to the atmosphere for at least three months before being used for roses.

Roses Susceptible to Black Spot.

I have read your article "How to Succeed with Roses" in THE GARDEN for October 15th. I agree entirely that "the modern rose is an exceedingly complicated organism," and I should be most grateful if you would tell me which are addicted to black spot? I think that I must have a complete collection of this type. I was most successful with the old roses—Georges Nabonnand, Corallina, Anna Oliver, etc., but since replanting three years ago, I have lost three sets from black spot. Heavy soil, well worked for twenty years. Farmyard manure only used. A garden in which most things do.—A. N., Exeter.

Black spot is a disease common to all varieties of roses of Persian ancestry. It is a historical fact that the beginning of the, so-called, Pernetiana race was the rose named Soleil d'Or. This had as one of its parents the old sort named Persian Yellow. Persian Yellow represents a type that is peculiarly susceptible to black spot, and this susceptibility has been transmitted to a great many varieties bred from parents derived from that particular ancestry. The Pernetiana roses are more or less liable to severe attacks of this disease, and it can be traced all through their development. Reference need only be made to such sorts as Rayon d'Or, Lyons Rose, Mme. Edouard Herriot, Lady Mary Ward, Iona Herdman and others of similar character. It is true that a considerable advance was made in attaining more vivid colours in roses owing to the infusion of Persian blood, but this has been gained at the expense of resistance to black spot diseases. You mention that you were very successful with such roses as Georges Nabonnand, Corallina and Anna Oliver. In the days when such sorts were grown, diseases such as black spot and mildew were rare occurrences. Those real tea types were most notable for their resistance to fungus diseases. Their day, unfortunately, has gone, but it is the opinion of the writer that they are most valuable as potential parents in the evolution of varieties that will prove highly resistant to disease. Some breeders are already recognising this and are now using that type for breeding purposes. Elizabeth of York may be quoted as one of the latest examples. It has all the virtues of the old teas coupled with the high coloured blooms demanded by modern growers. You should endeavour to form a collection of this resistant type. You state in your letter that your garden of heavy soil has been well worked for twenty years, and that only farmyard manure has been used. It may be that lime is now required. When was this substance last applied?

Plants for a Narrow Border.

By the side of a wall of my bungalow, facing south, I have made a narrow border 18ins. wide. This year I had daffodils early, and they did splendidly, and for later blooming I have had hollyhocks. These last, however, grew too tall, and lost most of their lower leaves. Can you suggest a perennial I might grow here, between 2ft. and 3ft. high—preferably one that would bloom off and on all the summer? Can you also tell me how and when to take cuttings of scarlet salvias? Just recently my geraniums, delphiniums, gladioli and lupins have been infested with caterpillars, which have eaten leaves and flowers alike, and done much damage. Can you tell me the cause of this, and what preventive methods to adopt.—H. J., Norwich.

Clumps of sweet peas would flower throughout the summer. Other kinds of plants combined would also serve your purpose, such as tall-growing antirrhinums, doronicums, delphiniums and Michaelmas daisies; but a dark-flowered antirrhinum and Calendula Orange King would produce flowers during the summer and autumn time. Young shoots of the salvia should be propagated in August or in March. Next year, directly any caterpillars are seen, spray with "Katakilla" or similar preparation, which can be obtained from any horticultural sundriesman.

Treatment of Old Vines.

I have a greenhouse at the end of my garden with grape vines which have been badly neglected in the past, resulting in practical failure. Could you inform me how best to feed the vines, and whether five are not too many in a 30ft. house? Also, have they been pruned too severely (each vine has but three shoots or branches). The house has a furnace which could be lighted in frosty weather. I should also be glad to learn the right time for grafting fruit trees, especially apples.—E. B., Streatham Hill, S.W.2.

The main rods of grape vines should be at least 3ft. apart. The side shoots should be pruned back to two buds late in December. One shoot only should be retained—if two grow—next year. Remove all the surface soil down to the roots in November and then cover them with 6ins. of good fibrous loam with 1lb. of finely ground bones to each barrow-load. A little fire heat will be beneficial next spring when the new shoots are growing. The right time to graft apple trees is early in April.

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IDEAS FOR A SHRUB BORDER (see page 728)

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THE

GARDEN

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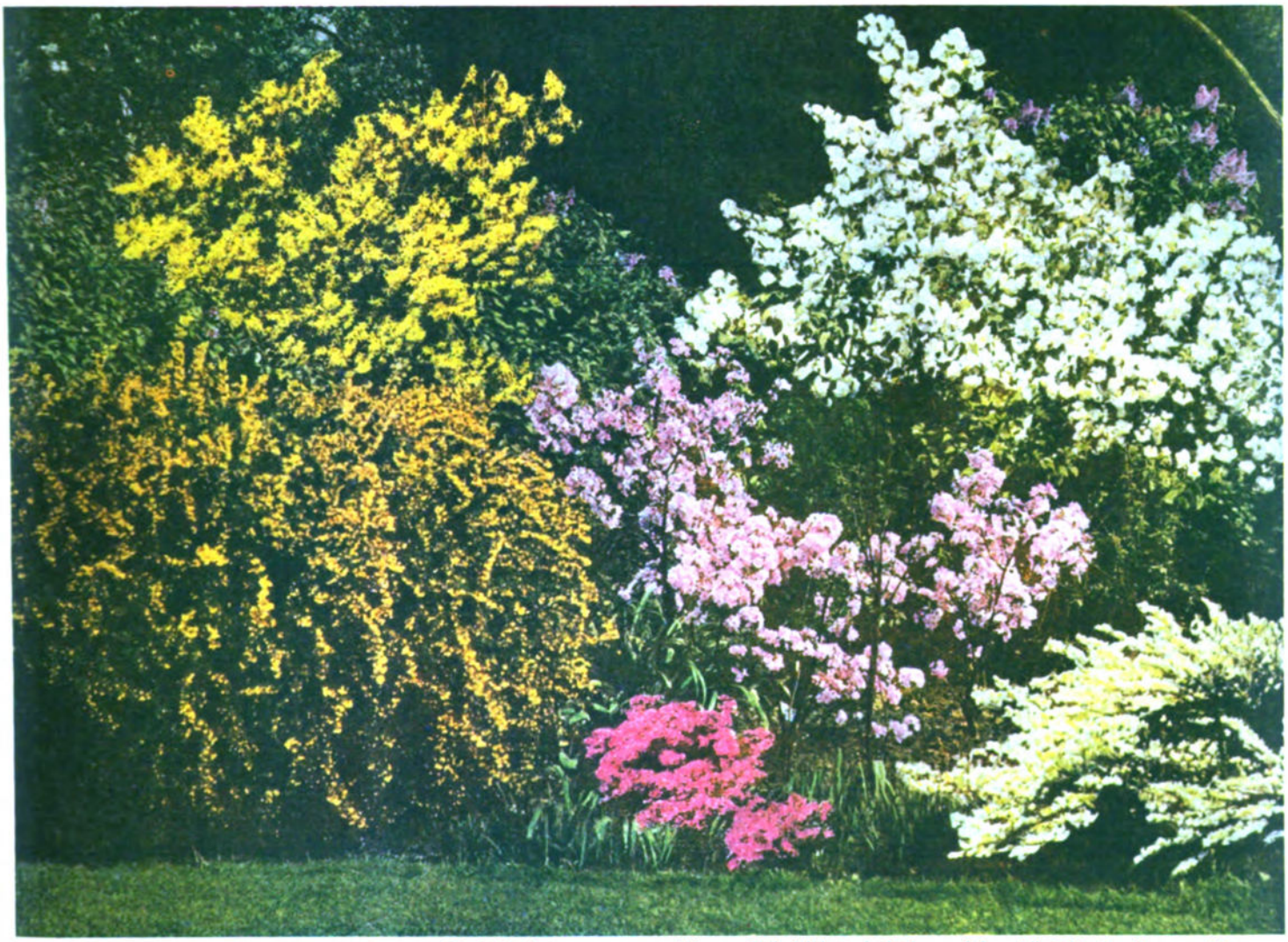

Forsythia spectabilis .. .. 2 -
Berberis stenophylla 2 6
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THE GARDEN

VOL. XCI.—No. 2919. NOVEMBER 12, 1927. PRICE TWOPENCE.

EARLY FLOWERERS IN THE ROCK GARDEN

IT is usually with a sigh that the rock gardener finishes the cutting back and clearing up of autumn; it seems a long time until the special fascination of alpine gardening will be all-absorbing again.

It is possible, however, with a little forethought and care in planting, to have quite a bright show of colour in the rockery when the rest of the garden has hardly turned over from its winter sleep. The first days of March—even the last half of February—may be quite gay with flowers, chiefly blue and yellow, the colours of spring.

Saxifrages of the apiculata type, both white and yellow, are most floriferous and eager "to oblige." January is hardly over before they are out, and they rapidly form large patches. They do equally well in flat ground and among the rocks. Planted at the top of a mound like an inverted basin, they will soon cover it completely.

Some of the choicer saxifrages are also very early. The Gloria variety of S. Burseriana overtakes its ancestor by several weeks, producing its lovely white penny-size blossoms so soon that it usually demands a sheet of glass for protection from winter storms.

Other varieties of February and March flowering saxifrages are Boydii (lemon flowers on grey tufts), Elizabethæ (yellow), Faldonside (very large lemon), L. S. Godself (single-flowered yellow), oppositifolia (rosy), Sundermanni (pink) and Boryi (white on close rosettes).

Few of the mossy saxifrages are very early. Bathoniensis and densa alba, however, make fine splashes of blood red and pure white colour at the beginning of March. The latter is very low growing, almost a carpeter. Both of these will form curtains if planted to fall over stones.

The giant-leaved S. Megasea ligulata is gorgeous in February where it is well established. It covers itself with masses of warm pink tresses, but it needs a newspaper over it in very severe frost.

In the iris family there are several invaluable early kinds. There is that Algerian winter treasure, Iris stylosa, which flowers from November to March even in the severest weather. All it requires is a warm, dry corner under a south wall, with its roots pressed hard against it. Given these conditions, it can be trusted to produce successive quantities of its lovely lavender blue blossoms which look so frail and are so strong, all through the winter.

Of the dwarf irises, Pumila azurea and P. cœrulea are the earliest, coming in with the March winds. They should be separated every two years, as they increase very quickly and do not resent disturbance so much as most of their kind. Replanted in September, every rhizome will send out a flowering shoot the following March.

Some of the miniature bulbous irises planted in warm sandy loam will begin to bloom in January. Their exquisite tiny flowers are easily spoilt by rain or snow, but a sheet of glass is an efficient protector. One of them, however, I. reticulata, a single flower of which will scent a large room, is almost weatherproof. Its rich purple, splashed with gold, is very effective. These irises can be had in shades of blue, purple, white, lavender and yellow.

The hellebores (Christmas roses) are all winter flowerers. They will give masses of white, pink and red blooms from November to March, but, though the plants are hardy, the flowers are delicate, requiring some protection from snow or heavy rain.

The vernal gentian and the miniature grape hyacinth are lovely little sky blue flowers only about 4ins. high and usually open at the end of February. The latter is specially attractive if the bulbs are planted under a close-fitting carpeter, such as Arenaria balearica or Mentha Requiemi. They make little foliage, and it can be easily removed before the carpeter blossoms come out in May.

Primula denticulata is another early-comer. The dense flower heads often appear in November, and as they easily rot in bad weather, it is, perhaps, best to grow this primula in pots in an unheated house or in a window, planting it out when it is in flower, when it will only need a little weather watching.

"Glory of the Snow" (chionodoxa) should be freely planted in colonies for early flowering, though it will not be long before it produces, in mysterious fashion, offshoots all over the rock garden, far from the original patch.

Lastly, there are the blue primroses, which generally precede their common yellow relations. In a mild winter, neats of reddish buds may be found ready to open from Christmas onwards. Planted on sloping ground in an irregular drift, with snowdrops somewhere near them, they will form a lovely spring effect.

A look out should be kept for the appearance of these early blossoms during the next few weeks, and when it comes to planting time next season, their value should be borne in mind. Each is worthy of a corner in the rockery.

This Week's Work

For Gardens in the South and Midlands.

Plant flowering shrubs, herbaceous perennials, roses and fruit trees if weather and soil conditions are suitable.

Continue planting out Darwin tulips.

Take cuttings of bush fruit.

Feed established fruit trees with kainit and basic slag.

Complete the renovation of herbaceous borders.

Prepare sweet pea trenches.

Make a sowing of broad beans on a warm, sunny border.

Lift seakale and force in boxes of soil in a warm greenhouse.

This Week's Work

For Gardens in Scotland and the North.

Plant liliums in large pots, three in each.

Commence forcing asparagus and rhubarb if wanted early.

Arrange vegetable rotation and prepare the ground.

Pot up Berlin crowns of lily of the valley.

Take out sweet pea trench.

Feed Brussels sprouts once a week.

Take cuttings of gooseberries.

Complete the planting of early tulips.

Cleanse fruit trees under glass.

Pot spiræas for spring flowering.

Plant hardy liliums in a sunny border.

Give winter protection to less hardy alpines.

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IDEAS FOR A SHRUB BORDER

A shrub border will be found to add much beauty to any garden. Once planted it forms a pleasant and permanent feature that demands little attention in upkeep. This is the best time to plant up a new border or to make additions or renewals to an already existing shrub border. In the following article is given a list of suitable and choice shrubs, which every amateur will find both useful and decorative.

AT this time of year attention is paid, if you are wise, to the question of shrub renewals and additions. The reason why this should be considered at the earliest possible moment is that it is only while the foliage is still on trees and shrubs that it is really possible to judge correctly when thinnings or additions are necessary. In the winter, when the branches are bare, it is next to impossible for a gardener, however expert he may be, to judge correctly the summer appearance of his shrubbery. On the whole, if additions are made without due forethought the error is usually made in excess planting, rather than underestimating the space at your disposal. A golden rule is that the more floriferous and magnificent a shrub is, the more space you should give it, so that its beauty may not be marred by being crowded by other plants in its immediate vicinity. This is most important, for more fine specimen shrubs are ruined by being crowded than from any other cause. On the other hand, in the winter it is impossible to estimate correctly the value of the foliage of your shrubs, and much can be done by judicious inter-planting to improve the value of your shrub border.

Renewals are a much more difficult problem. Let us take an example. In the case of old lilacs, it often happens that the original graft has been smothered by the stock plant through lack of care, with the consequence that instead of the fine flowered variety, nothing remains but the squinny flowers of the original stock. Probably it is a large bush and the owner has qualms at removing it and leaving an unpleasant gap in what may otherwise be a shapely border. Naturally, every case requires individual treatment, but in the case of renewals in an old, well established border, it is usually advisable to choose plants for renewal that are quick growing: deutzias, syringas, philadelphus, buddleias, and the large spiræas, such as S. arborea, S. Aitchisonii and S. sorbifolia are excellent among large plants. If those of smaller size are required, such shrubs as Potentilla fruticosa, Berberis Wilsonii and some other berberis, some of the better hypericums and the dwarfer deutzias will soon fill the space. When renewals are made, remember to remove the stump of what is removed—cutting down is not sufficient—and to work the soil well, while you have the chance. It will let the new plant get away all the quicker if the ground is worked and enriched. But in renewals and additions remember, above all, that overcrowding is a grave error.

It is generally supposed that a shrub border requires little planning and that, provided that due care is taken to plant the tallest growers at the back and dwarfer shrubs in the front, arrangement is not difficult. That may be so, if a massed and tight effect is aimed at, but in that case the shrub border will be simply a screen, there will be no individuality about the plants. Let us give an instance. Buddleia alternifolia is one of the most graceful shrubs, with its arching branches and lavender flowers. But this buddleia flowers on the old wood and so it cannot be pruned, with the consequence that it must have room to expand. Now the middle of a shrub border is useless as a situation for this charming individual. It will either infringe on the ground of its neighbours, and in time shut them off from sight, or it will have to be pruned, when its effect disappears. So the place for it is either at a corner or at the end, where it can arch over the grass without harming either itself or its neighbours. In fact, for an ordinary shrub border, rather stiff and erect shrubs should be grown, for their limits are known and so the area allowed them can be legislated for. It is impossible in the space at our disposal to give lists of all suitable shrubs, but the following are excellent for shrub borders:

Abutilon vitifolium.
Arbutus Menziesii.
Arctostaphylos manzanita.
Azaleas in variety.
Berberis Darwinii, stenophylla and others.
Buddleia variabilis and varieties; B. alternifolia.
Ceanothus Gloire de Versailles, varieties and species.
Clethra alnifolia.
Corylopsis spicata.
Cytisus in variety.

DEUTZIAS ARE EMINENTLY SUITED FOR A PROMINENT POSITION IN THE SHRUB BORDER.

NO SMALL GARDEN SHOULD BE WITHOUT ONE OF THE CHOICE DECORATIVE VARIETIES OF THE MOCK ORANGE.
This species is Philadelphus Lemoinei smothered in blossom.

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Desfontainea spinosa.
Deutzias in variety.
Daphne Mezereum.
Escallonia macrantha; E. langleyensis; E. Philippiana.
Ericas in variety for edgings.
Fremontia californica.
Gaultheria Shallon.
Hamamelis japonica; H. mollis.
Hypericum patulum Henryi and other species.
Kalmia latifolia.
Olearia Haastii, and a few of the taller growing species.
Osmanthus Delavayi.
Pernettya mucronata.
Pieris japonica.
Pyracantha coccinea, var. Lalandei.
Potentilla fruticosa.
Plagianthus Lyallii.
Philadelphus coronarius; P. purpureo-maculatus; P. microphyllus; P. Boule d'Argent; P. Voie lactee; P. Virginal Lemoinei.
Prunus and pyrus in variety.
Raphiolepis japonica.
Rhododendron chartophyllum præcox; Rh. yunnanense, and others of the triflorum series.
Spiræa Aitchisonii; S. arborea; S. sorbifolia.
Stranvaesia undulata.
Syringas in variety.
Viburnum Carlesii; V. fragrans; V. Tinus; V. tomentosum plicatum.
Veronica Traversii and varieties.

As well as aiming at a border which is to show off the individuality of its constituents, some attempt should also be made to select the plants so that the border will be a representative one and will contain something of interest at the main seasons of the year. Early and late flowering subjects must be included, while autumn colourers and berriers are also worth introducing. Here again, the physical conditions of the site must, to a certain extent, govern the selection of the plants and the nature of the soil must receive consideration, whether it be limy or lime-free, heavy or light, etc. Some shrubs, such as Osmanthus Delavayi, Forsythia intermedia and others, do well in a position facing north, with no overhead shade; while others, of a more tender nature, prefer a situation with a southern aspect. Gaultheria Shallon, Ruscus aculeatus (the Butcher's Broom), Euonymus radicans, Sarcococca ruscifolia and Vinca minor and major, do well in a semi-shaded position.

DWARF CONIFERS for the LAWN and ROCKERY

EVERGREEN conifers have for a very long period been popular with owners of gardens, more particularly small gardens. In a small state they are wonderfully attractive plants, and they make such a strong appeal to those with a limited knowledge of trees that they are indiscriminately chosen for a variety of positions, many of which are quite unsuitable for the particular species. It is not unusual to find species which naturally form trees of the largest size planted in tiny gardens and in the forecourts of suburban residences, where, after a few years, they make it impossible to cultivate other plants near by, and at the same time preclude much light and air from dwelling-rooms. Sentiment does not admit of their removal, and only too often the owners or occupants of the houses submit to the discomfort of darkened rooms and a stuffy atmosphere, rather than harden their hearts and remove such trees. Cedars and hemloc spruces, firs, cypresses and monkey puzzles may all be found occupying cramped positions, where they are quite out of place and are not seen to advantage. At the same time there are many dwarf kinds of conifers that are eminently suitable for planting in small gardens, on lawns of modest dimensions, or even in the rock garden among choice alpine plants.

CUPRESSUS ALLUMII, THE FINEST OF THE BLUE CYPRESSES, OF NEAT, COMPACT HABIT.

There are some species of dwarf habit, but the majority of the dwarf conifers are varieties of well known species. Some of them are almost identical with the stunted forms of various species that are found at high elevations or in exposed positions; trees which normally grow 100ft. or 150ft. high, but by cold and exposure are reduced to dense bushes of 1ft. or 2ft.; and they may very well have originated from these stunted forms. Others have come about by propagating sports or abnormal branches from established trees; by chance seedlings differing from the type; and in various other ways. It is even suggested that some of the very dwarf, dense kinds of spruce and other subjects have been obtained by propagating from the curious tufted growths that sometimes appear upon trees and are known as witches' brooms. However they may have originated, they maintain a dwarf, dense character, only occasionally breaking away with a long, wild, vigorous shoot, as if an effort were being made to return to the normal form.

All gardens are not suitable even for dwarf conifers. It is only courting disaster to plant these or other conifers in gardens in or near smoky towns, or where the atmosphere is charged with chemical fumes. They are essentially plants for the country and small towns where the atmosphere is, at any rate, moderately free from impurities. Moreover, they are, in most cases, unsuitable for very dry, sandy or gravelly soils, unless some considerable trouble is taken in preparing the ground for their reception. Where one of these dwarf conifers may succeed very well in a rockery where the soil does not appear to be very plentiful, it may prove a distinct failure in a dry position in the ordinary soil of the same garden. As a rule, it is easy to see in any neighbourhood whether dwarf conifers are likely to thrive by the condition of the trees that already exist thereabouts.

It is usually wise to plant conifers in permanent places while they are comparatively small. If large plants are purchased, care should be taken to find out whether they have been regularly transplanted and that they are lifted, packed and eventually replanted in a proper manner. When dwarf conifers are to be grown in crevices between stones in the rock garden they should certainly be planted while very small, for they will then establish themselves and grow to fit the positions better than would larger plants.

The spruces offer a wide field for selection. There are dwarf forms of several species, and even one or two species are so slow and compact growing that they are well adapted for even small gardens. The West American Picea pungens and more particularly its glaucous-leaved forms, glauca, argentea, Moerheimii, Kosteriana and Speckii, form very beautiful conical or pyramidal trees, often not more than 6ft. or 8ft. wide at the base and less than 15ft. high. They take many years to reach that size and, though they may grow taller and wider, they are unlikely to grow out of bounds. The leaves of the type are bluish, but the colour is intensified in the varieties. Unfortunately, this species is subject to attack by spruce aphis, Aphis abietina, which first turns the leaves brown and then causes them to fall. On the appearance of this pest the plants should be thoroughly sprayed on several occasions, at intervals of a few days, with a paraffin wash. Of the common spruce, Picea excelsa, there are many dwarf varieties. They vary a good deal in habit and stature. Some form compact, cushion-like masses less than 2ft. high, others grow into dense bushes 10ft. or more in height; some are of loose habit with long sprawling branches, while others are of prostrate growth. P. excelsa var. Clanbrasiliana forms a dense rounded bush 4ft. to 10ft. or more high and up to 10ft. through. It takes many years in attaining its largest size and frequently does not exceed 5ft. It is too coarse for the rock garden except an out-of-the-way place can be found

ANOTHER CHOICE GOLDEN-LEAVED VARIETY CUPRESSUS ERECTA VIRIDIS AUREA.

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in the background, where shelter is desired for some other plant, but it is well adapted for planting on a lawn of modest dimensions. The variety pyramidalis is taller than the last-named, but it also is of compact habit and suitable for a small garden. More suitable for rockery planting are such low-growing kinds as nana, Gregoryiana, humilis, pygmæa, echinæformis, dumosa, capitata, diffusa, Sargentii, nidiformis and Merkii, all varieties of P. excelsa. Varieties such as pendula, procumbens, repens and prostrata are all prostrate forms of the common spruce. They should be planted so that their branches can trail over a rock; one or two form picturesque additions to the rock garden, but they should not be overdone. Picea orientalis nana and P. o. gracilis are of dense, compact growth with very small and neat leaves. They take many years to reach a height of 3ft., and are excellent for the rockery. P. Albertiana var. conica forms a dense cone of rich green leaves. It grows very slowly and is suitable for the rock garden for many years, although eventually it may become too large. For the border of a small lawn it is well suited. It is a dense, compact form of the western North American P. albertiana.

Among the junipers are numerous dwarf kinds that are well adapted for small groups on lawns, for covering banks, or for the rock garden. They thrive in chalky soil, although such soil is not absolutely necessary. Of the common Juniperus communis there are several attractive forms that deserve a prominent place in the rockery. J. communis var. nana is a prostrate shrub rarely a foot high, which forms a carpet of glaucous green leaves. J. communis var. compressa is a very slow-growing shrub, popular for rock gardens. It does not readily grow out of bounds, although it may attain a height of several feet. It appears to be a slow-growing form of the variety hibernica, or it may even be the same plant. However, the so-called Irish juniper eventually attains a height of 12ft. or 15ft. Other forms of the common juniper are echinæformis, aurea and nana aurea. The last two have golden variegated leaves. The numerous varieties of Juniperus Sabina—the "Savin"—are rather coarse for the rock garden, although they form very good evergreen groups for the border of a lawn, or they may be used with effect for covering banks. Good varieties are humilis, Knap Hill and tamariscifolia. J. horizontalis, J. procumbens, J. chinensis var. globosa, J. chinensis var. nana, J. conferta, and the varieties of J. virginiana, dumosa, globosa, and reptans are all dwarf, slow-growing plants.

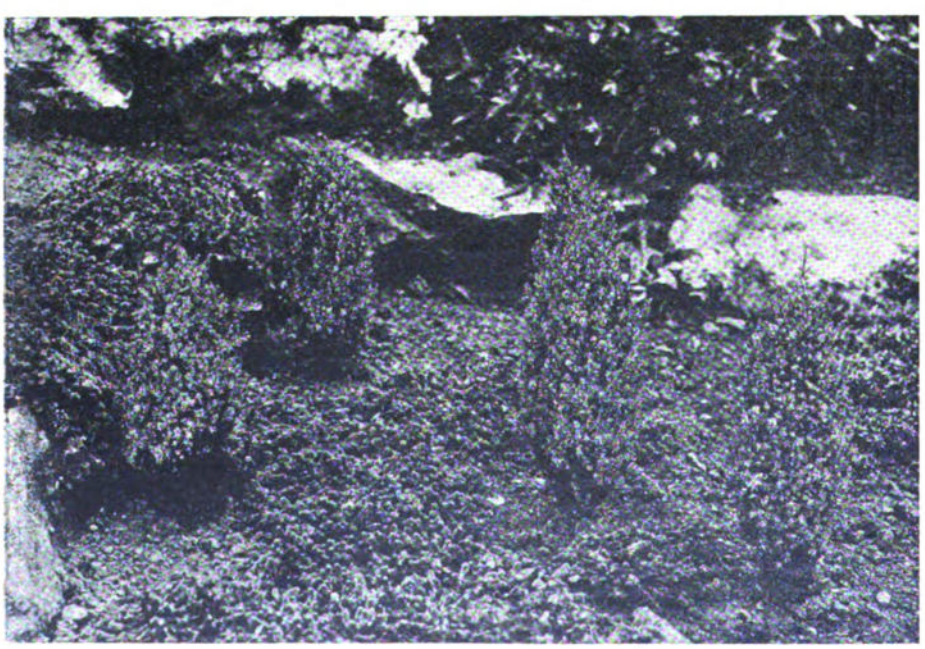
A WELL PLACED CUPRESSUS BY THE MARGIN OF A SMALL ROCK POOL.

Among the cypresses are several kinds that are well suited for the margins of small lawns. Of Cupressus Lawsoniana there are numerous dwarf and compact varieties. The variety nana forms a compact bush 4ft. to 5ft. high and 5ft. or 6ft. or more through; filiformis compacta forms a globe-like bush, peculiar by reason of its slender, pendulous branchlets; nana glauca is very like nana, but has glaucous foliage. Fletcheri forms a dense pyramidal bush, peculiar from the fact that the leaves retain the juvenile shape. Variety darleyensis is a plant about the size of nana, from which it differs by having golden leaves. Variety juniperoides, also called ericoides, is a low-growing plant with very graceful shoots and leaves. In addition to these, there are numerous other forms of Cupressus Lawsoniana that are slow enough growing for the smallest gardens.

The Japanese Cupressus obtusa has produced a number of beautiful and interesting forms which grow very slowly and are suitable either for the rock garden or for grouping on the margin of a lawn. Some of these varieties have golden foliage, and it is wise to reserve them for the lawn relying upon those with green leaves for the rock garden. C. obtusa var. pygmæa seldom exceeds 2ft. in height. It is peculiar by reason of its stunted growth and flat branches. It is very suitable for the rockery. There is a form of this variety with golden leaves. C. obtusa var. nana is a dwarf dense plant with very crowded branches; an exceptionally dense form has been given the name of densa, while aurea is a golden-leaved counterpart of nana. In C. obtusa var. Sanderi the leaves retain their juvenile form. It may grow several feet high. C. obtusa var. tetragona forms a conical bush with dense, small-tufted branchlets. There is a golden-leaved variety, aurea. Of Cupressus pisifera, the varieties plumosa aurea, plumosa aurea compacta and squarrosa sulphurea are all attractive plants that are slow enough growing for planting in gardens of modest dimensions.

There are several thuyas that are well adapted for small gardens or rockeries. Of Thuya occidentalis, the varieties minima, ericoides, compacta and globosa should be noted; while of Thuya orientalis there are nana, cristata, dumosa, densa glauca, and various others of slow growth. Then there are several other varieties rather larger than those mentioned above, such as Hillieri, elegantissima and aurea, that are very suitable for lawns and small gardens. Several species of pinus have produced dwarf varieties, such as P. sylvestris var. globosa, var. aurea, var. nana and others. Those with natural-coloured leaves are very suitable for the rock garden. Of the Weymouth pine, Pinus Strobus, there are the varieties pumila, minima and prostrata; while of the Japanese P. parviflora there is a dwarf form, nana.

In addition to those mentioned there are dwarf forms of taxus, podocarpus, Douglas fir, larch, Tsuga and of several other genera, but those enumerated offer a wide choice to would-be planters. W. D.



AN EXCELLENT DWARF CONIFER FOR SPECIMEN PLANTING IN THE ROCK GARDEN, JUNIPERUS HIBERNICA COMPRESSA.

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CLIMBING AND RAMBLER ROSES

Some of the Best Varieties.

IN dealing with the climbing roses, the first kinds to come under review are the rampant forms of the hybrid teas. It will be observed that a good many of the climbing roses bear the names of well known hybrid teas, and almost without exception they are simply sports from the dwarf sorts of similar name. Several of these sports of a climbing character are not fixed, and they are apt to revert back to the dwarf form of the variety from which they originated. Climbing Lady Ashtown, Climbing Mme. Abel Chatenay and Climbing Sunburst are examples of such reversion. No matter how carefully these may be propagated, and no matter how particular the nurseryman may be in taking "eyes" for budding from shoots that are decidedly of a climbing character, a large number are sure to go back to bush or dwarf form. On the other hand, several of the climbing hybrid teas are practically fixed, and the grower rarely finds a case of reversion to the parent among them.

Climbing Caroline Testout is, to my mind, the finest and most reliable of the climbing hybrid teas. It is really a wonderful climber, and it seems to produce flowers that are superior to those borne by the dwarf form. It has been stated that this rose is not a sport but is a seedling. If that is so—and I am inclined to think that the statement is correct—it will explain its constancy as a climbing rose and the lack of reversion which is justly attributed to it. It flowers with wonderful freedom, and it has a most vigorous constitution. Climbing Paul Lede is another vigorous climber that is also very constant in character. This variety is not sufficiently well known, and lovers of climbing roses who have not yet tried it should make a point of doing so. The colour is a carmine pink shaded with saffron yellow, and the flowers are large and are of attractive formation. It is also free in its flowering character and is a real hybrid tea in this respect.

Climbing Mme. Edouard Herriot is a beautiful climbing rose. One of its most important features is its earliness in coming into flower, and it is one of the first of the climbers to show blooms in early summer. Climbing Mme. Melanie Soupert is another good variety, and Climbing Lady Hillingdon is also worthy of note. A climbing form of Mrs. Henry Bowles has been sent out this season, and it is a very vigorous and free-flowering sort that may be absolutely relied upon. One or two sorts are somewhat shy in flowering, and Climbing General MacArthur and Climbing Mrs. Herbert Stevens are examples. Both grow with extraordinary vigour, but they are notable for their paucity of blossoms. There is a climbing form of Ophelia, but as we now have a Climbing Mme. Butterfly I think we need not trouble any longer about the Climbing Ophelia. It is needless to elaborate any further upon the climbing hybrid teas, but it may be mentioned that there are now climbing forms of Chateau de Clos Vougeot, Golden Ophelia, Hoosier Beauty, Irish Fireflame, La France, Liberty, Los Angeles, Mrs. Aaron Ward, Mrs. W. J. Grant, Richmond and Sunstar. Climbing H. V. Machin deserves special notice. The dwarf form is very difficult to grow; it remains a poor stilted thing in most gardens. Those who have trouble with it can overcome the difficulty by growing the climbing form.

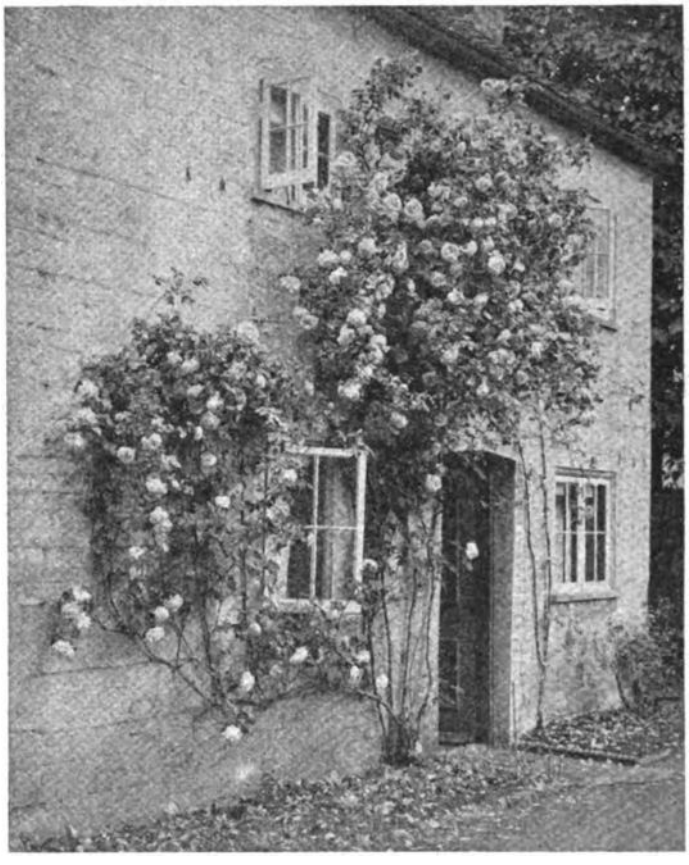
Lemon Pillar, reputed to be a seedling from Frau Karl Druschki and Marechal Niel, is a splendid rose, and it is simply unrivalled for cultivation in the cold greenhouse or conservatory. With the protection of glass the flowers are perfect; the formation is ideal; the colour is an entrancing shade of white with a faint tone of lemon through it that gives the appearance of a sheen of green over the flower. I have seen as many as four hundred flowers open at one time upon an established plant in a conservatory. It also does well in the open. Black Boy, an Australian rose, has flowers of a very dark crimson. Allen Chandler is hardly a climber, and will be dealt with when we come to Pillar Roses. Lady Gwendoline Colvin deserves a wider popularity than it has at present. It resembles Lady Pirrie in colour, and is an early flowerer.

Gloire de Dijon, William Allen Richardson and Mme. Berard are well known as reliable sorts. The first and the last are tea roses, and W. A. Richardson is a noisette. In a mild season Gloire de Dijon flowers almost throughout the whole year. Alister Stella Gray, another noisette, with ochre yellow flowers fading off to white, was a favourite at one time, but it seems to be falling out of the lists. Mermaid, with its glorious single sulphur yellow blooms and its very conspicuous stamens, is very beautiful and has become justly popular. Una, a single pure white, is a vigorous sort and a most prolific flowerer. The buds are buff yellow. This rose is said to be derived from the wild rose (Rosa canina) and Gloire de Dijon. It is worthy of a place in gardens where free-flowering climbers are desired.

Several old favourites have now almost dropped out of commerce, and I am mentioning them here as I think they deserve to be revived again. Reine Marie Henriette, for example, has practically gone out of the catalogues. What is the reason? Is there, among crimson climbing roses, anything to beat it to-day? I have seen this rose during the last year or two beautifully established on walls in old gardens, and every time I see it I ask myself why it has been discarded. The same remarks apply to Charles Lawson, an old Bourbon rose of great vigour and remarkably free-flowering qualities. The colour is rosy pink, and the fragrance is delicious. One firm is re-introducing these fine old roses.

Mme. Alfred Carriere is worthy of note. It is a rampant grower, and its white flowers have a fine perfume. It takes a year or two to become established, but when that has been done it is, surely, one of the most satisfying of roses. If a grower looks to the future he will certainly plant this rose. It will clothe a wall or building very rapidly, and when it is established it will be a great sight season after season. Climbing Cramoisie Superieure, a rampant form of the grand old China of that name, is undoubtedly the most perpetual-flowering variety among climbing roses. The colour is a deep crimson. For a cottage wall there is nothing finer.

American Pillar needs no description, nor does Paul's Scarlet Climber. These, of course, are more like ramblers in character than the sorts already dealt with in this note, but as they are very distinct from the wichuraiana hybrids they are included here. They are good for walls, pergolas, posts, or any erection upon which roses may be grown, whereas the wichuraianas, or, at least, most of them, are not suitable for walls.



A CLIMBING ROSE MAKES ONE OF THE MOST ADMIRABLE WALL DECORATIONS, ESPECIALLY OVER A DOORWAY.

The climbing roses dealt with here are all most suitable for walls, pergolas or high fences. Their fault is their inclination to become leggy at the base after they have become established, but this can be remedied by proper attention in regard to pruning, and this will be dealt with in due course. It should be the practice when planting climbing roses to shorten the shoots back to about 3ft. from the ground. Many growers tie up the long shoots of climbers very carefully, but that is work all to no purpose. If climbing roses are to be satisfactorily established they must be pruned the first season after planting, and pruning consists in cutting the shoots grown in the nursery to within 6ins. of the soil level. Climbing roses planted now, for example, should have the long shoots shortened back as stated, and at the end of March or beginning of April they are cut down drastically. Wichuraianas and allied ramblers will form the subject of my next article.

GEO. M. TAYLOR.

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THE BUSY MAN'S PAGE

Wattle Hurdles in the Garden.

WATTLE hurdles are useful garden accessories. They consist of a framework of stated size, across which are woven split hazel branches, the whole having the appearance of basket work on an enlarged scale. They make excellent wind screens. Three of them fixed round the garden frame on the windward side shelter it from the cold winds of winter and make the frame comparatively secure. Or a wall of hurdles erected along one side of the garden serves as a useful wind screen, warding off direct windstorms and draughts. Although primarily meant to serve as wind screens and protective hedges in the garden, they may also be utilised as dividing hedges, boundary fences or as screens to hide certain parts. For the former purposes they are quite good because, having essentially a stout post at either end, they are solid and stout. Be it noted, however, that to make a neat job a wooden rail of ordinary fencing material should be used in addition to the hurdles along the top to keep them from warping and twisting. It is impossible to see through these hurdles, hence as a screen they are ideal, and possessing

WATTLE HURDLES MAKE EXCELLENT WIND SCREENS.
They are made of split hazel branches.

as they do, especially after a little weathering, a truly rustic look they never seem out of place. They can also be made circular in two pieces for the purpose of protecting shrubs. The hurdles are sold in various sizes. A very useful size for a fence or a wind screen is 6ft. by 3ft.; smaller sizes are very good to use in spring in order to prevent cold draughts playing on early crops; larger sizes make excellent screens. As a rule each hurdle is sold with one stout post. By employing these hurdles in the garden it is an excellent way, at little expense, of protecting one's stock of plants. Any of our readers who are interested should write to Messrs. Ernest Smith, who specialise in the making of these hurdles.

Garden Mats for Winter Protection.

A STOCK of garden mats is undoubtedly an acquisition during the winter season, from October until May. These mats are made of stout, woven material. In size they vary considerably, but two useful sizes are 4ft. by 3ft. and 7ft. by 3½ft. When not in use they ought to be dried and kept dry, not merely because when treated in this way their "life" is considerably prolonged, but because a dry mat on a frosty night is better than several wet ones. Some of the mats should have a stout cord carefully sown on to each corner. Garden mats are used to cover the frames during frosty weather. They ought to fall over the sides to keep cold wind from leaking in and, to hold them in position, a rope over the top, a couple of boards or ties at each corner are required. Hotbeds, frames and other things can often be safeguarded by throwing a mat or two on the windy side, and a mat erected as a permanency can become a very fine wind screen. Mats can be suspended round or in front of fruit and other trees. Thrown on a frame work over plants in the open, over crops in the border or on half-hardy plants in the rockery, these mats will keep out frost very well and shield the subjects from stormy weather. A hundred and one other uses might be enumerated, but we cannot go into detail. Readers who do not yet know their value should get a few—they cost from 6d. to 1s. 9d., according to size and quality—and they will then regard their store of mats as a real asset.

Liming a Lawn.

AFTER a wet year like this, as well as in all cases from time to time, say, every four or five years, a lawn derives much benefit from a dressing of lime. When the soil is heavy and of a retentive nature we should even go beyond that and apply lime every third year or so. Active or caustic lime must not be used, otherwise the grass may become discoloured for a time. Ground carbonate or finely ground shells may be used, and such are probably best when the soil is of a light and porous nature. Having obtained or prepared the lime, let it be applied this month, or next, at the rate of half a pound per square yard. It may be mixed with sand or sifted soil or applied alone as desired. Although absolute exactitude is not necessary in making the application, a line may be set across the lawn cutting off a yard breadth; this, paced out, will represent square yards, and the correct amount may be applied there, the process being repeated until the lawn is completely treated. Apply on a dry day. Lime, however, is apt to encourage clovers (which may be killed out with one of the easily procured proprietary brands on the market, or sulphate of ammonia in spring), but it also kills moss, discourages weeds, improves the "feel" of the lawn and rejuvenates the grass.

Winter Treatment of Fuchsias in the Greenhouse.

FUCHSIAS ought to be kept in a cool place during winter free from frost and damp, the main idea being to give them a period of rest for a few months. It is not always convenient to keep a greenhouse at the temperature suited to such plants, having regard to other occupants which demand warmth, but it is serving the best interests of fuchsias when they can be kept cool and examined from time to time. No attempt should be made to cut them back until towards February, when the new growth appears. At that time they are best brought into gentle warmth, and when shoots have well broken they can be repotted. This involves shaking some of the old soil away without disturbing the roots more than one can help, after which they should be syringed in order to induce free growth. It is not always necessary to shift them into larger-sized pots so much as giving them a start in fresh compost, which should consist of good fibrous loam, leaf-mould or spent hops with a little coarse sand. In shifting them it is desirable that the pots be clean and that ample drainage is provided. From the time fuchsias begin to make active growth a genial and somewhat humid atmosphere suits them best.

Standards.—In the case of standards, the treatment is rather different. They should be encouraged to continue growth during winter, but little heat is needful for this, the idea being to keep them moving gently. As spring approaches more water should be given fuchsias, and they can also be helped with weak applications of liquid manure or fertiliser, but whatever liquid is given it should have the chill taken off, as otherwise it is easy to give them a check. After the young shoots have made several inches of growth they may be stopped to render the plant shapely, and the cuttings dibbled in the warm, moist bed of a propagating pit if more plants are wanted.

Fuchsias when in actual growth ought to have their shoots tied to thin twigs or sticks, as if this is not done they not infrequently get broken by weight of water from the syringe. A little old soot placed in the water will have the effect of improving the colour of the foliage, besides invigorating the plants.

Dividing Herbaceous Plants.

NOW is the time to renovate and replant the herbaceous border. Sometimes the tall plants, such as Michaelmas daisies, perennial sunflowers and the other herbaceous occupants, are just chopped in half with a chopper, and replanted. However, this is not the most successful method, for it is not the number of shoots to a clump that counts, but the number that can be given free action so that they flower well. Herbaceous plants grow away from the centre, so that it is the outside ring that counts and not the central stool, which is old stock. So instead of chopping off large pieces, the stools should be carefully divided, and the small outside tufts planted in preference to the large, hacked-off pieces.

Draining a Small Garden.

BEFORE setting about draining a small garden it is most essential to see that a suitable outlet is available for the flow of water. This outlet may be into a ditch, into a pond, into a well or into another pipe, but when these are not available then a deep well is required penetrating down to a porous gravelly stratum; the well need not be left open, for if filled up to drainage level with stones or clinkers and covered with soil it works quite efficiently. Drainage pipes are laid down the slope of the garden at intervals of 10ft. to 15ft. In a level garden the ditch dug should vary in depth so that the water will flow to the outlet. Dig the ditch to a depth of 2ft. in heavy land or 2½ft. in light land; see that the bottom is smooth and lay the pipes as close as they will go. Place stones in the ditch over the pipe if there are any lying about and fill in earth loosely, allowing it to settle naturally during the winter. If drain pipes are not available, fill the ditch to a depth of 6ins. with rubble, clinkers or coarse ashes, place a layer of turf on top and fill in soil. Smaller gardens still can be drained by simply digging a hole in the centre. Leave this open all winter, toss into it stones, tins and rubbish of any kind, cover with turf and fill soil on top in spring.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Five Rods of Fruit.

NEARLY all garden fruits are gathered, and with the approach of the season of the sere and yellow leaf, we think of new plantings. The best time to plant the apples or loganberries on which you have set your heart, is when the sap is descending. This is a rule-of-thumb method of gardeners, and it is borne out by scientific knowledge. The extra activity which goes on inside a plant, in preparation for the winter, enables it to form new roots, and heal wounds caused by moving. I am asked by one reader to give a few suggestions for planting five rods of land with fruit trees. Five rods is roughly 10yds. by 15yds. On such a piece of land quite a variety of fruits can be grown.

The first thing would be to bastard trench the land, 2ft. deep., and dig in two loads of manure and 2cwt. of lime. The rows of fruit bushes should run north and south. Plant on the north and east sides Morello cherries and loganberries as a protection from the cold winds. Five loganberries and two cherries would be sufficient. Raspberries are planted in rows, 3ft. apart in the row, and 5ft. between the rows. Lloyd George is the best variety. Currants are planted 5ft. apart each way. Red Dutch and Black Baldwin are two of the best varieties. Gooseberries are planted the same distance apart, Keepsake, Lancashire Lad and Whinham's Industry being good sorts. On such a plot there would be room for two rows of strawberries, or more if desired. These could be planted in single rows between the gooseberries and currants. There would also be room for a few apples and plums. For cooking apples, plant Early Victoria (July) and Rev. W. Wilks (October). For dessert, James Grieve (September) and Cox's Orange Pippin. Golden Gage, a dessert plum ripe in August, would be worth growing, and for a second, I should try a Victoria.

Of course, more fruit trees can be grown if they are trained on the cordon or espalier system, but this means more work in pruning. Now is the time to order fruit trees for autumn delivery. Study a catalogue and enquire what varieties succeed best in your locality before ordering.

Worm Casts.

THE wet summer, rank vegetable growth, and falling leaves—these are the conditions which make worms plentiful in the soil, and on the lawn their activities are specially noticeable. Several large seedsmen supply special powders for destroying earth worms, and in the small garden these remedies are useful, as they are readily prepared and extremely effective. Lime is obnoxious to most earthworms, and a liberal dressing of freshly slaked lime has the effect of bringing them to the surface, when they can be swept up and buried in a deep hole elsewhere. The best method is to dissolve the lime in water and distribute the liquid with a rose water-can. In the flower garden or vegetable garden they are the gardener's friends. They feed upon dead vegetable matter, and worm casts actually enrich the soil. The burrows they make help the drainage of the soil, and enable more air to be admitted.

NOVEMBER in the TOWN GARDEN.

WHAT TO DO THIS MONTH.

1.—*Collect all old leaves and store for making leaf mould. They are worth their weight in gold.*

2.—*Plant roses in suburban gardens. In very smoky parts, defer planting until February or March. This advice applies to all trees and shrubs.*

3.—*Insert cuttings of currants, gooseberries and roses.*

4.—*All kinds of fruit trees and bushes may be planted in favourable weather.*

5.—*Tie up endive to blanch.*

6.—*Trench vacant land where necessary.*

7.—*Plant tulips in window boxes.*

8.—*Remove bulbs in bowls into the light, when top growth has commenced.*

9.—*This is the time to apply lime, kainit and basic slag when digging or forking is done.*

10.—*In wet weather, tidy up the garden shed, sharpen and clean tools, sponge the leaves of indoor foliage plants, wash the glass and stages of greenhouses, send for all the catalogues mentioned in* THE GARDEN *and study their inspiring pages.*

A Dripping Well.

DRIPPING wells in the garden are both useful and artistic. Water drawn direct from a tap is usually too cold for watering until it has been exposed to the air for some time. Dripping wells should, of course, be fitted with a ball tap to keep the water-level constant. Stone paths, such as are seen in the garden illustrated are more suitable near a dripping well than paths of gravel or grass.

A DRIPPING WELL FORMS A PLEASANT FEATURE IN A SMALL GARDEN.

Spring Preparations.

MOST plants have a rest time, or, at least, a time when normal growth ceases and, apparently, no activity is taking place. Scientists know, however, that this "rest" is not inaction, for frequently intense activity is taking place in the internal mechanism of a plant when, outwardly, all remains quiescent. It is the same with the gardener. Though he may not appear to do much during these shorter days of autumn and winter, he has really no time to rest, for even now the preparations for next season are in full swing.

Sweet Pea Trenches.

There is the question of sowing sweet peas. Whether the gardener intends to sow in springtime, or has already his seeds in pots or boxes under glass, now is the time to prepare the ground in which the plants are to grow. One famous grower advocates opening the trench now, leaving it exposed until Christmas and then filling it in. The actual planting would not, of course, be done until late February or March. The reason for digging deep trenches for sweet peas is so that there is plenty of depth of cultivated soil below the plants. The roots run deep, and they require, in addition to food supplies, a good supply of air. In soil only cultivated to a depth of a foot or so, the roots cannot remain healthy. By opening a trench now, the weather action breaks the lower layer of soil, allowing air and moisture to penetrate far more deeply than they would otherwise do.

How to Plant Holly.

SUPPOSE you have a holly bush to plant in a back corner of the flower border. The first thing to do is to dig a hole 3ft. in daimeter and 12ins. deep. Do not bring the bottom soil to the top, but break it up well with a fork. If you can mix some well decayed manure or vegetable refuse with this under layer, will be of great benefit to the plant. Place the holly in an upright position, and stake before filling in the hole. Sprinkle fine soil around the roots, and work this among the fibres with your fingers. Lightly tread this, and fill in the soil to the level of the surrounding surface.

It is usually possible to tell how deep to plant by the previous soil mark on the stem. If the weather is dry, give the soil a good soaking. This method of planting is suitable for all evergreen shrubs or hedges that are to be planted at this season.

Should the roots have been damaged considerably, it is advisable to cut away some of the top, choosing always the ill shaped and weakly shoots for removal, and bearing in mind the desired shape of the plant

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THIS WEEK IN THE FLOWER GARDEN

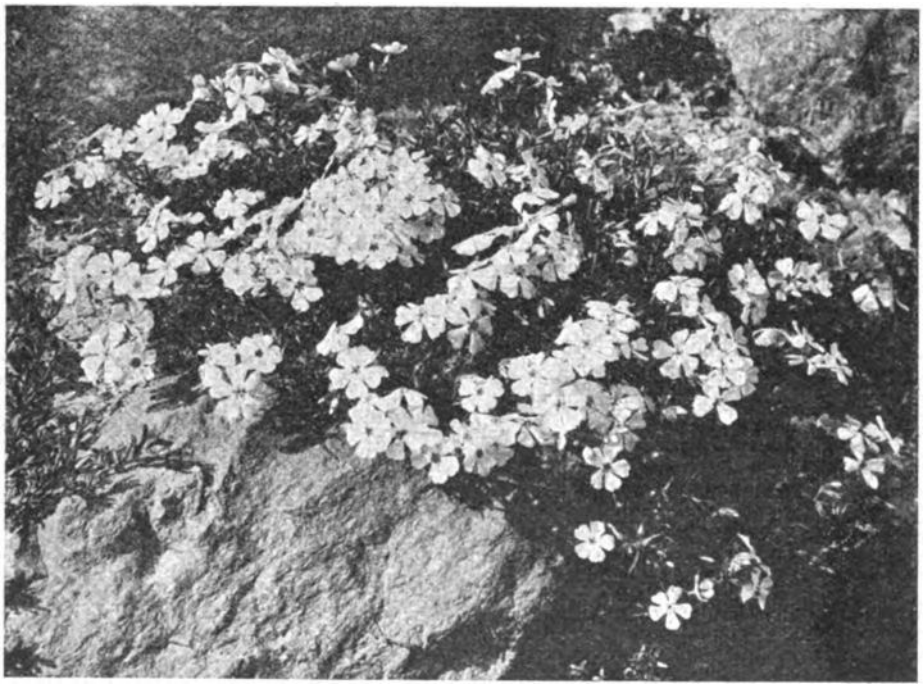
Work in the Herbaceous Border.

FROM observations kept earlier in the season those plants in the border which were not giving satisfaction ought now to be replanted, and it is advisable to change their position so as to give them the best chance to recuperate and make healthy plants for next year's flowering season. It is wise to prepare beforehand the selected manure by having it well rotted and in a fit state for application during the planting season. Varying composts, according to the requirements of each group or individual plant, can be mixed as the operation of planting proceeds, but their use in many cases is hardly necessary if good farmyard manure is given in liberal quantities. The plants singled out for shifting can be cut down to 1ft. from the ground, leaving as much old stem as enables them to be easily handled during their transfer. As many herbaceous plants have fibrous roots it is important to use a fork for lifting. The use of a spade at this particular time completely destroys those roots which are essential for the future well-being of the plant. Should the plant require reduction, and it is more than likely, as in the case of plants like Chrysanthemum maximum or Michaelmas daisy, the fork plays the important part. Separate the plant as far as possible with two forks placed back to back and pull the handles outwards. The centre part can now be thrown away and place the remaining pieces in the hole previously prepared with their outer edges towards the centre.

The young shoots will now be growing in the opposite direction and we rely on those to give the best flowers next summer.

It is most important that the hole should be made much larger than the plant, and sufficiently deep to contain a good supply of manure at the bottom for the retention of moisture, especially if the soil is of a sandy nature. By the addition of a little good compost on the top and well firmed by tramping, the plant is now ready for placing. Make sure that the roots are well spread out and at the proper depth, as shallow-rooting plants do not respond to being buried. Before adding the remainder of the soil it is important that the edge of the hole should be broken down with a fork, as during dry weather the plants suffer from drought through the old and new soil not being intermixed. This is more apparent in clayey soil and quite easily seen by the ring or crack which is formed round the plant. In planting, difficulty is often experienced in maintaining the right level in keeping with the rest of the border, and in an area where many plants have to be lifted it is better to remove all plants which can be lifted with safety, trench the whole and replant it. Nothing looks worse than to see the border like a switchback due to neglect of keeping an eye on the regular level.

Canterbury bells will require to be planted in their permanent quarters, and if carefully lifted with good balls of soil they will not be checked in growth. Being gross feeders, a liberal application of manure should be given. Delphiniums which have increased in size and given out for want of sufficient nourishment in the soil should receive attention. The operation of dividing them ought to be done with as much care as possible, using a large knife instead of chopping through the plant at random with a spade, so commonly practised. As this plant forms crowns containing many fleshy buds or shoots, division also by forks often destroys the buds, but by using the knife to cut between the parts containing them many good essential shoots will be spared for next year's flowering.—A. McC.



P. SUBULATA "SPRITE," A DAINTY AND FREE-FLOWERING DWARF PHLOX.

Stone-Edged Flower Borders.

Their Possibilities.

IN quite a number of gardens to-day one notices, instead of formal edging tiles, that rough pieces of stones, boulders and rock are used to form a division between the borders and paths. Some of these edgings are raised slightly from ground level, and thus opportunity is given for growing plants that show themselves to better advantage when in bloom than if planted close up to a tile in the orthodox way. One finds such gardens in country districts where, within proximity to stone quarries, it is not difficult to obtain small pieces, not suitable for the purpose of flagging paths, at a reasonable rate. I know of one such garden the owner of which planned and planted it, and the raised border in spring and early summer is a pleasure to see. It has been formed of pieces of sandstone, and time has softened and weathered them, so that now they give one the idea that they have occupied the ground for years. This stone-edged border has been planted with a variety of plants, chief among them being aubrietias, mossy saxifrages, compact-growing campanulas like pulla and G. F. Wilson and, armerias (thrifts).

Such a border opens up many possibilities for beauty. If it is on the cool side of the garden, one can plant some of the hardy primulas like Julie or Wanda, marginata or rosea, which grow but a few inches in height and give us freely of their blossoms. Many violas do well on the coolest side of the garden, from the old form of cornuta to the free-blooming graciis with purple-blue flowers. In the crevices of the stones one can plant in groups small bulbs; like scillas and crocuses, snowdrops or chionodoxas, which can be left for several years without needing much that will give joy to a lover of flowers for attention. No time is more opportune than the late autumn for making such edgings.—C.

A Free-Flowering Dwarf Phlox for the Rock Garden.

AMONG dwarf phloxes, P. subulata and its varieties are exceedingly free flowering. They form mats of green, studded in early summer with white, lilac, pink or mauve flowers, borne on stems of 4ins. to 6ins. in length. P. subulata is easy to grow, it should be given a sunny ledge in the rock garden. The illustration shows the bright rose variety Sprite, which has a crimson eye; other good varieties are Vivid, rosy carmine and G. F. Wilson, rich mauve. Any of these can be planted this autumn.—P.

A Handsome Bulbous Plant from the Cape.

Antholyza Paniculata.

DURING August and September this bulbous plant is an acquisition to the herbaceous border, and it will prove hardy in most districts, although it is occasionally referred to as a fit subject for the base of a south wall. It is a robust plant with bold blades of foliage and graceful branching scapes of crimson and yellow flowers, reminding one somewhat of the montbretias. When in bloom the whole plant is from 3ft. to 4ft. high, so should be given a position towards the back of the border, where its full beauty will be revealed. To get the finest results, the ground should be enriched with partly decayed manure or bone-meal before planting, and preference should be given to a position which is well drained.

The antholyzas may be planted from November to March, when the tubers are dormant. In a few years existing clumps will become overcrowded; then it is advisable to lift, divide and replant on a fresh site, which, of course, only need be a few feet away. Such work can be carried out when the border is dug over or renovated during the winter months. The variety major is a slight improvement on the type.—T. W. P.

Herbaceous Lobelias for Late Summer.

UNDER this heading will be found some of the brightest flowers that adorn our gardens during the late summer and autumn, and they will remain in full beauty till destroyed by frosts. In some catalogues the varieties or hybrids mentioned below will be found under the heading of Lobelia fulgens, but their origin, however, does not

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concern us for the moment. One of the best is Huntsman, and when well grown the spikes will attain a height of 4ft. to 5ft. for even more. It is a strong-growing variety with large individual flowers of bright vermilion; the stems are purple and the leaves dark green, which is in striking contrast to the brilliant spikes. A few plants in the border make a most striking feature.

An old favourite is the form known as Queen Victoria with intense cardinal red flowers and dark purple foliage, and it is still worthy of a place in gardens to-day. Firefly is another handsome variety with vivid crimson-scarlet flowers. Both these plants vary in height from 2ft. to 3ft. Ibis is of more recent introduction with cerise-rose flowers and bronze foliage, and a characteristic feature of this plant is the distinct branching habit. It grows about 3ft. high. Another departure from the type regarding colour is Mrs. Humbert, which is a light salmon-pink and attains a height of about 2ft. No doubt in time we shall possess some real good pink shades, and till then I shall prefer the brilliant scarlets of which Huntsman and Firefly are about the best. Anyone having seen a bed or clump of these lobelias cannot fail to be impressed by their beauty and brilliance, especially during the autumn months, and seeing that they are of easy culture, not too particular regarding soil and reasonable in price, it is somewhat surprising that they are not more frequently met with in gardens.

Perhaps they have been regarded as hardy, and in many districts such is the case, especially if a layer of ashes is placed over the clumps during the winter months. I have had plants live outside for several years, but as a rule they pay for lifting, and may be placed in boxes with a little soil between the roots and kept in a frost-proof shed or frame. In the spring the plants can be divided into single crowns and then replanted in their summer quarters. In spite of continual rain these lobelias have made a bold display when other flowers present a woebegone appearance.—T. W.

A Choice Chinese Shrub.

FROM time to time during the last fifty years there has been introduced from China into this and other European countries a vast assortment of new plants—many of them good, others bad, and the residue being plants of indifferent merit.

In the front rank, however, must be placed the Itea ilicifolia, a handsome evergreen flowering shrub, one of the many happy discoveries of Professor Henry in Western China.

Its spinous artistically veined leaves, which resemble those of the holly but of finer texture, are somewhat oval in shape and of a bright, shiny green, 3ins. to 4ins. long, slightly less in width, and these with the reddish brown of the young foliage give the plant a fresh, clean and glossy appearance, very much as if it were in the habit of receiving a daily syringe.

It commences to flower in August, and continues well into the autumn to display its long, graceful, pendulous racemes, sometimes forking out into twos and threes, and varying in size from 6ins. up to a foot in length, of closely packed greenish white flowers, not unlike the mignonette, with fragrance strongly reminiscent of honey.

The shrub in the illustration seems happily disposed here in deep rich loam, with a south-south-east aspect, where, during the warmest part of the day, it happens to have the semi-shade of the Chilean evergreen, Maytenus Boaria, and is well sheltered from the south-westerly gales, for the shoots, being brittle, are likely to be broken by strong wind and, be it known, will certainly be damaged by rough or even careless handling in the border.

Subject to this precaution being taken, the Itea ilicifolia will add grace and dignity to any shrubbery in the milder and more equable districts of the British Isles, however select and aristocratic its denizens may be. In the colder parts the authorities recommend that it should be tried with the protection of a wall.

Propagation is not a difficult matter, as plants can with ease be raised from cuttings, layering, to which the lower branches readily lend themselves, and by means of rooted pieces from the base of the plant.—W. R. J., *Anglesea*.

ITEA ILICIFOLIA, A HANDSOME EVERGREEN SHRUB WHICH FLOURISHES IN MILD DISTRICTS.

ASTILBE SIMPLICIFOLIA, A GRACEFUL AND LATE-FLOWERING ROCK PLANT.

A Charming Rock Plant

Astilbe simplicifolia.

THIS little plant is in every respect a first-rate subject for the rock garden, for it is not only dwarf and orderly in habit, but singularly elegant, and it flowers throughout the later summer—that is, after most alpines are over. Astilbe simplicifolia is a native of Japan and it was introduced to this country quite by accident a few years ago, a root being found in an imported clump of schizocodon. It is a hardy perennial, making a neat little tuft of dark green, glossy, undivided leaves not more than 3ins. or 4ins. high. The blossoms, borne in graceful, air plumes of about double that height, are white and lace-like, and so delicate and profuse are the inflorescences that a plant in full bloom seems to sparkle and effervesce with crystal foam. All this delightful astilbe needs is a fairly moist corner of well drained soil enriched and kept cool with a little leaf-mould. It appears to enjoy shade from the midday sun and does not object to being screened by a neighbouring bush. Propagation is effected by seed or division, but one may often detach small offsets without disturbing the main plant. This may be done in autumn, but in gardens where difficulty has been experienced in establishing this plant, spring would be a safer season for such work. There is a very attractive variety of A. simplicifolia with rosy flowers, and a large number of pretty hybrids have been raised by crossing this species with A. Arendsii and others.—A. T. J.

Betonica in the Border.

THE betonica, otherwise stachys, with the exception of the woolly-leaved S. lanata (lamb's ear), often used as an edging plant, is very rarely seen in the border. Yet Betonica grandiflora, although not free from a suspicion of coarseness, is a decidedly handsome plant, is perfectly hardy and quite indifferent as to soil or aspect, except if the former is on the rich side it will considerably exceed its normal height of 2ft. The flowers, reddish purple in colour, are arranged in whorls on stout stalks, and are both decorative and lasting in a cut state. The colour of Betonica grandiflora superbum is rather brighter than that of the type, and B. rosea is a still better shade, but it is only 1½ft. high and is not such a strong grower as B. grandiflora. B. coccinea has flowers that are nearly scarlet, but it is not more than 1ft. in height and is not quite hardy except in a warm and sheltered position. If these conditions can be provided, it is well worth growing. B. nivea, which is a comparatively recent introduction from the Caucasus, has spikes of creamy white flowers, and is 1½ft. tall. It is effective in the border if grown in a good-sized clump, but is perhaps seen at its best in the rock garden.—R. E. H.

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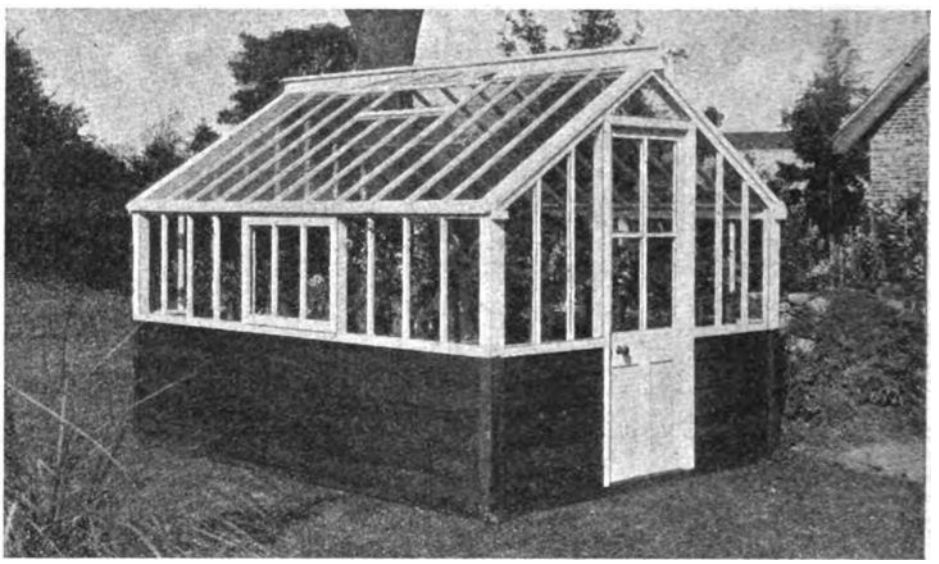
THE AMATEUR'S GREENHOUSE

Points to consider when purchasing or erecting a small greenhouse. There is no more useful asset to a small garden than a greenhouse and where possible amateurs should decide to erect one this winter.

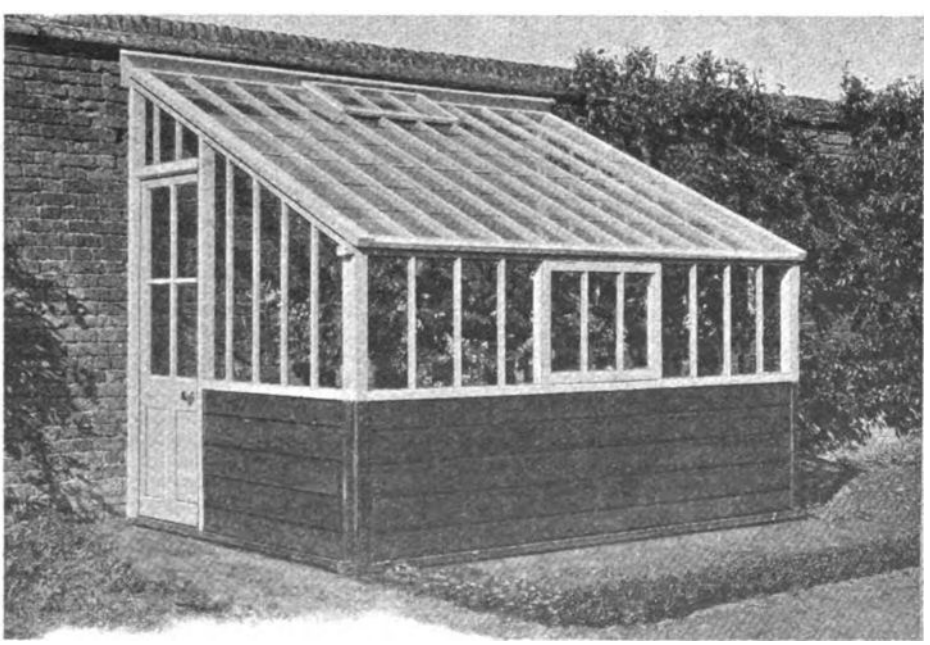
IT has been frequently quoted that "he who loves a garden loves a greenhouse, too," and there is a lot of truth in the statement, in spite of the fact that these structures have been referred to somewhat disparagingly by many, especially since 1918. When considering the purchase of a small greenhouse, the first thing to do is select the site, and in doing this remember that sunlight is an essential factor. The greenhouse, therefore, ought not to be overshadowed by trees, and where possible it should face south, if of a lean-to type, and run from north to south if span-roofed. These may be termed the ideal positions, but excellent results can be obtained from almost any aspect, except north, and a greenhouse on the cold side of a building can hardly be considered a success, except, perhaps, for ferns, and even then it would be very cold in winter. Before commencing operations the owner must decide whether the greenhouse shall be a permanent or tenant's fixture. For those who do not own the property, the latter should be chosen, unless some arrangements suitable to both the landlord and tenant can be made. With others who own their dwelling house and immediate surroundings, a more permanent structure with a brick or concrete base is recommended.



A SMALL SPAN ROOF GREENHOUSE WHICH EVERY AMATEUR WILL FIND OF EXTREME SERVICE.

It may be placed in any position in the garden provided it gets sunshine.

To-day there are a variety of greenhouses to choose from, and in the illustration is a span roof greenhouse which is suitable for erection on leasehold property. It is made in such a way that the structure can easily be removed if the necessity arises. It is constructed of well seasoned deal, provided with ample ventilation, two side stages and glazed with 21oz. glass. This house can be obtained in various sizes, and the medium one is 15ft. in length, 9ft. wide, 8ft. 6ins. high, and height to eaves 5ft. Where there is a sunny wall facing south, south-east or south-west, the lean-to type of greenhouse will be found useful. It is made of selected red deal, glazed with 21oz. glass, and every 10ft. length is fitted with a top and front ventilator. The height at the back is 8ft. 6ins., and from floor to eaves, 4ft. 9ins. It is 7ft. wide and the length varies from 10ft. to 20ft., but if required, a longer house can be supplied. These are the two principal designs, but there are others, such as three-quarter span, and different shapes, one made especially to fit in with other existing buildings, but for durability, and cheapness, the standard designs are strongly recommended. When it is decided to build a greenhouse or even buy a frame, always consult a horticultural builder, such as advertise in THE GARDEN, and never allow the local tradesman to do the work. Very few of the latter understand what a greenhouse is really for, and much too heavy timber is usually employed; and I write from experience. Moreover, when the structure is erected, keep it painted, and only use the best quality white paint. The outside will need a coat every third year, and the inside each fourth or fifth season. Broken glass should be repaired at once, and if these details are given attention, the life of the greenhouse is considerably prolonged. The guttering ought also to be kept clean, and wherever possible a tank set at one end of the house to supply soft water for watering purposes. Greenhouses are now obtainable made entirely of steel, except the doors, which are made of thoroughly well-seasoned red deal. They are put together with bolts, nuts and screws and are thus easily erected. They can be arranged either on a brick or wooden base. The cost works out about the same as for a good class wooden house. They are obtainable in various sizes and in different types, and the amateur will readily find one suitable to his requirements. They are durable and economical in upkeep since they are not subject to outside influences such as heat and moisture, as are many wooden houses of a cheap nature.



A SMALL TENANT'S FIXTURE GREENHOUSE, SUITABLE FOR ERECTING AGAINST A SUNNY SOUTH WALL.

It is an ideal house for use in a small garden where there is a brick or stone wall.

Now comes the question of heating; if the greenhouse can be kept about 40 degrees Fahr. during cold weather, it naturally follows that a greater variety of plants can be grown therein. This, however, concerns the owner and his pocket, but once the heating apparatus is installed the cost of fuel would be fairly low, especially if cinders and small coal is carefully set aside from the dwelling house. Occasionally the local coal merchant has a ton or so of small coal to dispose of quite reasonable in price. There should be two rows of four-inch piping, the joints being made with india rubber rings, and suitable good makes of boilers of various sizes can be obtained from advertisers in this journal. Make sure that boiler power is ample, and in this respect it would be best to be guided by the greenhouse builders. The approximate cost would be between seven and eight pounds for such greenhouses as described above. On the other hand, a lot of pleasure can be obtained from a non-heated greenhouse, and in proof of this statement, I may

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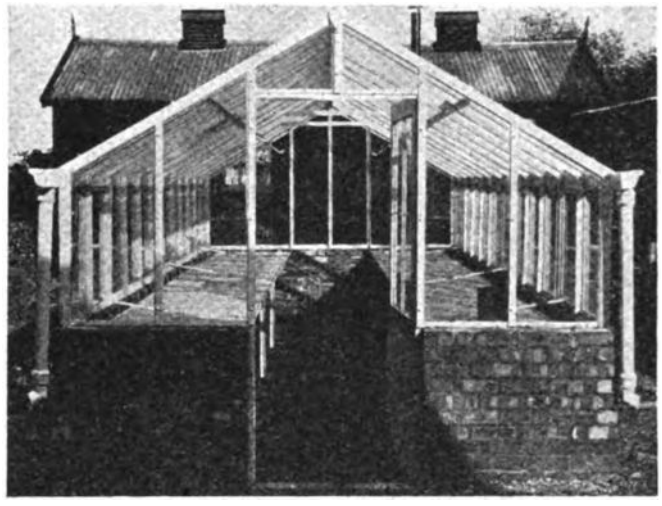
say that a neighbour of mine (a tradesman and keen amateur gardener) produces fine prize-winning begonias from a lean-to house approximately 10ft. long and 7ft. wide, and starts tubers into growth for his flower beds. Another specialises in roses, and secures a wealth of bloom a few weeks in advance of those outside. So it will be quite obvious to the keen amateur that there are great possibilities even if no heat is provided.

For most plants a little shade is beneficial during the hot summer months, and if expense must be cut down to a minimum, then summer cloud or a similar substance must be painted on the outside glass. A better plan, however, is a roller blind made of thin canvas, while wood lath blinds are neat, but more expensive at the beginning. The latter, however, can be left on the house throughout the year and, moreover, they will be found an aid in reducing the fuel bill if run down on cold, frosty nights.

A lattice wood staging is usually provided, but it has been proved that plants thrive better on a closed stage, so a few builders' slates should be laid over the lattice wood,



A GREENHOUSE WITH AN ALL-STEEL FRAMEWORK BUILT ON A BRICK FOUNDATION. NOTE THE WIDE STAGING.

and then covered with sifted ashes or fine gravel, on which the plants stand. The amateur often throws away good money on the path, and one often sees ornamental tiles and such like laid down along the gangway. Concrete is often employed, but these three types of path should be avoided. Much cheaper material can be found, such as ashes, or gravel, and the plants will appreciate the better atmospheric conditions caused by the natural rising of moisture from the earth. Moreover, it has a tendency to keep down such pests as red spider.

This is a brief article on the main or principal features concerning the construction of a small greenhouse for the amateur, and I may say that much of the matter also applies to larger structures.

When building a greenhouse it will pay to advise a reliable firm, because there may be, and is, cheaper materials on the market, but the lasting qualities cannot be compared to the goods supplied by a firm who has a good reputation to maintain. T. W. B.

WHAT OUR READERS SAY

HOW I MADE A ROCK GARDEN.

SIR,—There was a long narrow strip of ground behind my house which had been used by its former owner as a convenient dumping-ground for rubbish of all kinds. The idea of turning it into a rock garden had a great attraction for me, but I had no idea how to set about it. All through the winter I took THE GARDEN, and each week I cut out every article or note on rock gardening and every photograph of rock gardens, mounting them in a big scrap-book and studying them carefully in my leisure moments.

In February and March I made my garden from my scrap-book knowledge. It proved a most excellent guide, enabling me to avoid the mistakes amateur rock gardeners almost invariably make. My rocks were not laid on the surface or set bolt upright; my plants were firmly planted; each kind had its right soil and aspect, and I included a delightful moraine. The enclosed photograph shows the result a few months afterwards. When I wanted to make a water garden with a lily pool I adopted the same preliminary plan, with equal success. —G. H.

WINTERING ECHEVERIAS.

SIR,—I note in your "Hints Worth Remembering" (page 705) "E. B.'s" interesting method of keeping echeverias through the winter, to which I beg to add my own practice. In the old days of carpet bedding, when echeverias were employed in immense numbers for tracing, edgings, etc., it was a serious problem how to winter the plants, especially where glasshouses in plenty were not available, so many makeshifts had to be resorted to, among which were the following:

First of all, an unfurnished south wall was selected and any light soil dumped against it; then the plants—cleaned of side shoots and decaying matter—were built up on the face of it, tier by tier, and almost perpendicular, reinforced with short pieces of old peasticks to prevent the whole mass slipping down with the weight. When thus built up to the desired height, boards were laid on the top of the soil and overhanging far enough to prevent the drip dropping on the plants of the lower rows.

As our stock increased wall room became less available for our requirements, so we were compelled to make other provisions, which, happily, turned out quite satisfactory.

A plot in the vegetable garden with a southerly aspect was "commandeered," piles driven in at short distances apart, twiggy branches worked in and out (wattled) between, thus forming substitutes for walls, proceeding with the soil and plants in every detail as in the case of the walls.

A SMALL BUT CHARMING ROCK GARDEN ONLY SOME SIX MONTHS AFTER MAKING.

During the winter they needed but little attention, the main points being to keep them perfectly dry, looking over them occasionally to pick off decaying leaves, and during severe frost hang a few mats along the front of the ridges. Thus exposed to light and air we have repeatedly and successfully wintered scores of thousands of echeverias without practically any loss and without any glass, loose or otherwise. I can confidently recommend this system.—J. R., *Merioneth, North Wales.*

MEALY BUG ON VINES.

SIR,—Having read "F. D.'s" remarks on page 710 of THE GARDEN on mealy bug, perhaps it would be of some interest to tell him of my experience. I have had vines infested badly; in fact, I saw a vinery last season and the rods were almost white with mealy bug. I recommended a remedy which appeared in THE GARDEN and have practised myself for two years with great success. Instead of painting the rods with a mixture of clay, tobacco and sulphur, I paint them with painters' knotting all over, buds and all. These will push through all right in spring. This knotting forms a glaze on the rod resembling varnish and sets hard, starving any insects underneath; not only that, any stray insects that are about in the spring can easily be seen on the shining rod. A sharp look-out in spring and early summer, with a brush of methylated spirit, is the most important part. Should time permit this being done, soak some cotton wool in the spirit and tie above each bunch, which will prevent the insects entering the bunches. This season several gardeners of my acquaintance have practised this method and have been very grateful for doing so. I, for one, have been able to keep the bunches clear and shall continue with the same method this winter.—F. W. D., *Leamington Spa.*

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

THE recognised practice of propagating summer and autumn flowering chrysanthemums consists of raising new stocks by means of cuttings taken in February and March, a process that is fully justified by its simplicity and success. It may therefore interest, and probably surprise, many readers of THE GARDEN to learn that the popular perennial species can be treated as an annual, inasmuch as the plants may be raised from seed sown in spring and flowered in the same season. At the last monthly meeting of the Glasgow and West of Scotland Horticultural Society, Mr. Alexander McAlpine, Tollcross, brought a collection of nineteen sorts of chrysanthemum blooms which were produced on plants grown from seed this year.

When should liliums be planted? That point was raised by a correspondent who had searched numerous catalogues and garden books in vain. Several of the latter publications specified the period of flowering, but all the writers had overlooked the importance of planting to the amateur grower. As a personal search through innumerable pages of garden literature confirmed the above statement, a little light on the subject may be opportune. All the hardy types of liliums may be safely planted in the open ground at this season, but if the soil is heavy it should be lightened by incorporating leaf-soil and sand in liberal measure, and as a further precaution against decay it is advisable to surround the bulbs with sand at the time of planting. Supplies of the favourite Lilium auratum are seldom available before January, and they are therefore planted in spring at the same time as the less hardy species. For glasshouse culture it is usual to pot up the bulbs at this season in a compost consisting of three parts leaf-soil, one part old rotted manure with a sprinkling of sand added.

As garden operations are frequently suspended for an indefinite period in winter owing to the severity of the weather, my advice to growers of sweet peas is to take advantage of the first favourable spell and begin the preparation of the soil. Take out a trench 2½ft. to 3ft. deep and heap up the soil roughly on either side. The width depends on the number of rows that are to be grown. If there is only to be a single line, a breadth of 2ft. is ample for the purpose, but that space must be extended another foot if the plants are to be arranged in a double line. When the work of excavation is completed fork over the bottom of the trench, which will have the effect of breaking up the solid ground to a further depth of about 9ins. Allow it to lie in that condition for a week or two and make use of the interval by collecting and burning all the available garden refuse, the residue of which should then be incorporated with the best farmyard manure that can be obtained. The further treatment varies according to the method of filling up the trench. Some growers favour the sandwich principle, which consists of alternate layers of manure and soil, but as the roots of the plants are in danger of getting burned when they penetrate into solid manure, I prefer the alternative system of mixing soil and manure together, an operation that is easier accomplished on the surface than in the trench. Begin by scattering ground bones freely over the bottom and afterwards fill up the trench to within 9ins. of the ground level with the prepared compost supplemented by a liberal dressing of bone-meal, wood ashes and basic slag. No animal manure is needed in the upper soil, which may be subjected to different forms of treatment. Slow-acting manures, such as basic slag and bone-meal, are suitable, but there are expert growers who believe in a dressing of sulphate of potash, all of which are washed in by the rains before the trench is ready for planting in April. In either case the filling in of the trench should be completed before the end of the year, and an occasional dusting of soot during winter contributes to the beneficial properties of the soil.

Brussels sprouts are generally appreciated as a winter vegetable, but as a result of the wet weather experienced throughout the summer and up till the end of September growth has not been satisfactory. It is not uncommon in allotment and garden crops to find that the buttons have not set closely or that they are slow in forming the firm specimens that are desired. As an aid to maturity remove the bottom leaves, some of which are beginning to wither, and give the plants a light top-dressing of a fertiliser such as Clay's at intervals of a week. When the sprouts are round and firm with not a leaf unfolded they should be gathered in a systematic manner by picking the bottom ones first and leaving those at the top, which are protected by the leaves, to the last. Liquid manure with alternate applications of nitrate of soda may be given as an alternative treatment when the soil is not in a sodden condition.

Good and early results may be obtained by planting a few crowns of Early Victoria rhubarb in the soil that was occupied by tomatoes, but if the ground is not available a good-sized box that will accommodate a root planted in soil taken from the tomato bed will serve the same purpose. Place the boxes on the floor of the greenhouse and provide water two or three times a week. Rhubarb cultivated in this manner should be ready for pulling in February.

It is not too late to take cuttings of gooseberries, which are easily struck in the open ground. Select shoots of medium strength of this season's growth; cut them about 9ins. long and strip off all the buds with the exception of three or four at the upper end. Insert the cuttings in a trench 5ins. or 6ins. deep and sprinkle a layer of fine soil in the bottom before filling it in, taking care that the earth round each cutting is made firm.

The chief advantages obtained by the observance of crop rotation in the vegetable garden are threefold. In the first place, the application of its principles is economical in the use of manure; secondly, it promotes maximum production of the highest possible quality; and last, but not least, it checks the activities of insect pests in the soil and prevents the spread of fungoid diseases.

ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Sowing Broad Beans for Early Use.

It is now time to make a sowing of broad beans. Now I find a good way to have a batch early and winter them safely is to dig a trench a foot wide and 18ins. deep. Place well rotted manure in the bottom, then a layer of soil, on the top of this a layer of last autumn's leaves, beech for preference. Now fill up to within 6ins. of the top with a mixture of soil, soot and wood ashes. Sow the seed on this and cover with 3ins. of soil—that leaves 3ins. to the top of the trench. This affords protection to the young plants as they appear, and in a severe time extra protection can be given by placing sheets of glass or even canvas over the top of the trench. I had beautiful beans for exhibition the first week in July this year.—J. H.

Goldfish in the Lily Pool.

The brilliant colouring of goldfish makes them a delightful addition to a water lily pond, especially when the leaves of the lilies are in their red or olive stages of colour. It is almost useless, however, to place in the pool the goldfish usually sold in glass bowls. They are natives of Japan and will not survive an English winter out of doors, although they may, of course, be caught and transferred to a greenhouse tank when the weather gets cold.

English-bred goldfish are perfectly hardy, only needing to have the ice broken in very frosty weather to ensure sufficient air. For the same reason the surface of the pool should be watered with a large can when there is a long dry spell in summer. Goldfish usually cater for themselves, but in summer they appreciate occasional breadcrumbs and ants' eggs, which they can easily be taught to take from the hand.—G. H.

Seedlings of Meconopsis Wallichii.

Meconopsis Wallichii, the tall blue Himalayan poppy, is so beautiful that any gardener who has seen a good specimen in flower can never rest contented until he has made a determined effort to flower it in his own garden. This meconopsis, like other members of the family, comes readily from seed, but is by no means easy to grow on successfully to maturity. Many adventurers must now have seedlings of this poppy from a spring sowing, and some will be wondering how they are going to stand the winter. The following hints may be of value: Choose a site sheltered and shaded by shrubs; make the drainage sufficient beneath a compost at least 18ins. deep, made up of coarse grit, leaf-mould and peat; top-dress the seedlings with leaf-soil before frosts set in, being careful not to smother the crowns of the plants.—S. H. H.

Training Loganberries.

As your readers will now be busy transplanting such things as loganberries, I think the following hint may be useful, in that it prevents the new growth—which comes simultaneously with the ripening of the fruit—from being in the way either when gathering fruit or later on, when cutting out the old fruited wood. I have just transplanted my loganberries and, having plenty of room at my disposal, left some 8ft. to 10ft. between each plant. Then I trained all the canes in one direction and when the new growth reaches a trainable length next summer I shall train all these in an opposite direction, thus leaving the fruit-bearing canes all free. Another plan is to alternate, say, one right and the next left, leaving space between for new growth from both plants to be trained away from the fruiting canes.—C. J. B. S.

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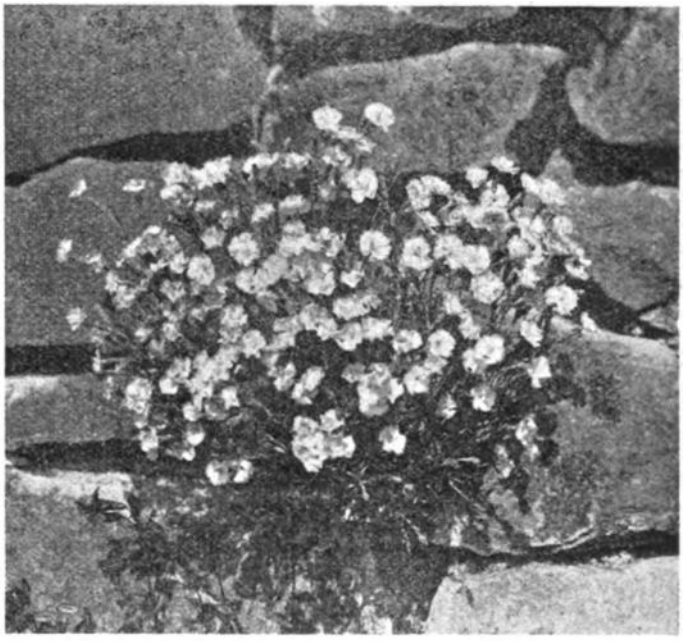
NURSERIES OF THE BRITISH ISLES.—XI

MESSRS. ALLWOOD BROTHERS, OF HAYWARD'S HEATH.

THE firm of Messrs. Allwood Brothers are proud of their carnation farm, and justly so, for it is one of the largest and most flourishing in the country, and has been built up by the sheer hard work and skill of three brothers who started in 1910 with little capital but much ambition. At this date these three brothers had had wide experience in horticulture, and understood every branch of the carnation business. They rented at first four small greenhouses, and the work was carried on under the direction of Mr. Montagu and Mr. Edward Allwood. It was not until Mr. George Allwood came back from America with stocks of the best American carnations that the Wivelsfield Nurseries were started. During the initial stages of the growth of the firm, perpetual-flowering carnations were mainly grown, and the firm depended for revenue principally upon cut blooms which they sold in Covent Garden Market. Every penny that could be spared was devoted to raising seedlings and developing new races of carnations, such as Allwoodii, a race which at the present time has a world-wide fame. The first carnation which Messrs. Allwood sent out was Wivelsfield Wonder, a large white variety flaked with pink. It was introduced after the firm had been in business for three years. The following year Mary Allwood and Wivelsfield White were put on the market, and for the former variety an offer of £2,000 was wisely refused, for the demand for this cherry salmon carnation proved to be phenomenal, and at the time of the outbreak of the war Messrs. Allwood still had not a sufficient stock to cope with the demand. As was the case with many other horticultural firms, the war well-nigh ruined the firm of Messrs. Allwood Brothers. The best of their stocks were sent to an old friend of the firm's in Hampshire, and he took care of them until the war ended, and in their glass-houses tomatoes were grown by girls. As soon as conditions became normal, Messrs. Allwood started once more to build up their carnation business. They bought up all the best carnation stock of the various types that they were low in, and from that time the business of the firm has increased annually, until to-day, at the Wivelsfield and Clayton Nurseries, Messrs. Allwood Brothers possess eight acres of glass and employ nearly 200 people. Their carnations go to all parts of the world; in fact, they often do more business abroad than in the British Isles. They have raised some of the finest of our perpetual-flowering carnations, and we are indebted to them for some valuable new races, such as the Allwoodii, the perpetual border carnation and, during this last season, for a new race of hardy rock plants, Allwoodii alpinus. All these are the result of many years' work and untiring energy, for the raising of new carnations is a slow procedure; it needs care, skill and patience. Often out of a batch of thousands of seedlings only a few prove of any real value, and the raiser of new carnations is frequently doomed to disappointment; and yet the work is fascinating, and the anticipation that perhaps something really good may be discovered spurs the hybridist on.

The Wivelsfield Nurseries are in a delightful situation, some two and a half miles from Hayward's Heath. The soil is heavy clay, and the position an open and sunny one. All perpetual-flowering carnations are grown under glass, in large span-roofed houses of many feet in length; while in the outside borders, Allwoodii, perpetual border carnations, border carnations, Allwoodii alpinus and seedlings of the various types are cultivated. The carnations in the open are all grown in raised beds, which have been well drained and deeply dug. Lime is given to the soil, and shallow planting is always practised, for Messrs. Allwood are fully convinced that deep planting and lack of drainage are the chief causes of failure, particularly with border carnations.



ALLWOODII ALPINUS, A NEW RACE OF HARDY AND PERPETUAL FLOWERING ROCK PINKS.

CARNATIONS GROWN FOR SEED AT WIVELSFIELD NURSERIES.

When we visited the nursery the Allwoodii pinks were making a fine show. The firm has been working on this hardy race of pinks for fourteen years, and still they are introducing new varieties and new colours, and seeking to improve those that are already in existence. They are always aiming at producing short, compact, erect habit and plants that are truly perpetual-blooming from early spring and throughout the entire summer, and progress is still being made. Crimsons, reds and whites are being developed, and next year will see the introduction of several new varieties of this valuable race of plants which are so well adapted for border edgings or for the rockery in the amateur's garden, as they are hardy, robust, free-flowering and easy to cultivate and, above all, deliciously fragrant.

The most interesting collection of plants in the borders outside were the seedling Allwoodii alpinus. This race promises to have a great future, and we feel sure it will gain wide popularity. It has been raised by crossing seedling Allwoodii with various species of dianthus, and it has taken many years to produce the six varieties that have just been put on the market. Many crosses have been made and countless thousands of seedlings have been grown. Those seedlings have been selected and re-selected, until now a hardy plant with a short stocky habit,

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dainty flowers borne on stems not more than 4ins. or 5ins. in length, has been obtained—an ideal plant for sunny rockeries, stone walls or buttresses. All these Allwoodii alpinus are named after the fairies: Puck has a small white flower with a deep maroon eye, and Tinkerbell is a pretty pale pink shaded towards the centre.

After looking at the carnations outside, we then turned our attention to those in the houses, and here there was much to see. The houses were all well ventilated and with the exception of the propagating house were all large and lofty. Some were devoted to the growing of carnations for cut flowers, others to the growing of plants solely for propagating purposes; some were filled with young plants, others with carnations which were being used for hybridisation work. All Messrs. Allwood's perpetual carnations are grown on and planted out in beds (or benches, as they are frequently called), for the attention they require in the matter of feeding and watering is much less. The plants were in good, healthy condition, for Messrs. Allwood are able to keep every pest and disease, such as red spider, rust and mildew, in check, as they have found a remedy and control measure for each. By proper feeding and constant re-selection they never allow their stocks to deteriorate, and so their plants are of good constitution, and therefore better able to resist disease. The plants were trained between wires and grown quite naturally.

Messrs. Allwood fully realise the great importance of propagating only from plants of good constitution, good colour, and those which produce abundant crops at all seasons, and are not liable to split their calyx. They never propagate from exhausted or worn-out stock, and they are careful to select from healthy, disease-free plants only the best and most suitable cuttings and those of even size. The plants which this firm send out are, consequently, robust and healthy to start with.

Although most carnation growers prefer to propagate during December, January or February, Messrs. Allwood propagate during every month of the year. This is because many of the young plants are sent abroad, and in order that they shall arrive at their destination at the right season of the year propagation must be carried on all the year round. It was June when we paid our visit, and even in this month there were many workers busy taking cuttings. These cuttings were being inserted in sand in pans, and then placed in propagating cases in the special propagating houses which were provided with double shading. Messrs. Allwood's success in propagation depends to a great extent on cleanliness and orderliness; they use clean Thames sand and maintain a buoyant atmosphere by judicious ventilation night and day. Their carnations never receive any check, they are not allowed to suffer from lack of water, nor are they overfed. They are always kept growing. They are given mild, slow acting food, a food which is well balanced and one which exactly suits the requirements of the carnation. For many years Messrs. Allwood have been experimenting with carnation fertilisers, and they have now produced a food which gives highly satisfactory results.

Some of the rooted cuttings are despatched abroad by air mail, others are potted on in small pots, to be sold or used for the firm's own purposes. When the young plants themselves are exported they are securely packed in boxes and kept in cold storage while on the voyage.

Messrs. Allwood pay considerable attention to the raising of new perpetual carnations as well as to the raising of new races. Innumerable crosses are made each year, and thousands of seedlings are grown on. Seedlings which do not come up to expectations, either in scent, colour, form or substance, are at once discarded, and also carnations which do not prove productive at all seasons of the year are not kept either. Strict account is kept of all crosses, and each cross is carefully marked. A large and representative collection of modern perpetual-flowering carnations were noted, and in good form were Beauty of Durham, a bright salmon pink; Master Michael Stoop, glowing cerise; Spectrum, a new vivid scarlet variety; Velvet, crimson and maroon; Shot Silk (a variety which is becoming very popular) and Coral Glow, terra-cotta tinged with bronze. There were many other fine varieties, far too numerous to mention.

In two large houses border carnations were being grown for exhibition work, and in another there was a very fine selection of perpetual border carnations. This latter type belongs to a valuable class of hybrids which is perpetual-flowering, bear blooms with the colours and old clove scent of the border carnation, and yet are perfectly hardy and compact in habit. Sussex Pink, Sussex Morn, Sussex Lady, Sussex Crimson, Sussex Beauty and Sussex Flake were a few of their best varieties. Their border carnations were particularly good in form and substance, and all of them had that strong, erect habit and glaucous blue foliage, qualities which all perfect border carnations should possess. The method which was being used for layering border carnations was interesting and not commonly practised. When making the tongue, instead of cutting upwards, Messrs. Allwood's employees are instructed to thrust the point of the knife through the layer and cut downwards and then neatly trim the tongue immediately under the joint. The parent plants were pot-grown, five or six layers were pegged down round the edge of each pot. Grenadier, one of the best red border carnations, was flowering well, so also was Bookham Flame, Jean Douglas, J. J. Keen, Loyalty, Border Mauve and Bindle, a white heavily flaked maroon.

Messrs. Allwood send out an enormous quantity of carnation seed to all parts of the world, and they do a large trade in their special carnation fertilisers, fungicides and insecticides, and wire carnation supports. A side-line which is developing rapidly is the production of carnation perfume, compressed blossoms and *pot-pourri*; in fact, every branch of the firm of Messrs. Allwood Brothers is developing, and one can look forward during coming years to many more fine introductions to the carnation world by this famous carnation firm, which has rendered such valuable service to horticulture and done so much to raise the carnation to the proud position which it holds to-day.

FRUIT AND KITCHEN GARDEN

Fruit Trees and Soil.

APPLES.—These succeed best in a deeply worked and well manured loamy soil, but good results are also obtained in a light soil that has been properly dug and well enriched. In the case of a very heavy soil it is essential that this should be deeply trenched. In addition it should be given a good dressing of manure and about half a bushel of lime or chalk to the square pole or rod, this application being thoroughly dug in.

Apricots.—Here a good loamy soil is the best to which has been added a little extra chalk, lime or mortar rubble, as well as some well decayed manure.

Cherries.—A good mellow loam with lime in it is preferred. Proof of this is found in the way cherries flourish in some of the chalky districts of Kent and Oxfordshire. Free drainage is of very great importance in the case of this fruit, as stagnant moisture in the ground is fatal to a healthy growth.

Currants.—Both red and white currants succeed best in a deep, well drained soil, and if this condition can be secured the bushes often do well on land that is not particularly rich. Anything like water-logged ground is very harmful. In the case of black currants a cool, retentive loam in rather a moist situation is the best. The fact that black currants like plenty of moisture is evidenced by the luxuriant way in which they grow in low situations and by pools and streams.

Gooseberries.—Here a fairly deep and fertile loam of medium consistency is the best. Free drainage is an important feature with gooseberries.

Grapes.—If certain varieties are chosen and a south wall is available, it is worth while attempting the culture of grapes out of doors. The most suitable varieties are Black Chester, black; Garnay Noir, black; Reine Olga, yellow; Sweet Water, pale yellow. Deeply trenched and well manured soil of a loamy nature is by far the best.

Loganberries, etc.—Loganberries and allied fruits flourish best in a moist loam.

Medlars.—Nowadays these are more valued as ornamental flowering trees than for their fruits, although at times they are planted in the orchard. The best results are secured when the tree is growing in a loamy soil.

Mulberries.—Mulberry trees are often grown as ornamental subjects, but they grow well against a wall facing south. Almost any good garden soil is suitable, but it should be of some depth and not too dry.

Peaches and Nectarines.—Here a rich loamy soil containing plenty of humus and a fair amount of lime or mortar rubble with it is needed. The soil must be deeply trenched before planting is carried out.

Pears.—The pear likes a rich loamy soil with a fair amount of sand or grit in it. On the whole the land on which pears will grow well may be a good deal lighter than that which is required for apples.

Plums, etc.—Plums are fastidious in their likes and dislikes, and the grower should find out the varieties which succeed best in his district and give the preference to these. A few kinds, such as Victoria, will grow well almost anywhere. A very rich soil is not so desirable, as this will tend to encourage the production of wood instead of fruit. A strong retentive loam is the best, but lime in some form or another is essential. Free drainage is of great importance.

Quince.—If space permits room should be found for a quince tree, as the fruit is very desirable for preserving, jelly making, etc. The most suitable soil is a warm, sandy loam where there is a free drainage.

Raspberries.—The raspberry likes a deep rich loam inclining to be heavy. As the plants are gross feeders, the ground should be deeply dug and enriched with manure.

Strawberries.—In a general way strawberries will grow in almost any good soil, but some of the varieties show strong likes and dislikes. When making a bed it is well to find out the requirements of the particular variety which is being planted. A good average soil is loam which has been deeply worked and well enriched with manure. No kinds of strawberries do really well on a soil that is either too heavy or too light.—L. B.

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Planting Grape Vines.

NO longer is it considered necessary to bury a dead sheep at the root of every new vine in order that it may grow for many years and fruit successfully. A young vine is planted in a perfectly rational manner, carefully of course, and with the fact in view that it will remain undisturbed for years. First of all dig out to a good depth a hole very much larger than the young vine seems to need, either inside or outside the greenhouse. If drainage is not efficient, naturally go deeper than usual and fill the whole to the depth of a foot with stones and rubble. On this, or in the bottom of the hole, place a layer of fresh or old turf, grass side down. Now use the soil which has been dug out of the hole provided it is in good heart, or, best of all, get a supply of turf which has been stacked the better part of a year or more. Chop it up roughly. To this soil add plenty of old mortar or well weathered lime or ground chalk (carbonate). The correct amount is difficult to state, but it should be round about ½ stone per barrow-load. Also add half that of bonfire rubbish, consisting partly of fine ash and charcoal, and again some two to three pounds of good coarse bone meal. Sand may also be necessary, and perhaps some well rotted leaf-mould where the soil is stiff and retentive. Mix all the ingredients together and turn the heap over two or three times to get the whole blended into a good mixture; keep it, when being prepared, under cover. The young vines will arrive in or ex-pots. Remove them from the pot, shake away the soil and plant the shrubs practically at the same depth; this means filling in the hole partly with compost, tramped firm, first. Spread the roots evenly over the firm compost and cover with more compost; tread carefully round each shrub and level up with a mixture of fine soil, sand and sifted mould.—LANARKSHIRE.

Planting a Peach and a Nectarine Tree Under Glass.

IN hundreds of gardens there is only room for one peach or nectarine tree in a glass structure. Even one tree will afford a lot of interest to the cultivator. It is not necessary to have any artificial heating for the benefit of these fruits; but if the structure is already heated, then, of course, the trees may be forced a little and ripe fruits obtained at an early date. The back wall of a lean-to greenhouse facing due south is an ideal position for these trees. But if the house is span-roofed, the side facing east or south-east is the one best suited to peaches and nectarines.

Making the border is a very important work. The tree remains in the border for many years usually, and the roots should be in a good firm medium. One tree will require a border containing a square yard of soil, that is, specially prepared compost. Fibrous turves cut and stored for a period of six months are suitable, and such should be reduced to lumps about 4ins. square. Builders' mortar rubble mixed with the chopped turves at the rate of one bushel to six of the latter will be all that is necessary. Do not add any manure at this stage except a 6in. potful of finely ground bones to two bushels of compost. Lay whole turves on 6ins. of broken bricks to form a sound drainage. Use the compost while it is fairly dry, then it can be firmed a little by treading. Cover the roots with about 3ins. of soil, but do not bury any portion of the stem of the tree. Planting in November is an ideal time; the tying of the shoots to supporting wires should be left until the tree has settled down—usually by the early part of March. As regards varieties, I prefer Royal George peach and Humboldt Nectarine. The variety Royal George does not drop its buds if the soil is watered judiciously. The next best peach would be Peregrine. When the weather is open, admit air to newly planted trees throughout the winter months.—G. G.

New Beds of Asparagus.

ALTHOUGH, as a rule, asparagus borders are not planted out until spring, the border intended for this vegetable may be prepared beforehand with appreciable future benefits. It is well to remember, first of all, that asparagus "lies down" for a generation undisturbed, and so, although it may take a lot of time, the initial preparations are a measure of future success. Drain the plot if it needs it by running a field drain down the centre at 2½ft. in depth. After this has been done trench the soil to 2ft., but do not bring up the comparatively barren subsoil. Keep it where it is, but add to it coarse garden refuse, freshly fallen leaves, etc., and when the soil is heavy, a dressing of lime. The surface spit should be made up for the occasion, if too heavy, by the addition of mould, sand and gritty matter; also let it be raised some 6ins. above the surrounding surface. In all cases, too, add a heavy dressing of fresh littery farm manure to the upper spit, a load to two rods being by no means excessive. Leave the surface rough and scatter a little slag or lime over it. During winter and again in early spring fork the surface spit over and, at the last occasion, scatter some wood ashes freely before doing so. I do not, in general, urge autumn planting for various reasons except when the soil has been thoroughly prepared in advance. The plants are placed in a first-class bed 18ins. apart, and probably the ideal plan for a garden is to have three rows together, then an alley 2ft. wide at least.—L.

Making the Most of Cabbages, Cauliflowers, Greens, etc.

HOW many gardeners have noticed that when picking Brussels sprouts if the partly formed buds are left they soon produce good "buttons" or heads. When you cut a cabbage, do not uproot the stump, unless you wish to plant something else in its place. If the stump is green and full of sap, it will soon produce a few clusters of small crisp leaves resembling Brussels sprouts. These are useful for culinary purposes. Instead of cutting off the whole head of a cauliflower, leave a part on, the size of a gooseberry, and all the leaves. Second and even third heads will be formed, and may be eaten for two or three months. If, however, you cut the heads completely off, the plot of cauliflowers is gone in some two or three weeks' time. Cauliflowers, I find, grow best in good rich and moist soil, and treated somewhat in the same manner as celery. Like other plants of the cabbage tribe, cauliflowers rejoice in a well manured soil.

Colewort, or cottager's early kale, is another vegetable which may not only be made to yield successive supplies of nice crisp leaves, but the thick, strong thongs or runts when two years old may be made to provide a supply of nice young slips which may be planted like flower cuttings in boxes or in a bed, and when rooted may then be planted out in the same way as seedling plants. This is an excellent way of preserving any fine curly variety. Another advantage is that these cuttings or slips taken from old stumps in April will often be weeks, if not months, in advance of autumn or spring sown plants, especially in cold districts where the frosts are severe. In the far north, instead of sowing curly greens in August or September, I find it generally more successful to sow the seeds on a northern exposure, on rather poor soil, in May or June. These seedlings make a slow and comparatively sturdy growth. That is, they grow rather small leaves and form good strong stems. They may stand in the seed-bed until next March or April, when they are planted out. These plants usually withstand the hardest of winters, and when planted in well worked and well manured soil in the springtime they soon make vigorous growth, striving, as it were, to recover lost time.—K.

The Treatment of Soil for Spring-Planted Trees.

AUTUMN planting is much better than spring planting, because the soil is warmer and new roots grow and permeate the soil to some extent, but all lovers of hardy fruits are not in a position to plant the trees in the autumn; many of them must, through circumstances, delay the actual planting until the spring. Where it is convenient to prepare the ground for them, no time should be lost in dealing with it. Where isolated trees are to be planted the soil for each one should be trenched 30ins. deep over a space measuring at least 6ft. across. The lower portion of the soil should be well broken up, but left below. Where small plantations are to be made, the whole of the soil should be trenched and the holes made in readiness for the roots of the young trees. Do not break up the soil, but leave it lumpy in and around the holes, then the rains and frosts of winter will sweeten and pulverise it. Spring planting should not be done later than the early part of March.—CHRISTCHURCH.

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OUR SERVICE BUREAU

Cutting Back Romneya Coulteri.

I have three good Romneya Coulteri plants raised from root cuttings. One has flowered very well this year and the other two moderately. I take it that as the blooms come on the new wood it would be well to cut them right down for the winter and protect the stumps.—E. S., Bromley.

Do not cut the growths down of Romneya Coulteri, but leave them to die down naturally, or, at least, leave the growths for the frost to kill them down. Protect them with bracken or old Michaelmas daisy stems, and if the ground is at all damp place ashes round the stems. If any stems remain, cut off at the end of March.

Soil for Spiræas.

What is the most suitable kind of soil for spiræas and astilbes? Would cow manure be too strong?—F. A., Highbury.

Top spit loam soil from good meadow land is the best compost for the spiræas. Cow manure will be very useful and will enrich the soil, but do not use it straight from the sheds. Stack it in a heap for three months and turn two or three times before using it.

Fruit Trees for Walls.

Would you advise me what varieties of fruit trees and fruit bushes would be suitable for training around three walls of a garden. Each wall is 100ft. long and 6ft. high and gets a fair amount of sun. Regarding the fruit trees, I wish to grow dessert and cooking apples and pears.—R. R., Exmouth.

Fruit bushes can never be trained against a wall. Apples are rarely, if ever, trained as wall trees. For pears we suggest Doyenne du Comice, Winter Nelis, Jargonelle, Souvenir de Congres, Josephine de Malines, Beurre Superfin, Louise Bonne of Jersey, etc. Pears should be grown on an east or west wall. Plums may also be grown on these aspects. For a south wall peaches, nectarines or apricots may be grown. Under a north wall gooseberries and red currants may be grown. Morello cherries should be grown on a north wall.

A Hedge Plant for a Small Garden.

I wish to plant a hedge screen at the back of my garden which is 50ft. across. I should like the hedge to have rather a thick bottom and thought of planting privet with Lombardy poplar, or prunus, or mountain ash at intervals. Your opinion as to best material and distance of planting will oblige.—B. G., Lincoln.

We suggest that you plant for a hedge screen at the bottom of your garden Cupressus macrocarpa. This is a plant which has become more popular every year for hedge purposes, and is both attractive and serviceable. It should be planted about 2ft. apart, and plants of 1–2ft. high can readily be obtained. It reaches a fair height, but can be cut backat intervals during the summer months in order to produce bushy growth from the base. It grows readily in the majority of situations. As this is evergreen, it should be planted as soon as possible, or left over until the month of April next year. Planting should be done carefully, as if the roots do not get a hold of the soil quickly several of the plants may die.

Climbing Plants for a North Wall.

Will you kindly give me a list of the best roses and other climbers for the north wall of a house, not ivy or ampelopsis?—G. R., Hereford.

We advise you to try some of the following plants, all of which will be suitable for your purpose: Berberises Darwinii and acuminata; Clematis Jackmanii; Jasminums nudiflorum and officinale; Kerria japonica; Pyracantha Lalandei; Roses Alberic Barbier, Lady Gay, Mermaid and American Pillar.

Ripening Tomatoes.

In consequence of the sunless weather, tomatoes which I have grown in a cold greenhouse have not ripened; I have now picked them off the plants and wish to know the best method of ripening them?—N. H., Harrogate.

To ripen tomatoes, place them on a sunny shelf or else in single layers in cardboard boxes in a cupboard. Examine them every three or four days.

NEW PLANTS AT VINCENT SQUARE.

THERE was quite an interesting collection of novelties before the Floral Committee of the Royal Horticultural Society at Vincent Square on November 1st last. The outstanding feature was the lovely sprays of Eucalyptus leucoxylon which Mr. Cecil Hanbury sent from his famous garden at La Mortola, Ventimiglia, Italy. This species becomes a tall tree with more lower branches than have most of the eucalypti. Usually the flowers are white, but now and then a pink form occurs and this is very beautiful. The way of the eucalypti is very interesting. When their time comes the fat greenish flower buds push off their caps entire, disclosing the closely packed floral filaments which gradually separate and become feathery, rosy pink flowers. The eucalypti have three distinct types of foliage—the seedling, intermediate and adult; the only constant character of the genus lies in the formation of the flower buds and, even better still, in the seed capsules which follow the flowers. Unfortunately, the more beautiful of the eucalypti from the flower point of view are not hardy in this country, and they grow too tall for all but the largest conservatory.

Euonymus grandiflorus, shown by Sir Charles Cave, Sidbury Manor, Sidmouth, South Devon, is a sturdy, robust spindle tree that was introduced from Nepal in 1824. The sprays had lanceolate, shining green leaves and large fruits from which the dull red arils were just showing. The fruits were lightly flushed with blush purple, and were not so showy as in several other species. The Hon. Vicary Gibbs again showed large sprays of a cotoneaster presumed to be C. alderhamensis and to have been collected by Forrest. This time it received the award of merit. It is a robust, spreading bush bearing axillary clusters of small bright berries.

Crinum zeylanicum, which Sir William Lawrence sent from Burford, Dorking, is a very old tropical species which has been in cultivation since 1771. The illustration in the *Botanical Magazine* 1253 gives a splendid impression of the uncommon, broad, reddish band of colour which runs down each floral segment on white ground. The two scapes were about 2ft. 6ins. in height and bore six and seven flowers. Considerable fragrance is usually associated with this tropical Asian and African crinum, but very little was to be detected in the specimen shown. As with most crinums, this species has ample leafage and so is a plant only for those who have large glass-houses.

Two chrysanthemums also received awards of merit, and both were shown by Mr. H. Shoesmith, jun. The variety Pax is a valuable Japanese of rather more than medium size. The round blooms are made up with stout white florets. The centre of the flower is often tinted with creamy yellow. Daphne is a large single of only moderate form. There are several rows of rosy mauve ray florets.

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THE

GARDEN

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Vol. XCI.—No. 2920 Saturday, November 19th, 1927 Price TWOPENCE

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THE GARDEN

VOL. XCI.—No. 2920. NOVEMBER, 19 1927 PRICE TWOPENCE.

AUTUMN TREATMENT of TREES and SHRUBS

WITH some flowering shrubs, the lilacs and forsythias are examples, it is necessary to prune and thin the branches when the flowers fade if the best results are to be obtained. There are others, the philadelphuses and diervillas are instances, in which pruning is best done at the close of the flowering season, but not being so essential is often left, through stress of work in summer, until the general overhaul of the shrubbery borders and beds begins in late autumn.

The question of pruning many of the berried trees and shrubs may now be considered. In a number the fruits have fallen, or eaten by birds; others, still very attractive, cannot at present be dealt with. Most berried shrubs flower on the growths, or from spurs on growths, of the previous year. Hence any pruning and thinning of the shoots must be done with care to preserve all the best young wood. Taking the barberries, which are so attractive in fruit, as an example, the aim must be to thin the shoots by cutting out a few of the oldest branches back to the main stems. To shorten the branches would not only mar the beauty of the long, slender growths in fruit, but would make a still more tangled mass of short twigs. Most of the barberry bushes will also be improved by the removal of thin, weak branches crowding the centres of the bushes.

The philadelphuses, or mock oranges, are a very good example of deciduous shrubs which flower freely on the young growths of the previous year. First of all, if not done already, cut out the old flowering wood on which there are no useful young shoots. Then cut out useless crowded weak twigs and, finally, shorten very long growths, which in time would destroy the shape and symmetry of the bushes.

In very many gardens sufficient attention is seldom given to the cultivation of shrubbery borders and beds. As opportunity occurs the ground should be forked through, digging in old decayed manure, "Adco" manure or bone meal. The latter, in the absence of farmyard manure, is one of the best manures for shrubs.

Now that the leaves are off the wistarias the final spur-pruning of the young growths of the year not required for extension is necessary. The spur-pruning of these is somewhat on a par with apples and pears, the shortening of the shoots to within two or three eyes of the old wood causing the formation of the flower-buds.

The pruning of the pyracanthas on walls and in the open must be undertaken with judgment. All that can reasonably be done when the branches are clear of fruits, is to shorten the long branches. Should hard close pruning be decided upon, this is best done in April when new growth is about to begin, as it means the sacrificing of most of the flower and fruit for one season. In the case of overgrown specimens, this is quite worth while, as the pyracantha readily produce new shoots from fairly old wood.

November is the best time to do this work, and then there is the opportunity to undertake most of the planning and planting while the weather is mild and the ground warm to encourage new rooting before the coldest days of winter.

Aucuba.—Shorten long growths back to side shoots.

Berberis (deciduous).—Thin bushes by cutting out old branches entirely back to main stems and remove weak twigs.

Bignonia.—Shorten long trailing branches on walls back to within two or three eyes of the old wood unless there is more space for vigorous young wood.

Buddleia variabilis.—Cut back the new strong growths of the past summer to within 1ft. to 1½ft. of the old wood and remove thin twigs.

Colutea arborescens.—Cut back to within 2ins. to 3ins. of old wood.

Diervilla.—Cut out old flower branches and remove weak twigs, retaining the best and strongest of the new growths.

Ilex (holly).—Shorten long shoots, destroying the symmetry of trees and shrubs.

Jasminum officinale (white jasmine).—Shorten long trailing growths on walls and fences. Nail in vigorous young shoots required to extend the size of the specimen or replace the old worn-out wood.

Laurus nobilis (bay laurel). — Shorten vigour shoots spoiling the shape of the plants. Defer all hard pruning until April.

Lavandula (lavender).—Trim off all old flower- stems and loose ends with shears.

Philadelphus (mock orange).—Remove old flowering wood and weak twigs. Shorten extra long vigorous growths spoiling the shape of the bushes.

Potentilla.—Cut out a few of the oldest branches to keep the bushes thin and open.

Pyracantha.—Shorten long branches when free of fruits on walls and fences. Defer hard pruning until April.

Rubus (white-stemmed brambles).—Cut out all last year's stems down to the ground to show up the beautiful colour of the shoots of the year.

Spiræa (spring-flowering).—If these were not pruned in early summer cut out a few of the oldest branches, some down to the ground, to keep the bushes free and open in growth.

Wistaria.—Spur back all young growths not required for extension to within two or three eyes of the old wood.

This Week's Work

For Gardens in the South and Midlands.

Cut out old wood from flowering shrubs.

Plant fruit trees, roses and herbaceous perennials and turban ranunculi.

Insert cuttings of gooseberries and currants.

Stake all newly planted trees.

Pinch growths of autumn sown sweet peas.

Remove early bulbs in pots from plunging ground to partial shade indoors.

Protect broccoli and lift seakale and rhubarb for forcing.

Give protection to tender plants in the rock garden.

Ventilate violets in frames and guard against damping.

This Week's Work

For Gardens in Scotland and the North.

Plant ranunculus in light soil.

Pot a few plants of lobelia to provide cuttings.

Lift all root crops and store in sand.

Look over bulbs in ashes and remove those sufficiently advanced.

Take cuttings of perpetual flowering carnations.

Stake clarkias and schizanthus.

Pinch sweet pea seedlings that show two pair of leaves.

Hoe between rows of kale and Brussels sprouts.

Continue planting roses and fruit trees.

Move geranium cuttings from cold frame to greenhouse.

Plant hardy rhododendrons.

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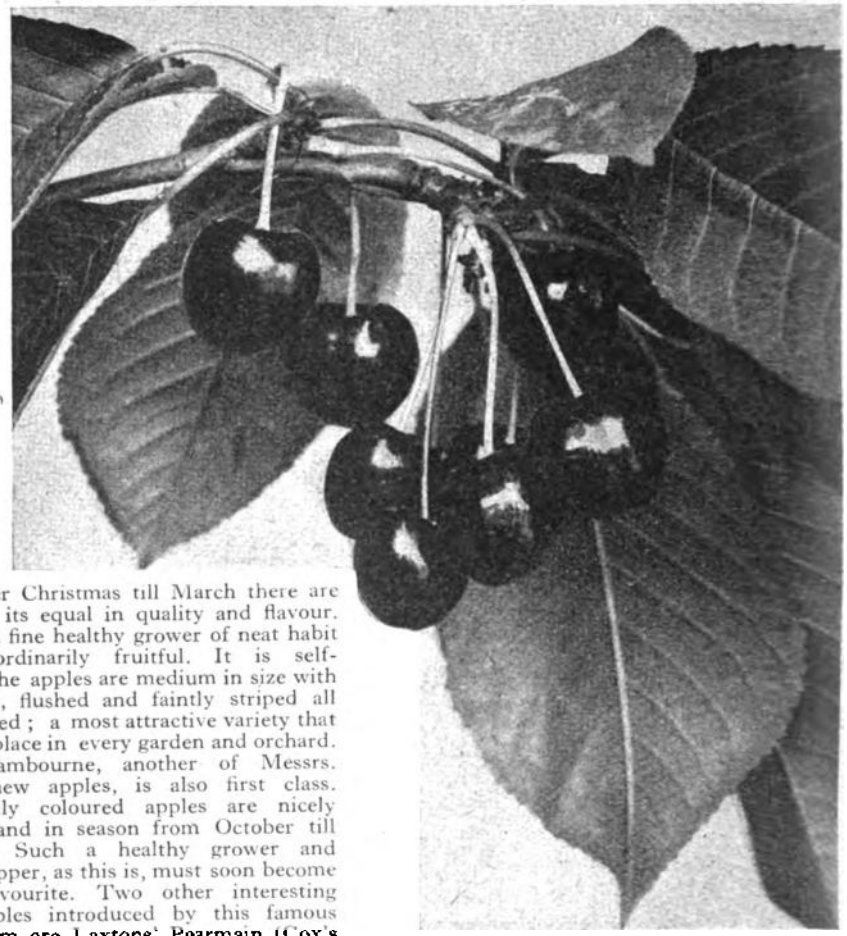
SOME GOOD NEW FRUITS

AT the height of the fruit planting season we take this opportunity of bringing to the notice of our readers several novelties among fruits that have been introduced in recent years. A brief but fairly complete survey has been made, and these new varieties that are described can be thoroughly recommended for planting by all amateurs. An endeavour should be made even in small spaces to grow a few of these choice fruits. They will add to the beauty as well as the general economy of the garden.



ONE OF THE FINEST OF THE NEW CHERRIES URSULA RIVERS.

IN these enlightened days a "new" variety of fruit stands little or no chance of finding favour in the public eye unless it shows marked improvement, in one respect or another, upon the certain old-established varieties of similar type and season.

It is seldom realised, perhaps, that of the hundreds of "seedling" fruit trees and bushes raised each year by experienced plant breeders and enterprising nurserymen (also by enthusiastic if mis-guided amateurs) the great majority—perhaps as much as 98 per cent.—are discarded as being inferior to existing varieties! And even among the small percentage that survive this preliminary combing out, to live to become "named varieties," there will possibly—almost certainly—be some that default when the test of "time" is applied and they have been grown and tried in gardens and orchards over the country.

Of the several "new" fruits of comparatively recent introduction which have, to some extent, proved their worth, reference is made to a few in these notes.

In the very front rank of new apples is Laxtons' Superb, raised from a cross between Cox's Orange Pippin and Wyken Pippin. This might be said to be *the* late dessert apple to follow Cox's Orange, and from shortly after Christmas till March there are few apples its equal in quality and flavour. Superb is a fine healthy grower of neat habit and extraordinarily fruitful. It is self-fertile. The apples are medium in size with yellow skin, flushed and faintly striped all over with red; a most attractive variety that deserves a place in every garden and orchard.

Lord Lambourne, another of Messrs. Laxton's new apples, is also first class. The prettily coloured apples are nicely flavoured, and in season from October till December. Such a healthy grower and reliable cropper, as this is, must soon become a wide favourite. Two other interesting dessert apples introduced by this famous Bedford firm are Laxtons' Pearmain (Cox's Orange Pippin × Wyken Pippin), a "brother" to Superb, beautifully flavoured and keeping till April; and Exquisite (Cox's Orange Pippin × Cellini), a striped apple to eat in September and October. Both are promising sorts of neat habit and great fertility.

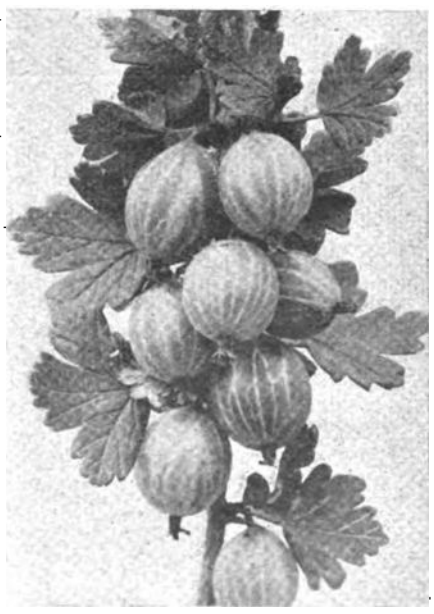
St. Cecelia, a seedling from Cox's Orange Pippin introduced by Mr. Basham of Basaleg Nurseries, is another splendid new dessert apple that makes excellent fare round about Christmastime, and later. The handsome apples are a nice size for dessert—never too large—and of very good flavour. This variety makes a neat tree for garden planting and can be recommended.

Upton Pyne, raised at the Denver Nurseries of Mr. Geo. Pyne, is a valuable "keeping" variety. The apples are golden with pale stripings and are equally good for dessert or culinary purposes. As a late-keeping, dual-purpose heavy bearer this bids fair to reach front rank.

Coming to culinary apples, the variety Monarch (Peasgood's Nonsuch × Wellington) is among the foremost of new sorts. Introduced by Messrs. Seabrook of Chelmsford, this is a strong grower and remarkably free cropper, the apples being very large, yellow, flushed with bright red and keeping till April. It will almost certainly supersede some of the older "cookers" of similar type and season now being grown. Encore, introduced by Messrs. Cheal of Crawley, is a pre-war introduction, but worthy of mention in that it makes a fruitful tree of compact habit, and the fine big greenish yellow apples keep till June with very little trouble. Another introduced by Messrs. Cheal is Crawley Beauty. The brightly striped apples cook splendidly and are borne in amazing quantities in most seasons. This is one of the latest flowering apples we have, and in frosty gardens, and others, should be of great value. It is rather a flat, spreading grower.

John Waterer, a very large green apple, introduced by Messrs. Waterer of Twyford, is another fine culinary apple that can be recommended; while S. T. Wright, a brightly striped mid-season variety introduced by Mr. Allgrove of Slough, should prove as valuable in the fruit garden and kitchen as it certainly is on the exhibition table.

New varieties of pears are not numerous. Laxtons' Superb (Beurre Superfin × Williams) is undoubtedly one of the most outstanding.



GREEN GEM, A FINE NEW GOOSEBERRY VARIETY OF GOOD FLAVOUR.

LAXTONS' GAGE, A GOOD YELLOW PLUM AND A HEAVY CROPPER.

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Ripening in August, it is deliciously flavoured; but, like all early pears, needs to be eaten within a few days of gathering to be appreciated. Superb is a fairly strong grower and fertile. A curious character of this variety is that young trees frequently are liberally furnished with strong "thorns" along the branches, but these develop into spurs in a few years if left. Beurre Bedford is superior in quality to many October pears and, being a strong grower and free cropper, it should soon become widely grown.

Messrs. Rivers of Sawbridgeworth introduced the two new cherries noted here. Ursula Rivers, a large black cherry of rich flavour is one *well* worth the gardener's attention. The second, Peggy Rivers, is much after the style of Governor Wood and ripens about the same time, but is an improvement upon this old favourite in that the cherries do not split so frequently when grown out of doors.

Coming to plums, we have Bountiful, introduced by Messrs. Laxton. The parentage is Red Magnum Bonum × Victoria, and the plums take after Victoria, but ripen a week or so earlier. It sets its fruit freely enough and makes a fine tree, being of much better habit than the old Victoria and much healthier. Laxtons' Gage, an oval, yellow plum, is another worthy of note, and this the raisers describe as "a gage with the crop of Victoria." It certainly is of delicious flavour and is fertile. Early Laxton, another new variety, is a strong grower, the yellow, red-flushed plums ripen very early, a full week before some earlies are fit to eat. Allgrove's Superb, a red "sport" from the well known Jefferson plum and introduced by Mr. Allgrove of Slough, is becoming deservedly popular. Ripening at the end of August the red, much-speckled plums are delicious and are produced freely in favourable seasons.

In black currants perhaps the outstanding introduction of recent times is Daniels' September, raised by Messrs. Daniels of Norwich. The immense berries ripen just after Baldwin and hang late, well into August and even September in favoured districts. Like the old Baldwin, it is very early in flower, makes fine bushes and crops heavily, and might be briefly described as "an improved late-hanging Baldwin." Davidson's Eight, introduced by Colonel Petre of Westwick, is a new variety of sterling merit; better known to commercial growers than to gardeners. This is quite one of the heaviest bearers and the flavour leaves little to be desired. Laxtons' Mite Free, introduced by Messrs. Laxton, is a splendid cropper and healthy grower too. No variety yet raised is immune to the big bud pest, of course, but the varieties classed in the French group (such as Seabrook's Black and Laxtons' Mite Free) are undoubtedly less susceptible than most others. Blacksmith and Tinker are two other big-berried new varieties distributed from the Bedford Nurseries.

Laxtons' Perfection is perhaps the biggest berried of all red currant varieties, and is fast becoming the general choice. It should be planted in a sheltered corner or grown as a cordon along the pathside or fence. Laxton's No. 1, a newer variety, is a strong upright grower, but the berries are not so big as Perfection, though borne equally or more freely.

There are several good new raspberries. Lloyd George must be taken as the "standard," for this is quite the finest all-round raspberry in cultivation—in spite of it being such a rampant grower. Royal, introduced by Mr. Pyne of Denver Nurseries, Topsham, is undoubtedly a variety of exceptional merit and is almost certainly the largest raspberry grown—in this case good flavour going with size. Another from Mr. Pyne is Red Cross, a remarkable cropper and good grower. The berries are nicely flavoured, though a little more acid than some, perhaps. For flavour alone Park Lane, sent out from the Denver Nurseries, must take pride of place. It is quite the best for dessert, though the big, tall canes are apt to die back rather alarmingly, so many making "blind" buds. Heytor, from the same source, is one of the best new autumn-fruiting raspberries, and Golden Hornet, raised by Mr. Trinder of Fleet, is a good yellow raspberry of recent introduction, as is Messrs. Laxtons' Yellow Hammer.

For new gooseberries of merit we must look to Messrs. Laxton with their Bedford Yellow as the finest. The very large golden yellow berries, of delicious flavour, are produced in great profusion. Green Gem is another good new variety of fine flavour, and the strong, upright-growing Bedford

THE FINEST ALL-ROUND RASPBERRY IN CULTIVATION, LLOYD GEORGE.

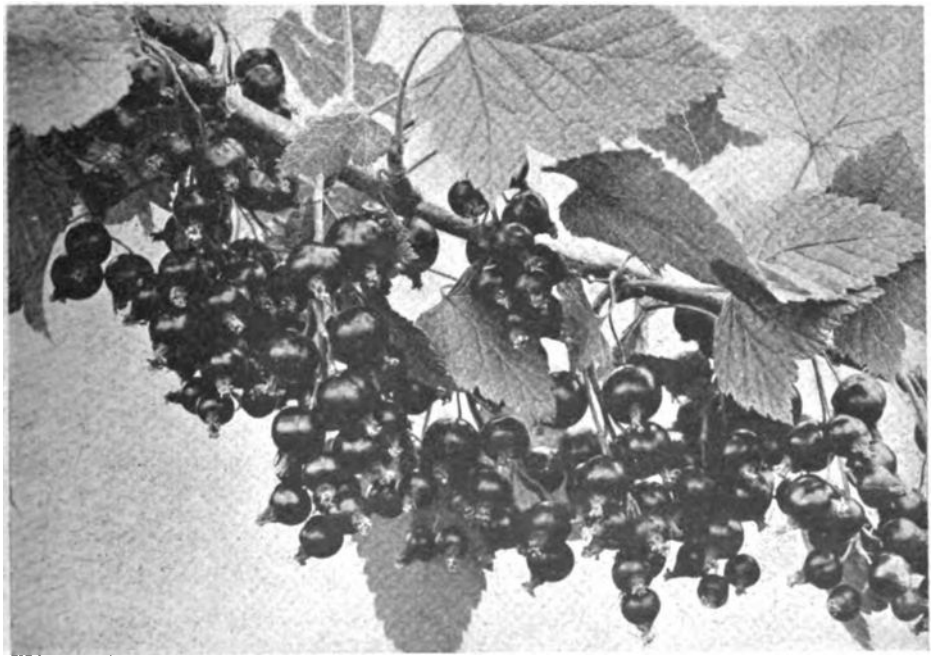
Red is perhaps the outstanding red gooseberry of recent years.

Among the "various" berries, the Veitchberry, introduced by Messrs. Laxton, is well worth a trial in every garden. Raised by crossing November Abundance raspberry with the blackberry, this new fruit is rather unique. The large berries, so well illustrated on our front page this week, ripen when raspberries are over and before blackberries come in, and are the colour of ripe mulberries. flavour partakes a little of both parents. The cultivation, pruning, etc., is as for the loganberry. It is one of the new bush fruits that every amateur should have in his garden, since it is easy to grow and is a reliable cropper.

The Himalaya Giant blackberry is hardly a recent introduction perhaps, but is worthy of note here in that it is extremely vigorous and remarkably fertile, and just the thing to plant in the garden to shut off untidy corners, rubbish heaps, etc., or to climb over a shed or big trellis. The berries are large and black, also very sour unless gathered "dead ripe" for eating.

The Worcester berry, said to be a cross between a gooseberry and black currant, and introduced by Mr. Parsons of Worcester, makes big bushes, the branches being armed with immense spines. The berry is to all appearances a small, purplish gooseberry, and the flavour—what there is—is a mixture of the two with the currant flavour distinctly less than more. Pruning and general cultivation is on the same lines as for gooseberry bushes.

From the selection given above the amateur may be able to make a choice of a few new varieties of fruit to add to his collection. All the sorts mentioned can be thoroughly recommended for planting in the small garden.



A WELL-FRUITED BRANCH OF LAXTONS' MITE-FREE BLACK CURRANT.
It is one of the best mite-resistant varieties yet raised.

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HARDY FLOWERING PLANTS

For the Suburban Garden.

CAMPANULAS ARE AMONG THE MOST DECORATIVE OF HARDY PERENNIALS.

VERONICA SPICATA IS AN ADMIRABLE SHRUBBY PLANT FOR THE BORDER.

THERE is no more keen admirer of hardy flowering plants, or one who appreciates to their full value their inclusion in a garden, than the gardener who lives in the suburbs. He it is who recognises the importance of having flowers for as long as possible, that are not only beautiful when seen from the windows of his home, but which will also serve him in a cut state for embellishing his rooms and tables. The time has gone by, to a large extent, when flowering plants of a tender nature occupied his time and attention with their annual expenditure and trouble.

Now something of a more enduring character is required, and in hardy plants he finds all he needs in this direction. In these late autumnal days when plans are being made for another year, one finds the lover of hardy plants either contemplating adding to his treasures, or dividing some of those he possesses. With many plants this time of the year, given suitable weather to get on with the work, is as good a period as any, and a consideration of some of those which render the best service throughout the season is suggested. It may be said concerning most hardy plants that, once quartered in a garden, they give little trouble, beyond the annual inspection, and in some of the more robust-growing sorts in frequent division, and it is their simple culture coupled with their freedom of flowering that every year is making them more popular. If we want tall plant for the back of a border, or those of comparatively dwarf growth for beds and the front of borders, we can find all we need in the realm of hardy subjects, and to complete all, should we want a compact or prostrate growing plant for the edging, we have no need to go outside their boundary. In a word, hardy plants will supply us with a feast of colour from the early days of spring until late in the autumn, and there is no garden, however bleak its situation or however closed in it may be, where some of them at least will not thrive and do well.

LIST OF HARDY FLOWERING PLANTS.

Name of Plant.	*Height.*	*Flowering Period.*	*Remarks.*
Doronicum austriacum	1–2ft.	March-April	Sun or shade.
Funkias or Plantain Lilies—various	2–3ft.	May-June	Best in partial shade; vigorous.
Trolliuses or globe flowers	2–3ft.	May-July	Sun or shade.
Peonies	2–3ft.	May-June	Deep rich soil; sun or partial shade.
Aquilegias	1–2ft.	May-July	Sunny position.
Irises (flags)	2–3ft.	May-June	Sun or partial shade; vigorous.
Geums	2ft.	May-Sept.	Sunny position, chalky soil.
Dicentra or dielytra	2ft.	May-July	Sun or shade. Rich light soil.
Oriental poppies (papaver)	2–3ft.	May-June	Ordinary soil, well drained.
Pyrethrums	2–3ft.	May-June	Rich, medium soil.
*Alstrœmerias (Peruvian lilies)	3–4ft.	June-August	A deep light soil and sunny position.
Hemerocallises (day lilies)	4ft.	June-August	Sunny position.
Delphiniums	4–7ft.	July-August.	Deep, rich soil, sun; vigorous.
Campanula persicifolia	2–3ft.	June-Sept.	Ditto.
Gaillardias	2ft.	July-Sept.	Dry soil, sunny position.
Heleniums	3–4ft.	July-Sept.	Sunny position.
*Gypsophila paniculata	3–4ft.	July-Sept.	Sunny position; deep, chalky soil.
Spiræa filipendula	1–2ft.	July-Aug.	Shade-lover.
Kniphofias (red hot pokers)	4–6ft.	June-Sept.	Deep rich soil.
Michaelmas daisies	1–6ft.	July-October	Any ordinary soil; vigorous.
Anemone japonica	3ft.	July-October	Ditto.
Phloxes (autumn-flowering section)	1–4ft.	Aug.-October	Rich, deep soil.
Veronica spicata	3ft.	July-August	Any fairly good soil.
Thalictrum aquilegifolium	3–4ft.	June-August	Sunny or partially shady position in good, well drained soil.
Hardy Plants Suitable for Edging Purposes.			
Aubrietias—various	3–4ins.	March-May	Light, sandy soil; sunny position.
Campanulas carpatica, turbinata, pulla	6–8ins.	May-July	Ditto.
Myosotis (forget-me-not)	6–8ins.	May-June	Shade or sun.
Iberis (evergreen candytuft)	9ins.	June-August	Ordinary soil; sun.
Thymus serpyllum (wild thyme)	4ins.	June-August	Dry, sandy soil.
Pink, Mrs. Sinkins	6ins.	June-July	Ditto.
Nepeta Mussini (catmint)	6–9ins.	May-August	In any well drained soil.

Suggestions for Furnishing.

In contemplating furnishing new beds or borders in a garden in the suburbs, the difficulty is not in being able to select a few plants which have a reputation for doing well, but to choose from the very many those which appeal to us, and will give blossoms for a long time. With this in view, we have prepared the undermentioned list as a guide to the would-be planter, and from that list he will be able to determine what to obtain. Before any attempt is made in getting in plants, the ground should be well dug and,

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if known to be poor, some rotted manure or, failing that, vegetable refuse or leaves worked in the bottom spit. If it is convenient to do so, trenching or double digging, at least, of the ground should be carried out, as in the case of some hardy plants (*) mentioned on previous page which are best left alone once they are established; indeed, to disturb them when they have been growing a year or two is little short of a mistake; hence the desirability of seeing that the ground they are to occupy shall be thoroughly dug and rightly supplied with suitable soil for those plants of a special character. A word is, perhaps, needful as to the advantage of not overcrowding a border or beds at the first onset. It never pays to overcrowd, least of all with hardy flowering plants, and therefore it is well to study the habits of the varieties to be grown, and leave space accordingly for proper development. W. L. L.

A SELECTION OF RAMBLER ROSES

RAMBLERS, for the most part, are hybrids either from Rosa Wichuraiana or from varieties descended from that species. Dorothy Perkins is, perhaps, the best known example of a Wichuraiana rambler. It has found its way into almost every garden where roses are grown, and it has become so firmly entrenched in the affections of growers that it is practically impossible to displace it. No one will deny the beauty of Dorothy Perkins and its value as a rambler for the adornment of pillar, post, fence or pergola, or for use as a weeping standard, but it is, I think, a mistake to say that it is actually the best of its colour. For my own part, if I wanted to plant what I believed to be the best rambler of this type I should prefer Minnehaha. This lovely rambler has suffered from the extreme popularity of Dorothy Perkins, and it has never received the attention which its undoubted merits deserve. It is altogether a rose of much more refinement than Dorothy Perkins, and its truss of deep rose blossoms is decidedly more attractive and artistic.

I have mentioned Dorothy Perkins to begin with as it is very representative of the type that we are dealing with in this article. Ramblers of this character, Wichuraiana hybrids, are not seen at their best on walls; the place for them is a fence, preferably of open woodwork, where air and light can get at them all round. They are equally valuable for use on pillars, pergolas, or trained on arches. In some gardens chains or wire ropes are supported on posts and the ramblers are grown along such supports. By such means a very beautiful display may be made in the garden, but strong rope is infinitely superior to anything else except wood. The whole of the ramblers are also good for weeping standards. The growth is naturally of a drooping nature, and it grows downwards very quickly. Some amateurs insist on getting their weeping standards with stems 4ft. high. This is a mistake. If the stem is 6ft., 7ft., or even a foot higher, the results will be much better. If the stem is only 4ft. high the growths will trail along the ground and most of their beauty is lost. If the stem is 6ft. or more in height, the growths hang gracefully down and will flower from top to bottom. A well balanced weeping standard about 6ft. in height is a beautiful subject when in full flower.

The well known American Pillar, although it is not a hybrid Wichuraiana, is grouped under this section. If anyone wants a strong climber which will thrive almost anywhere, this is certainly the rose for the purpose. It flowers very freely, and the single blossoms are pretty. The flowers are pink with a white centre. Caprice Rouge is a rambler with flowers about the size of those of American Pillar, but the colour is crimson, also with the white centre. It may be described as a glorified Hiawatha with a stronger constitution.

There are now two well defined types of ramblers. The first are the kinds of which Dorothy Perkins and Hiawatha are examples, and the second such sorts as Albertine and Emily Gray. We shall deal with the Perkins type first. They have small, rosette-like flowers borne in clusters. The others have larger flowers borne in couples and sometimes more. If a crimson rambler is wanted, the best is Excelsa. There was a time when the old Crimson Rambler—a climbing polyantha—was the best of its colour, but Excelsa has now displaced it. Many growers ask for Crimson Rambler when they really mean Excelsa. The old Crimson Rambler is not now required. Its faults are mildew and its liability to the attack of red spider. Edgar Andrieux is a red rambler well worthy of notice. It is derived from R. Wichuraiana crossed with the old Cramoise Superieure China. It is a good grower and has somewhat larger flowers than Excelsa, and its perfume is very sweet.

AMONG WHITE RAMBLERS THERE IS NOTHING TO BEAT SANDER'S WHITE.
It makes a decorative weeping standard.

Petit Louis is very similar to Dorothy Perkins in colour, but it flowers very much earlier. It produces a large spray of well formed little blossoms, and is a very strong grower. On the whole, I prefer it to the older sort, but both are useful. Petit Louis, if planted in conjunction with Dorothy Perkins, enables one to have a display of pink-flowering ramblers over a longer season than usual. If a paler shade of pink is wanted there is Dorothy Dennison. The colour is shell pink. Lady Godiva and Christian Curle are practically synonymous with Dorothy Dennison. Romeo is another red rambler that must not be overlooked. It has been described as a miniature Liberty. The colour is a deep crimson, and the flowers are very shapely. It is a good grower. Hiawatha is a single crimson, and a plant well established and in full bloom is very striking.

In white ramblers there is nothing to beat Sander's White Rambler. It is a good grower; it produces nice sprays of pure white flowers; and it is one of the sweetest of roses. In so far as perfume is concerned, it is, perhaps, the most fragrant of all. There is no room for White Dorothy Perkins when we have such a rose as Sander's White. Yvonne is a pretty variety with soft pink flowers, and Violetta has curious sprays of blossoms that are almost purple. It is abhorred by some and adored by others. Shower of Gold has sprays of orange yellow flowers. It varies in colour very much, however, but some seasons it is very fine.

In yellow ramblers Emily Gray stands supreme. It is the first to be mentioned of the large-flowering type. It is a beautiful thing even if it never flowered, for its foliage is large, has a wonderful gloss and polish, and reminds one of a showy evergreen shrub. The colour, which is fairly constant, is golden yellow. It has been described as resembling Mme. Ravary, but I think its flowers are far superior, both in colour and formation, although they are not so large. It is certainly a glorious rambler, and we want more of the same type. For a long time Alberic Barbier, also with wonderful glossy foliage, was a favourite rambler with fairly large flowers of a yellow tone. It was the best of the yellows, although the colour was a little pale. There is still room for it, as it is really a very beautiful variety when it is established.

Mermaid, although hardly a rambler in comparison with those of the Perkins type, must be included here. It has single yellow flowers that appeal even to those who seldom are attracted by single roses. Its foliage is also very fine. Mary Wallace, a semi-double, is also a good salmon pink rambler of recent introduction.

Of the many introductions to the Wichuraiana section recently I think that Albertine is the best. The flowers are large, and the foliage is glossy and mildew proof. The colour is a coppery chamois flushed with salmon. Paul Noel is a rambler with pretty flowers of an orange shade. It should be tried by all lovers of ramblers, as it is quite distinct from any other. François Juranville, salmon pink with a sheen of yellow, is another large-flowering rambler well worthy of inclusion in any collection. Joseph Billard is only a single, but it has flowers of a compelling shade of shining carmine that are most impressive and are not easily forgotten.

GEO. M. TAYLOR.

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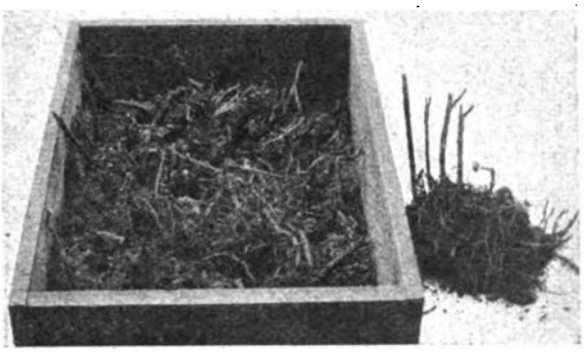
THE BUSY MAN'S PAGE

Fresh Parsley and Mint all Winter.

PARSLEY is required in the kitchen practically every day of the year, and it becomes rather a problem at times to keep up supplies all winter. As I write outside supplies are plentiful but a trifle soft; they will last for many weeks yet, but preparations should be made now to ensure later supplies. Place bricks about the bed and lay a frame sash or a sash made with one of those glass substitutes on top; the sides being open, this keeps the plants fresh and vigorous for a long time. Cover another section with a rough framework of poles or lay the pea trainers, raised on bricks, over the plants. Garden mats thrown on top of these in frosty weather will protect the border most considerably. Lastly, plant a fair number in boxes or pots. Place these meantime at the foot of a wall or in the frame, and in due course they can be cropped, or they can be taken into the greenhouse in spring, where, if fed at times, they will crop for a long period. Squares of mint may now be lifted from the mint bed and placed in boxes. Let such squares be about 3ins. deep and pack soil round them in the box. Placed over a hotbed or kept in the greenhouse such clumps will yield many nice pickings of fresh mint as required. As one supply begins to deteriorate lift another and so keep plenty ready for any call from the kitchen.



METHOD OF PLACING ROOTS OF MINT IN BOXES FOR FORCING.
On the right is a section of the root as lifted from the bed outdoors.

THE ROOTS ARE COVERED WITH SOIL AND KEPT MOIST; IN A SHORT TIME NEW GROWTH IS MADE.

Digging and Trenching.

AN important point to be remembered in successful gardening is the necessity for thoroughly working the soil, and it is worthy of note that the beneficial results obtained from the extra labour entailed is becoming more widely known. From a gardener's point of view November is the month when the real foundation of successful cropping for next year is laid by digging and trenching; and where this is not done, severe frosts and possible heavy falls of snow may cause a postponement of this work until the New Year has considerably advanced, after which time it is difficult to make good the time lost. It is a good plan to trench a section of the kitchen garden each year, so that in a period of three to four years the whole garden has been so treated. On heavy soils where manure is being used, this may be applied at the time of digging or trenching, although with light soils this is best applied in spring, owing to the fact that a great part of its fertilising properties filters away before spring through heavy rains. In both cases, however, the soil should be left in as rough a state as possible; the action of frosts will leave it in a good friable condition, and is most beneficial.

Deep root action is encouraged by occasional trenching, and is most noticeable in periods of drought, especially if the surface soil is periodically stirred.

Protecting Tender Plants in Winter.

MANY of our choicest garden perennials are only half-hardy, and others, generally classified as hardy, may succumb to the trying vagaries of an average British winter. Frost is not the most serious trouble; heavy soaking rain which keeps the ground cold, sour and water-logged is undoubtedly dangerous, and strong sunshine after frost may be inimical to successful wintering. To keep out frost a mulch of some protective nature is frequently advisable, but it should not be used until the winter is well advanced, and in many cases it is advisable to remove it when frosts are absent or when they are light. The cover must never be such that it continues long wet in moist weather; a light littery mulch of old straw, ferns, ashes, leaf-mould, sand or peat is excellent, while manure which may remain wet and sodden is always a danger. A handful of evergreen prunings is very useful, small mats may serve, or even a cloche at times. Another variety of "cold," if we may use that term, is frequently dangerous—a cold drying wind followed perhaps by snow or sleet. Position is all important in this connection, and each grower must plant his tender stock with that point in view. Hurdles, boards or pieces of slate or glass come in handy as a protection when the plants do not have the shelter of a hedge or wall. Heavy rains are best prevented from soaking round plants by erecting over them a sheet of glass, but, once again, correct planting is essential; the places where plants likely to suffer are planted must be well drained and porous. A great danger is strong sunshine suddenly beating down on frosted plants, which causes sudden thawing. Lift plants likely to suffer in this way and replant in a west or north aspect or in some shady place, or see that cover of some kind is used overhead; this enables the thawing to proceed slowly. Get roots covered with their mulch, place evergreens or small mats where they can be had at a moment's notice and kept dry, have some ferns or twigs tied up amid tender branches, and place sheets of glass over small plants. Choice subjects may even be lifted and put in the frame, or potted up and stood in ashes under a sash open at the ends.

Jobs for Wet Days.

WET days are generally associated with the dull, gloomy days of winter, so that the amateur gardener looks round for something to do. "Digging in this weather," he says, "is foolish; but what am I to do?" Below are set out some of the jobs he can tackle, which will occupy his time with profitable result.

Firstly, tools can be cleaned and repaired. The most important, perhaps, are the barrow, lawn mower, roller and the various digging implements. Inspect these, and remedy any defects which are noted. If the handles of tools are loose, a little glue, or a wedge, will make them firm. Then the syringe plunger will need some vaseline, or it may require a new washer. Look around and you will see plenty of jobs among the tools.

When this is done, on taking a walk outside, when the rain has temporarily abated, you may see pools of water lying on the surface of the lawn. Prick the soil with the prongs of the fork to effect drainage. While outside, the drain could be cleared and any dead leaves removed from plants. Another important job is to roll paths, laying new ash or gravel down, if needed. Of course, the rolling will pick up a lot of the path, so a brush should be kept handy.

Assuming you have done all this, there is the very pleasant occupation of making things. Among the foremost of these are seed protectors, racks, boxes and labels. Soot and lime distributors can be made from tins with holes punched in the top. If you already have seed boxes, make sure they are safe, by nailing two strips of wood across the bottoms.

One thing which should not be forgotten is to look at the store room, and if any vegetables are going bad or shooting, remove them at once.

Before finishing here are a few things you can do if you have a greenhouse or a frame. You can whitewash walls, clean glass, scrub boards, and paint pipes. The woodwork and glass can be repaired where necessary. All this done, it will give you satisfaction.

Autumn Renovation of Small Lawns.

CAREFULLY remove worm casts and pour a solution of worm-killer into the exposed holes (a trowel of killer to a gallon). Too many worms cause the surface to be soft and muddy and their casts interfere with mowing. Remove worms that come to the surface, and mow the lawn closely.

Prepare a mixture of a good proprietary brand of lawn guano and sharp sand, in the proportion of one of guano to ten of sand, allowing 4 oz. of guano to each square yard. Mark out the lawn in suitable rectangles, with pegs, etc., and scatter the mixture evenly. After raking, water thoroughly. Make a mixture of ½ oz. of grass seed per square yard of sand and fine ashes, and two days after the guano application, scatter this evenly on the grass, rake thoroughly and use a light roller when the turf is dry. Mow carefully a fortnight later, without box, and with blades set high.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Alternatives to Grass.

THERE is no doubt that a patch of well kept grass adds enormously to the beauty of a garden; in fact, such a patch of grass, with merely a surrounding hedge of shrubs, can form the whole of a small garden, particularly a front or roadside garden. But even a small grass plot needs constant care and attention, and it needs also the use of both a mower and roller, if it is to be "well kept." In a very tiny garden, or in a garden where these tools will not be available, it is sometimes advisable to do without the grass plot. At the same time, one may wish to use the garden for meals, for rest, or possibly as a playground for the children, and the question arises, what is to take the place of a lawn?

Using Available Material.

It is often a question of using whatever material is available. Sometimes gravel can be dug from a few feet below the ground surface. This, if carefully laid and rolled on a subsoil which is well drained and levelled, makes a good smooth surface. If the whole of the middle of the garden is gravelled, and children are to use it as a playground, I should advise getting it tar-sprayed. The cost is not heavy, and the resulting surface is both cleaner and more lasting than gravel alone. If a quantity of bricks, or flat stones, can be used, much can be done by the artistic gardener in arranging them to best effect. A large semicircle, with a flower border round the edge looks effective in a small garden. In a long narrow garden I have seen curves introduced by arranging a wide path in the shape of a letter "S." In the circle at each end was a piece of stonework—one a sundial and the other a stone vase containing plants. The outer edges of the path were flanked by border plants of all descriptions, and the effect was to give added space in the garden.

Making Crazy Paving.

York stone paving is too expensive for many pockets, but a very good substitute can be made by running cement into wooden frames. The frames are laid on a levelled surface of the ground in a crazy sort of way. The cement is run into the spaces and, after it has set, the frames are removed. This work can be done in patches, and by using slightly differing sand in the cement, a difference in colouring can be made so that all the stones do not look exactly alike. (Red ochre or other colouring could be added to give variation.) The spaces between the cement are subsequently filled with prepared soil, and tiny plants, or grass seeds put in to clothe the stones. There is certainly some work attached to the care of a large area of crazy paving, but it can be done without special machinery, and at times can be left for weeks without attention.

For those who can afford to buy stone for their gardens there are plenty of materials from which to choose. Large square tiles make a very attractive flooring for an outdoor room, and the same tiles, built into square pillars about 18ins. high, are ideal sites for tubs or vases of flowers. By a judicious arrangement of such pillars and ornaments one can often give the effect, in a tiny back garden, of a veranda or loggia. The rose screen which separates us from the next garden may then, in imagination, be the screen between ourselves and the wider garden which our imagination conjures.

A Remedy for Wireworms.

SMALL, straw-coloured wiry worms about an inch long are often found in new garden soils. Old pastures newly turned over have the greatest numbers. Cultivation quickly reduces the numbers, but the first few seasons the wireworms work havoc among the root crops. The best remedy is a dressing of lime—6 ozs. to a square yard—before digging is done. Clean cultivation helps to rid the garden of these pests, and they may be trapped by burying in the ground pieces of potato. The spots should be marked and the traps examined every few days, when the wireworms can be destroyed.

Original Garden Designs.

A REMARKABLE progress in the matter of design has been made in the average amateur's garden during the last few years. Originality and taste of a high very degree have shown themselves, and gardens no longer bear the impress of the jerry builders' ideas on garden construction. Now that the days of winter sleep draw near, those of us who wish to remodel our gardens should be prepared with definite plans for the work. It is much easier and more satisfactory in the long run to have a plan of the garden drawn to scale, so that mistakes in measurements, etc., can be avoided.

A GARDEN DESIGNED BY AN AMATEUR, WHICH IS EFFECTIVE IN ITS SIMPLICITY.

Here is a garden designed and made by an amateur, which is remarkably effective in its simplicity. The brick path which crosses the lawn and also forms a circle round the flowers and sundial, is an extremely happy thought. Ample room is left for the cultivation of flowers, climbers and for rock plants at the end where the low stone wall edges the lawn. The whole plan is such as could be carried out by a keen amateur without the employment of skilled labour, and at the same time could hardly be improved upon by any professional garden designer.

Lilies After Flowering.

JAPANESE lilies, both the golden-rayed and pink and white kinds, are frequently grown in pots or in the open border. Their lovely blooms have now fallen, and we wonder how to make the plants excel in beauty another season. Cut away the dead flowers, but allow all the leaves to remain on as long as possible. Water with soot water once a week, but as soon as the leaves turn yellow withhold water altogether. The pots can be laid on their sides in a dry frost-proof shed until it is time to start the bulbs again in early spring. Lily bulbs grown in the open border can be left if the soil is well drained. Should it be naturally wet and heavy, it would be safer to lift the bulbs and store in boxes of sand or dry soil.

Double *versus* Single Flowers.

I WAS shown round a friend's garden the other day, and he led me with great pride to a double-flowered scarlet nasturtium. This was exhibited for the first time a couple of seasons ago at Chelsea. My friend's enthusiasm led me to reflect on the relative merits of double and single flowers. The true botanist, I am sure, would prefer single flowers always. Double flowers are a monstrosity, a reversion, and in a state of nature, impossible. It is significant that single flowers of some of the most popular kinds, such as dahlias and chrysanthemums and roses, have grown in popularity in recent years. When a double flower does appear, like the nasturtium, for the first time, it is much sought after as a novelty, but I feel certain that this is only a passing phase.

Fruit Trees for Walls.

MANY gardens where there is insufficient rooms for bush or standard fruit trees could add to their beauty as well as to their utility by the inclusion of wall fruits, and there are fruits which are suitable for almost every wall. As this is the season when new trees are purchased and planted, we give a selection of fruits which will do well in the positions indicated:

North walls.—Fan-trained Morello cherries, three or four cordon red currants, or fan-trained gooseberries.

South walls.—Cordon pears, dessert plums, peaches, apricots, and dessert cherries (fan-trained).

East walls.—Fan-trained Victoria plums, cordon apples and red currants.

West walls.—Victoria plums, greengages, cordon pears and apples.

The distance apart for cordon trees depends on the kind, but is roughly 2ft. to 3ft. Fan-trained cherries and plums would need 15ft. or so of space, when well grown. Where small trees are put in, the intervening space need not be left bare for the first season or two, as currants and gooseberries, or even tomato plants, can easily be grown to fill the empty places until the trees become full size.

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NOTES ON THE FLOWER GARDEN

Japanese Maples for Autumn Colour.

IN many catalogues will be found a group of plants under the above heading, and they constitute a wonderful series, especially if planted for autumn effect. This year they have been exceptionally brilliant, and the trees and shrubs in the Tintern area of the Wye Valley have been more beautiful than I have seen them for several years. At the moment I have in mind the various Japanese maples, such as the forms and varieties of Acer palmatum, all of which are handsome plants when in leaf. The opening of the young foliage, the mature leaves of summer, and the charming tints seen in September and October place them among the best of our ornamental trees and shrubs.

Groups in the shrubbery border are sure to prove effective; a position in the flower border will also prove suitable for these delightful plants. They are variable in habit of growth, and some of the smaller kinds, such as A. atropurpureum dissectum and ornatum are useful as isolated examples on the rock garden. Here a few have been a source of joy for many years; the soil is somewhat poor, so growth has been rather slow, but nevertheless they have never failed to produce ample leafage, which assumes such glorious shades of colour in autumn that appear almost scarlet when viewed from a distance on a bright day. A few varieties retain their charming colour throughout the season, such as A. sanguineum, a bush from 5ft. to 8ft. in height. The Japanese maples are quite hardy, but occasionally a late spring frost will cripple the young foliage, a fact, however, that ought not to deter beginners from planting a few of these choice shrubs. They will succeed in any ordinary garden soil.—T. W. B.

Plants for Hedges.

AS a hedge is to be a permanent feature it pays to give some consideration to the question of the plants to be used. Selection might be made from the following list, which includes some of the best subjects for the purpose.

Hawthorn, Whitethorn or Quick (*Cratægus monogyna*).—This is the commonest hedge plant in Britain. The plant has a naturally dense habit of growth and this, with the spiny branches, makes it a valuable protecting hedge.

Common Holly (*Ilex aquifolium*).—A holly hedge is about as good as anything where an evergreen is required. If well looked after in the early days the holly plants soon become furnished with branches from base to summit. Variegated hollies are sometimes used in hedge making, and now and again the large-leaved I. Hodginsii is employed, but these are not so good as the common species, which will grow in almost any soil or situation.

The Yew (*Taxus baccata*) is another fine evergreen hedge plant. At the start take care to choose plants which have several buds on them, in order to get a dense hedge within a reasonable time. The golden leaved varieties are also quite good as hedge subjects.

Privet (*Ligustrum ovalifolium*).—Although the privet hedge is regarded with some disfavour, it has the advantage of being cheap and easy to establish anywhere. Privet is apt to make the ground poor owing to its great root activity, and it is a good plan to open the ground by the side of an established hedge every few years and cut back the roots mercilessly. The golden leaved variety makes a bright hedge which give a cheerful winter effect.

Beech (*Fagus sylvatica*).—Beech in common with the hornbeam (Carpinus betulus) makes a capital hedge and it is largely used to form a wind break in exposed positions. A beech hedge will grow to a good height in course of time and, with care, there is no reason why it should not be well clothed right to the base. Usually the dead leaves are retained throughout the winter and this increases the value of the beech hedge in keeping back cutting winds.

Myrobalan or Cherry Plum (*Pyrus cerasifera*).—This plant is sometimes used where a spiny hedge is required, but it can hardly be considered as good as the hawthorn for the purpose.

Lawson's Cypress (*Cupressus Lawsoniana*), *Thuya plicata* and *T. orientalis* are evergreen trees which are employed for hedges. These will grow to a good height in a cool, moist soil, but they sometimes become bare at the lower part.

Box (*Buxus sempervirens*).—Where a very low hedge is needed, the box is quite a good subject, but it is of slow growth, except in a moist soil.

Holm Oak (*Quercus ilex*).—This is a splendid subject for the west and south of England and it grows quite well in very exposed positions. The holm oak should be planted carefully in a deeply dug soil or it is quite likely to die. When once established a hedge of holm oak will stand hard clipping and it will then form a very dense growth.

There are many other plants, such as Lonicera nitida, Cupressus macrocarpa Thuya Lobbi, which can all be employed, and any one will be found to serve the purpose equally well.—L. B.

How to Plant a Dry Border.

A DRY, porous border, where the soil is said to be fiery, cannot be planted out in any haphazard fashion because many things will not do in it; with forethought and preliminary preparation it may however, become one of the prettiest features of the garden. First of all let me say something about preparation. Obviously dry soil lacks "body" and a sufficiency of spungy humus to retain enough moisture to keep the plants going. Turfy loam is fine and sometimes better than manure, but, in the main, a fair dressing of good soppy, fairly fresh manure should be preferred. Let it be applied a week before the work of seed sowing and planting out is begun. Failing manure, it will be found that decayed vegetable rubbish, cesspool sludge and weedless ditch cleanings make an excellent humus-giving addition to dig in. The surface thereafter should not be left rough, and at all periods of the growing season it is found that the ideal plan is to keep the surface in a fine tilth by constant hoeing. Given such preparation, and provided that the correct plants are grown, the border will become a perfect blaze of blossom. Nasturtiums do exceedingly well in such a border even when manure is almost or totally absent, and the score of common varieties available enables each grower to make up some pretty schemes. I find that it is quite all right to put the seeds directly into the border in twos, the spot being trampled firm afterwards. Antirrhinums are best sown in autumn, because they form a fine root system during winter and prove superior to spring-planted stuff. Among other annuals which may be sown directly into the border are the several varieties of flax, the glorious eschscholtzias, nemophilas, Virginian stock, Abronia umbellata, etc. Lobelia, zinnias, alyssum, double daisies, geraniums of all kinds and annual carnations can be planted out in May during a spell of damp weather, after which they will bloom profusely. Certain perennials do equally well, but they ought to be raised in nursery beds elsewhere and planted out in autumn. The reason for this is obvious; the soil is more moist at that time and the plants root well before summer puts them to severe test. Where plants are purchased, autumn planting will again be found best. We can but briefly run over a few names—pinks, antirrhinums, arabis, cerastium, sedums of many kinds, house leeks, antennarias, Rose of Sharon (H. calycinum), sun roses, catmint, Californian

FOR FURNISHING RICH AUTUMN COLOUR IN THE ROCK GARDEN THE JAPANESE MAPLES ARE EXCELLENT.

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fuchsias, sea hollies, santolina, statices, irises, dwarf campanulas and so on.—H. H. A.

Herbaceous Salvias for Border Decoration.

AT this season when so much new planting is being done, greater variety might be given to herbaceous borders by including a few salvias. They are easily grown, not needing any special culture, and can be relied upon to give a good show of flowers in their season. The predominating colour is blue, and for that reason they are particularly valuable. They increase with moderate quickness, and can be propagated by division of the root stock or by sowing seeds. Those of a semi-shrubby nature can be raised from cuttings in the spring.

The most used variety is Salvia argentea, earning its name by having large, woolly foliage of a silvery tone. The flowers are a bluish white in colour and the plant runs to about 2ft. in height. The foliage alone forms a striking contrast to the other occupants of the border. One authority recommends growing this as a biennial and the plants are always at their best during the second year, and a new stock is easily raised from seed.

S. azurea is of a more shrubby nature and runs to about 4ft. in height, but in most places it is likely to be kept herbaceous by the frost. As its name implies, it is of a very pleasing azure blue, and makes a good back row plant, or it is useful in the foreground of a shrubbery.

When quite happy, S. uliginosa will rise to a height of 5ft. or 6ft., and it is truly herbaceous, dying right to the ground in early winter. The flowers are not large, individually, but are borne in long spikes, and are a bright blue in colour.

S. virgata nemorosa, with blue flowers and red bracts, make a good subject for near the front of the border, and it only grows about 2ft. high.

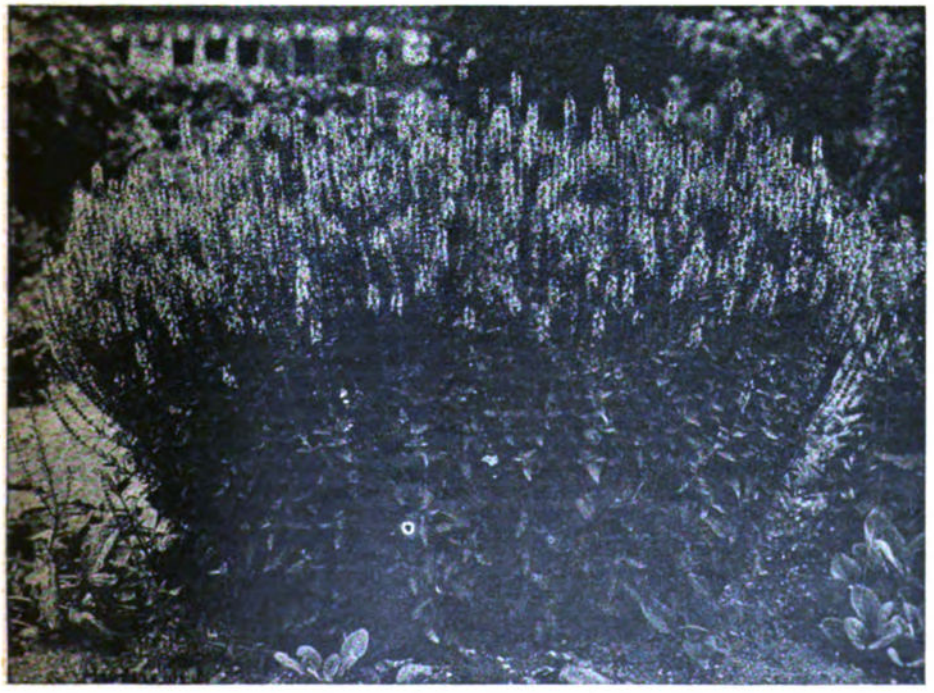
The meadow salvia, S. pratensis Tenori, gives a good display in July and August, growing 2ft. high and having dark green foliage and blue flowers.

There are many other varieties, but between the rareness with which they are offered for sale and the somewhat confused naming, it is useless to mention them. The beautiful S. patens is not forgotten, but it stands almost in a class by itself, and although it does well in the open during the summer, it is safest to lift the roots and store them under cover in the winter.—T. H. W.

A Useful Dwarf Heath.

AMONG dwarf shrubs suitable for the rock garden or any position where a moist peaty soil can be provided are the menziesias, closely allied to the heaths. All the species are of neat growth and bear pretty drooping flowers. Of these the best known is M. polifolia (now usually referred to as Dabœcia polifolia), St. Dabeoc's Heath, which grows to the height of 12ins. to 20ins. The erect flower stems of this plant bear graceful one-sided drooping racemes of handsome crimson purple blooms. The pure white variety is quite as attractive as the type, and there is a pretty form with purple and white flowers, called bicolor. St. Dabeoc's Heath flowers in the summer and will remain in bloom for a considerable time. The plant certainly does best in peat, but it often succeeds well in other soils. M. cœrulea (syn. Bryanthus taxifolius) grows to the height of from 4ins. to 6ins. and has pinkish lilac flowers. A much more beautiful species is found in M. empetriformis, which forms a dwarf, heath-like bush about 6ins. in height and produces clusters of rosy purple bells. This species is really a great acquisition for the rock garden, and it is most happy in a fully exposed situation in a rather moist, sandy, peaty soil. Menziesias may be increased by division of strong tufts, preferably in the spring; other means of propagation are by cuttings about ½–1 in. long placed in sand beneath a hand glass.—L. B.

ST. DABEOC'S HEATH, A USEFUL PLANT THAT FLOURISHES IN MOIST PEATY SOIL IN THE ROCK GARDEN.



SALVIA VIRGATA NEMOROSA MAKES A HANDSOME PLANT FOR THE BORDER.

Making a Lily Pond.

WHERE circumstances permit the work of making a new lily pond should be done now. Next May the lilies should be planted. In the interval the pond can be tested as to its stability and the plants may be studied and duly ordered; also, the necessary turves should be cut and stored.

The first point to consider is the position and the facilities available for draining off the water when this is necessary. The two ways of constructing a lily pond generally followed are stone or brick ponds, or puddled clay ones. Where small ponds are being formed, the brick or stone one is the most suitable. Puddled clay answers very well in the case of large ponds, and especially those that are situated in dells or depressions in meadow or woodland.

The brick and cement-lined pond must be made deep enough to contain sufficient soil and a body of water that will be adequate for the lasting health of the plants.

The bottom should be covered with bricks laid in cement and a single brick wall, all round, will be thick enough, but the walls, also the bottom, should be cemented. Use fresh cement one part to sand three parts, and lay it on quite half an inch thick. The wall should be at least 6ins. higher than the normal level of the soil, and be finished with rock stones irregularly placed. This will allow of an edging border or narrow rockery for ferns or other suitable plants which form a natural surround. Do not leave the pond empty too long, but fill it with water to avoid any cracking. Cover all fresh cement work with sacks in case frost comes.—G. G.

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PLANTS FOR THE AMATEUR'S GREENHOUSE

After the construction of a house, dealt with in our last week's issue, comes the problem of how to fill it and what plants to grow in it. In this article are given suggestions on how to stock a greenhouse for a year so that the most will be got from it.

IN a previous article reference was made to the construction of a greenhouse suitable for amateurs, and it is now proposed to consider the stocking of what is hoped will prove a most useful and interesting addition to the garden. Much will depend on the size and whether it is heated or otherwise. A heated greenhouse has many advantages over one not heated, and it is surprising what can be grown in a greenhouse, even if the thermometer is only just kept above freezing-point during a spell of bad weather. For the present I shall assume that the structure is sufficiently heated to keep out frosts, and later I hope to deal with the unheated greenhouse. With a small house it is far wiser for the grower to confine his efforts to a few kinds of plants rather than a miscellaneous collection of flowering and foliage subjects. Individual tastes will finally decide what to grow in the greenhouse; for instance, one friend of mine, a keen amateur gardener, grows perpetual flowering carnations, another specialises in begonias, while a third succeeds with chrysanthemums, followed by roses in pots, and a crop of tomatoes during the summer; and the produce of the trio would be a credit to any large establishment. I am not an advocate of covering the roof with climbers, but if planted discriminately they add to the beauty and interest of the house providing they are not allowed to get out of hand. They need careful training and ought not to get overcrowded. The following will be found satisfactory. A handsome and free flowering subject is Plumbago capensis, and it should be cut well back after flowering. The Glory Pea of Australia, Clianthus puniceus, is a showy plant, which needs a little peat and charcoal added to the soil. Thinning the shoots after flowering is the only pruning required. Cobæa scandens is well known, easily grown and readily raised from seeds, and these remarks also apply to the beautiful Eccremocarpus scaber. The Passion Flower, of which there are several fine forms, smilax, Lapageria rosea and its variety alba, and tropæolums. T. Lobbianum may be had in bloom soon after Christmas if seeds are sown in August, or from cuttings rooted about the same time. The bright and showy Morning Glory, Ipomæa rubro-cœrulea must be included, and from seeds sown in the spring some good examples in six or seven inch pots will be secured before the summer ends. Streptosolon Jamesoni, with its clusters of orange-red flowers, and the white and sweetly scented Mandevilla suaveolens, are both delightful climbers, and so are several of the abutilons.

A GREENHOUSE DISPLAY IN THE MONTH OF APRIL.
Star cinerarias, calceolarias, and Primula malacoides make a fine splash of colour.

In a lean-to greenhouse the back wall should certainly be covered, and any of the above will succeed. With the exception of the Morning Glory and tropæolums, which will thrive in pots, all the climbers are best planted out in a mixture of loam and leaf soil, with ample drainage provided. Two or three climbers will be sufficient for a small greenhouse, otherwise the growth will be too dense for the plants on the stage. Where tomatoes are cultivated, climbers are best left alone.

When we come to furnishing the stages, we have a wealth of material to choose from, but in every instance it is better to grow three or four groups well, rather than attempt a general collection. There is much to be said in favour of carnations, but to be a success the whole of the house should be devoted to these plants. The best plan would be to purchase small specimens in three-inch pots in the spring, and grow them on in five or six inch receptacles to give some good blooms from early autumn onwards. These plants will be kept a second year, they will need repotting about April, and when the pots are filled with roots a teaspoonful of carnation manure every fortnight will add lustre to the foliage and improve the blooms. Red spider is kept down during the summer months by an occasional spray with salt water, two or three ounces to the gallon. Zonal pelargoniums or geraniums constitute a showy and easily grown race, and they can be obtained in great variety. The finest display is seen during the spring and summer months, and a young stock is kept up by rooting a few cuttings annually about August. Odd plants are cut back hard early in March and repotted directly new growth appears. A few of the ivy-leaved varieties, especially C. Turner, should be included, also Heliotrope, for its charming fragrance. Show pelargoniums blossom in spring and early summer, but care must be taken to keep them free from green fly. When the flowering period is over set the plants outside in full sunshine and gradually reduce the water supply. Cut back the shoots to near the old wood in August, and repot three weeks later, shake out all the old soil and use rather small pots. Later on they will be given larger pots, in which they will bloom. Cuttings will readily root in sandy soil in August, if placed on a shelf in the greenhouse.

Tuberous rooted begonias are excellent for the greenhouse; they produce a brilliant display in summer, and die down for the winter, thereby affording space for other subjects that blossom in the dull period of the year. When dormant the tubers can be stored in a dry place, even in the dwelling house, and started into growth about March, by placing them closely together in a box containing an inch or so of leaf-mould and sand. They should be potted up directly growth is evident, using pots which will take the bulbs comfortably. A mixture of loam, leaf-mould and sand will suit them, but light potting must be the rule. There are also many other bulbous plants, such as the amaryllis or hippeastrum, and these plants do not require the amount of heat so often recommended, but they do not flower so early. After flowering they are encouraged to make plenty of growth, when they gradually dry off and take a decided rest. Give little water in the spring till the flower spikes are seen.

Liliums are easily grown, especially L. regale, and the majority will increase in stature if not neglected after blooming. Arum lilies, cyclamen and the Scarborough lily, Vallota purpurea, will also succeed. For late winter and early spring, bulbs will play an important part, especially hyacinths, tulips, narcissus, freesias, lachenalias and Iris tingitana, all of which are potted in August and September, and introduced to the greenhouse when well rooted. Fuchsias, the new hydrangeas and Campanula pyramidalis are sure to give a good account of themselves in the summer. Chrysanthemums must be included to keep up a display in October, November and December; the cuttings are rooted in January and grown on inside until there is little likelihood of frosts, when they are given an open site in the garden. Here they remain till flower buds appear, when it will be necessary to take them inside. A few foliage plants could be included, such as Rex begonias, Grevillea robusta and Asparagus Sprengeri, the latter being available for hanging baskets and furnishing the front of the stage. A greenhouse will be found useful for other plants, such as mustard and cress, early rhubarb under the stage, raising seeds in the spring and ripening off tomatoes which were grown outside. There are other subjects quite suitable, and in the above notes attention

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has been drawn to a few of the principal groups.

A few alternative suggestions are given in the accompanying table for furnishing the greenhouse, which can be varied to suit the individual.

This gives an idea when the plants may reasonably be expected to bloom. The annuals will be a decided success if seed is sown in August, and the plants grown in a cool atmosphere. Many other selections will occur to the observant and intelligent cultivator.

A few general cultural hints may be helpful. Whenever possible maintain a winter temperature of 45 degrees Fahr., and in summer near 60 degrees, but with sun heat these figures will be exceeded and no harm will accrue, if ample ventilation is provided and the floors sprinkled with water twice each day.

Suggested Schemes to be Carried Out in the Greenhouse at Different Seasons.

Scheme.	*Summer.*	*Autumn.*	*Winter.*	*Spring*
1st	Carnations	Carnations	Carnations	Carnations.
2nd	Tomatoes	Chrysanthemums	Bulbs	Tomatoes.
3rd	Begonias	Chrysanthemums	Bulbs	Bulbs.
	Pelargoniums	——	Primulas	Stocks.
4th	Lilies	Chrysanthemums	Bulbs	Bulbs, Roses.
	Campanulas	——	Cyclamen	Cinerarias.
	Begonias	——	——	——
5th	Hydrangeas	Chrysanthemums	Bulbs	Schizanthus.
	Pelargoniums	——	Deutzias	Clarkia.
6th	Crinums	Chrysanthemums	Bulbs	Astilbes.
	Fuchsias	——	Lily-of-Valley	Arums.
	Hippeastrums	——	Arums	Show Pelargoniums.
	Balsams	——	——	——
7th	Cockscombs	Chrysanthemums	Salvia	Calceolarias.
	Eupatorium	——	Bulbs	Salvia.
	Heliotrope	——	——	Salpiglossis.
	Fuchsias	——	——	——

A suitable rooting medium consists of fibrous loam three parts and one part leaf-mould, with a sprinkling of sharp sand to keep it porous. This mixture can be improved by a six-inch potful of fine bone-meal and old soot to every barrow load of soil. The repotting will be spread over the year according to the subject, but it is not advisable to cause any root disturbance in winter. Watering is an important factor in the cultivation of pot plants, and whenever in doubt, especially during the autumn and winter months, let the plant wait till the following day. Cleanliness is equally essential, and the house should be fumigated directly any insect pests are seen, the principal enemy being green fly. If these few remarks are borne in mind and put into practice at the suitable seasons, they will prove more than the half-way house towards success.

T. W. BRISCOE.

FRUIT GROWING IN SCOTLAND

Varieties to Select, and How to Plant Them. Useful Hints for all Scottish Amateurs.

IN the course of a lecture delivered before the members of the Glasgow and West of Scotland Horticultural Society a few years before his death, the late Mr. David Storrie described fruit growing in Scotland as a lost art. His remarks referred more particularly to the culture of apples, pears and plums, and condemned the then prevailing system in villa, manse and cottage gardens of growing the trees on walls as a background to a flower or vegetable border without studying their individual requirements. Manure was dug into the soil annually for the benefit of the occupants of the border, and the roots of the fruit trees shared in the general distribution, whether or not it was suited to their needs. Since that time fruit growing in small gardens is more extensively practised, but the rate of progress has been slow owing to a variety of influences which are regarded as a deterrent to success. Unsuitability of climate and soil and the unprotected condition of the modern garden are discouraging factors, so much so that the production of apples, pears and plums has been described as a job for the expert or professional gardener. Irregular or poor crops and the disappointments experienced by neighbours have likewise checked expansion; while the troubles due to insects, diseases, and insecurity from thieves all tell against future expansion. It is an unfortunate defect of the modern housing scheme that the garden boundary neither offers privacy nor protection, and one can hardly blame the owner who, under the circumstances, excludes fruit from the field of practical operations.

In some cases which have come to my knowledge, the grower has been unfortunate in his selection of varieties, and in others the failure of the crop was invariably due to over-pruning, a process that involved the removal of fruit spurs. It is inadvisable for amateurs to attempt the culture of late pears in Scotland, for the vagaries of the climate are such that even the protection of a wall will seldom bring the fruits to full maturity from late September onwards, except in a favoured locality. Attention should, therefore, be confined to one or two early sorts which ripen in August or early September and usually yield an average crop, provided the spring blossom is not subjected to sharp frost. Apple production should also be restricted to varieties that ripen in August and September; but the early class is a numerous one and contains several of the most popular and free-bearing examples.

But there is another reason why discrimination should be exercised in the selection of fruit trees. Scientific investigation has revealed sterility in certain varieties, while others are self-pollinating, and a third class are partly self-fertile. Trees that are self-sterile must, therefore, depend on the pollen of other trees for their fertilisation, and this can only be accomplished by providing a self-pollinating tree in the vicinity of sterile varieties. In this connection there is an important condition that must not be overlooked. To obtain the benefits of cross-pollination the trees must blossom about the same period, otherwise an early sterile apple would receive little or no assistance from a late variety, because the blossoms of the one would be over before the flourish of the other was fully opened. Of course, it might reasonably be argued that a simple solution of the problem lies in the direction of planting only those varieties that are self-pollinating; but if that policy were adopted, the grower would be deprived of several first-class fruits. Cox's Orange Pippin, for example, which has the reputation of being the finest of all dessert apples, is classified among the sterile specimens, and should be planted in the company of a self-pollinating sort such as Worcester Pearmain. In districts where bees are scarce, especially when the weather is cold, it may be expedient that hand pollination be adopted, but that again depends on the form of the tree.

A CHOICE BASKET OF LANE'S PRINCE ALBERT, A GOOD LATE KEEPING APPLE.

The principal forms of fruit trees consist of the cordon, pyramid, bush and standard, any of which are suitable for a small garden. The cordon does not seem to be held in great favour in Scotland except in big private gardens, where pears are grown on a wall; but it is well adapted to the requirements of the amateur who has little space at his command. Cordon trees can be planted 18ins. apart without shading or interfering with low-growing plants in the immediate vicinity. An amateur in a Glasgow suburb, possessed of initiative, planted cordon apple trees on either side of his main walk, and from this avenue he obtains sufficient fruit to supply the requirements of the household all the year round. The bush and pyramid forms are also to be commended as growth can always be kept within reasonable bounds, and, like the cordon, they can be easily pollinated by hand.

Provided the leaves have fallen, the planting of fruit trees may be undertaken about the beginning of November and be continued until the end of December; but February or March will do as well, as root growth seldom commences before spring. While a good loamy marl is best, not only for apples, but for most fruits, ordinary potato ground that has been in cultivation for a short time is a good substitute. In order to ensure the future welfare of the trees, prepare the following compost a day or two prior to planting: 2 parts loam, 1 part leaf-soil, 1 part rotted manure; add a liberal sprinkling of lime, sand and burnt wood ashes, and to every barrow-load mix in a 6in. potful of bone meal. When the hole is dug, put in a layer of the compost at the bottom, and after

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planting the tree in position spread the roots well out and cover them with a further supply of the compost, which should be carefully worked in among the fibrous growth. Fill up the remaining space with ordinary soil and tread firmly but not too hard. All newly planted trees should be securely staked at the time of planting, as they are apt to rock and disturb the roots during stormy weather. When the operation is complete, mulch the surface with rotted manure, a treatment that is good for all fruit trees. Here are a few useful hints applicable to the general management:

Lime is essential to all stone fruits. If the trees make good wood growth they will benefit by an autumn application.

After a young tree has made summer growth, pinch back the shoots to five or six leaves, and do little winter pruning; merely thin out misplaced shoots.

PEAR LOUISE BONNE OF JERSEY, A GOOD AUTUMN VARIETY.

Lift and transplant single cordon trees in their second or third year so as to check luxurious growth and force them into fruit bearing.

By growing single cordons the number of varieties can be increased.

Half standard trees are preferable to pyramids for growing plums. The former is becoming very popular and has the advantage of a long, clean stem.

Fertility and Conference are good pollinating varieties for pears; Victoria for plums; and Worcester Pearmain and Bramley's Seedling, for apples.

Damsons are not grown so extensively in Scotland as they ought to be. Half standards are preferable to the bush form of tree, as the latter is of rank growth and does not fruit so quickly.

An ideal fruit tree should have each shoot so far apart that when in full leafage every leaf is bathed in sunshine and free air.

Even in good garden soils there is a lack of fertility in fruit trees, due to liberal dressings of nitrogenous manures, or a defective root system, arising from the roots striking deep into the sub-soil. The simplest remedy for trees that are not more than five years old, is to lift each tree when the leaves are beginning to yellow and shorten back all the strong roots, especially those which show a tendency to grow downwards. Replant without delay and add two or three spadefuls of the special compost to accelerate a quick restart.

The following are varieties suitable for culture in Scotland and from which the reader may make a selection:

APPLES.

Ripening August to Early September.

Dessert.—Gladstone, the earliest really good dessert apple; Beauty of Bath, a trifle shy in certain districts; Irish Peach, a delicious early fruit; Devonshire Quarrenden, succeeds in nearly all soils and situations.

Dessert or Culinary.—White Transparent, one of the most reliable; Duchess of Oldenburgh, an attractive summer fruit.

Culinary.—Ernneth Early, the best of the early codlins for crop, vigour and appearance; Lord Grosvenor, one of the most prolific of all apples and does well on a dry soil.

Ripening in September and Early October.

Dessert.—James Grieve, a popular mid-season table fruit; Worcester Pearmain, seldom fails either as a standard or bush form; Rosebery, fertility good, ripens mid-September.

Dessert or Culinary.—Golden Spire, a regular cropper, recommended for small gardens; Cutler Grieve, good for any purpose and seldom misses a crop, even in adverse seasons; Cellini, a regular cropper in most districts and conspicuous for its brilliant colour; Warner's King is a well known mid-season apple, but there are complaints of cankering during the past cold, wet season.

Cooking.—Ecklinville, Stirling Castle, Bramley's Seedling and Lane's Prince Albert.

Dessert varieties later than Allington Pippin and Ellison's Orange seldom ripen satisfactorily.

PEARS.

Williams' Bon Chrétien is now taking the place of Jargonelle in Scotland, being considered the best of the early pears. Louise Bonne of Jersey is a little later, but the most prolific variety is the Hessle, which makes up in quantity for the difference in quality between it and other sorts.

PLUMS.

Early Transparent (dessert), The Czar and Victoria (dessert or culinary), and Early Prolific (cooking).

GOOSEBERRIES.

Yellow.—Early Sulphur, Broom Girl and Yellow Warrington.

White.—Langley Gage, Careless and Whitesmith.

Red.—May Duke, Red Warrington and Whinham's Industry.

Green.—Keepsake and Langley Green.

CURRANTS.

Black.—Edina, Giant Prolific and Boskoop Giant.

Red.—Fay's Prolific, Murie Red and St. Madoes Late.

White.—White Transparent and Versaillaise.

STRAWBERRIES.

Royal Sovereign, The Leader (midsummer) and Elton Pine, the best late variety in Scotland.

RASPBERRIES.

Red.—Bath's Perfection, a reliable early variety which fruits well on a light soil; Mitchell's a favourite market sort.

Yellow.—Yellow Antwerp.

DAMSONS.

Frogmore and Bradley's King.

CHERRIES.

May Duke (July) and Morello (August-September).

HYBRID BERRIES.

The Loganberry, and Laxton Berry.

A BEGINNER'S COLLECTION.

The following selection is recommended for the small garden worked by an amateur: Apples.—Devonshire Quarrenden or James Grieve (dessert); White Transparent or Golden Spire (dessert or culinary); Emmneth Early or Stirling Castle (cooking). Pears.—Williams' Bon Chrétien or Hessle. Plum.—Victoria. Gooseberies.—Early Sulphur (yellow), Whitesmith (white), Keepsake (green), and Whinham's Industry (red). Currants.—Boskoop Giant (black), Fay's Prolific (red), Versaillaise (white). Strawberries.—Royal Sovereign or The Leader. Raspberry.—Bath's Perfection. Cherry.—May Duke. J. Y.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Winter Treatment of Scabiosa Caucasica & Lobelia cardinalis.

Before winter sets in it is advisable to give Scabiosa caucasica a little protection around the roots, such as leaf-soil or old bulb fibre. To keep off slugs place a little powdered charcoal or coarse silver sand direct on the crowns. This has been found very effective with choice delphiniums, also rock plants. The roots of Lobelia cardinalis are apt to rot during the winter if not carefully attended to. Pots or pans are better than boxes to store them in, as wood keeps wet and very often a fungoid disease sets in. Place close together in clean leaf-soil and silver sand, and keep in frame or cold greenhouse, but as soon as the stem begins to decay, which is generally towards the end of November, I prefer to put them on a shelf in a slightly heated structure, so that the stem is kept dry, which can be removed as soon as it will part readily from the roots. Very little water is required, just enough to save shrivelling.—F. D.

Economical Fencing for Cordon Fruit Trees.

In small gardens the cost of straining posts for wire fencings for espaliers, cordons, etc., is prohibitive, 12s. 6d. to 15s. each. An economical fencing can be erected as follows: Obtain angle iron standards, 1¼ins. by 1¼ins., 8ft. overall, fitted with earthplates, the L's bored at intervals for bolts, cost 2s. 6d. each. For horizontal members use three or four lines of the 9ft. tubular rods, either ½in. or ¾in. diameter, the latter for choice. These are sold for curtain rods or lawn tennis court surrounds, and have the ends flattened and bored for bolts; they cost from 1s. to 1s. 2d. each. With a little ingenuity and the addition of lighter sections for intermediate posts and Government surplus wire, erections can be made upon which all kinds of fruit trees can be trained.—C. A. W.

Planting a New Hedge.

When planting hedges of Cupressus Lawsoniana, C. macrocarpa, Thuya Lobbi and many other subjects, after the trench has been prepared for planting, drive a stout stake about the height of the plants into the ground at each end of the trench, also at intervals of about 4yds. along the trench. Take a length of stout cord, secure to end stake, and run along the row, putting a couple of turns round each stake, taking care to keep it tight, and secure it to the other end stake. The height of the cord should be about three-quarters of the height of plants when

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planted. Now plant carefully and tread securely. After planting, tie with soft string the main stem of each plant to the cord. This method prevents plants from rocking in the wind, keeps them in a straight line, perfectly upright, and so assists materially the formation of a good hedge.—G. E. W.

Disposal of Garden Rubbish.

Every autumn most of the cut-down stems of herbaceous plants are relegated to the rubbish heap to be burnt. I find it an excellent practice to tie them in neat bundles like sheaves and when double trenching the ground place them in the bottom trench. The effect is threefold: (1) It assists drainage; (2) it gives off a certain amount of ammonia which is converted into nitrates; (3) it adds humus to the soil, especially if leaves are thrown in with the bundles. By the following season the stems are well decayed, and this method of disposal yields more in manurial value than the bonfire. All woody material, such as rose trimmings, fruit tree prunings, etc., must be burnt.—D. W.

Digging a Circular Flower Bed.

Although digging operations are nowadays fairly well understood, people often make hard work of digging a circular flower bed. A good method is to liken the bed to a clock and take out a trench as from twelve o'clock to the centre where the hands are joined, and dig round clock-wise, taking two spit widths on the outside, slowly shortening till the middle, when just three or four inches are sufficient to keep the trench workable. By this method the digger ends up where he began and his soil from trench is at hand to fill up and complete the operation.—P. P. F.

WHAT OUR READERS SAY

GATHERING LEAVES.

SIR,—As an improvement on your correspondent's hint for gathering leaves, let me suggest that a larger piece of sacking, two or three yards square, be taken, and two adjacent corners be pegged or weighted down, so that the intermediate edge lies close to the ground. Sweep the leaves over this edge direct on to the sacking, gather up the four corners and away. Two barrow-loads of leaves can thus be gathered up in less time than it would take to fill the barrow once with the usual two pieces of board.—FRANK GRAY WALLIS. *Eastham, Cheshire.*

A GOOD POTATO YIELD FROM SEFTON WONDER.

SIR,—The enclosed particulars of the weights lifted from a single root of Sefton Wonder potato in our recent competition would, I think, be of interest to many of your readers interested one way or another in potato cultivation.

Mr. T. Milne, 12, Rainton Road, Elmfield, Doncaster, lifted, on October 1st, the enormous weight of 24lb. 6 oz. from a single root of a new second early immune variety of potato named "Sefton Wonder." Other weights lifted on the same date in different districts were: 22lb. 2 oz., by W. H. Walley, Bank Cottage, Ponsanooth, Perranwell, Cornwall; 20lb. 6 oz. by Mr. R. C. Beard, 2, Railway Cottage, Llanwrtyd Wells; 19lb. 11 oz. by Mr. W. Wood, gardener to Dr. Randle Leigh, Waterloo, Lancs.

Allowing that, in this competition, each plant occupied 1 sq. yd., and taking the average yield to be 20lb. per root, the weight of crop per acre would amount to over 43 tons.—J. LYTLE, *Liverpool.*

[We can also testify as to the excellent crop yielded by this variety this year in our own garden, in a suburb of London, where 14lbs. of seed of Sefton Wonder were sown this spring. The results fully bear out those set forth by our correspondent. In addition we might add that the variety is a good cooker and excellent flavour.—ED.]

PLANTS IN FLOWER IN A DEVON GARDEN.

SIR,—There has been no frost here up to date (November 6th), most unusual. The following is a list of flowers and shrubs still in bloom which may be of interest to your readers: Salvia leucantha, S. Grahami, Bowles Black pansy, Senecio pulcher, Salvia uliginosa, Casaia corymbosa, Hydrangea quercifolia, Gentiana sino-ornata, Schizostylis coccinea, and var. Mrs. Hegarty, Escallonia montevidensis, Diplacus glutinosus var. puniceus, Coronilla glauca, Crinodendron dependens, Prunus Miqueliana var. autumnalis, Abelia Schumanni and Solanum jasminoides.—H. G. HAWKER, *Ermington, South Devon.*

ROSES FOR BEDDING.

SIR,—I read with interest your article in THE GARDEN of October 29th on bedding roses. There were one or two varieties rather new to me, such as Mrs. Fred Howard, Mrs. William Fife and Scarlet Glory, and I missed a few, such as Independence Day—but I suppose you would consider Elphinstone displaces it; Frances Gaunt, which is a great favourite of mine; W. C. Gaunt, a very good bedder, but rather lacking in scent; Henrietta, which, though it grows a bit tall, is, I think, a very good bedder—at least, as good as, say, D. P. Roberts, which it rather resembles in habit, etc. Even if Mrs. Henry Morse and Mrs. George Shawyer *do* mildew, they are worth including in a list of best bedders. Miss Willmott is, I consider, a very fine bedder. Have you seen the bed of this variety at Kew? The man who looks after it there seems to understand its requirements more than most people, as he gets it to grow quite rampant. A rose that does very well with me is Ruth—an uncommon rose altogether. As long as singles were included, Irish Fireflame, I think, has a claim as a bedder. It is rather rampant, but not much more so than Isobel.

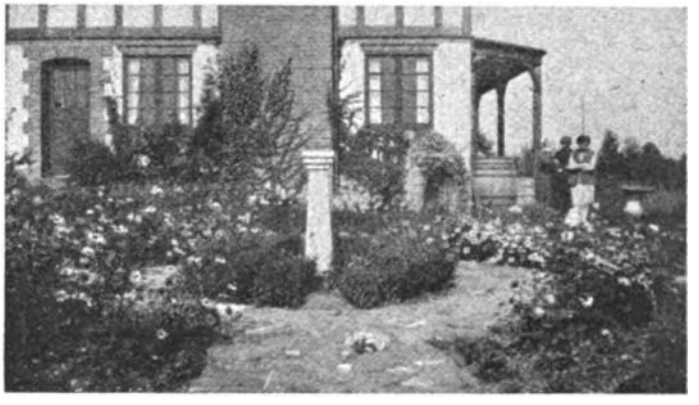
Another rose I like is A. M. Rouyer; I do not know if Souvenir de Mme. Boullet is like it—if it is an improved Hillingdon, perhaps it is.

I do not expect you to reply to all this in detail, as, no doubt, soil and conditions may be the cause of these fancied differences.—J. L., *Shipston-on-Stour.*

[Our correspondent's letter was forwarded to Mr. G. M. Taylor who sends the following reply: "Scarlet Glory, Mrs. Fred Howard and Mrs. William Fife have now been grown long enough to warrant the statement that they are improvements upon anything now grown, and that they are well worthy of inclusion in a collection of roses, no matter how small it may be. I consider Lady Elphinstone a better all-round rose than Independence Day. If you like Frances Gaunt you will like Mrs. Fred Howard. I think the latter displaces the former. Why bother with W. C. Gaunt now, when you have such a sweetly scented thing as Etoile de Hollande? The general complaint against Henrietta, and I agree, is that the colour fades badly. Mrs. Henry Morse and Mrs. George Shawyer are good roses, but they are susceptible to mildew. People have no room nowadays for such sorts. You can easily dispense with the two and never miss them from the garden to-day. I quite agree with you about Miss Willmott, but it is not a rose for everyone, hence the reason for not including it in my list. I put Isobel in the list because it is such a favourite, easily, I think, the greatest favourite among the singles. Fireflame varies too much in colour to find a place with the elect. Aspirant Marcel Rouyer is a fine rose, but, alas! too variable in colour to be recommended generally. Souvenir de Mme. Boullet is, virtually, an improved Lady Hillingdon."—ED.]

AN ATTRACTIVE FRONT GARDEN.

SIR,—The accompanying illustration of a garden at Chipstead in Surrey may prove of interest to a few of your readers. It shows how a corner of a garden may be made attractive by skilful planning and planting. Use has been made of a sundial as a central feature, with crazy paved paths radiating from it. Small beds are planted up with a variety of summer and autumn flowering plants, which despite the wet summer have given a bright display. The Michaelmas daisies in particular made for striking colour effects.—A. W., *Grafton Rotherfield.*



AN ATTRACTIVE CORNER IN A FRONT GARDEN.

THE YELLOW COSMEA.

SIR,—I have grown this particular cosmea for two or three years and consider it rather hardier than the other coloured forms. More than that, it is very much freer flowering. Possibly some may consider the shade of yellow too garish, but planting in open surroundings will do much to make void any such first impression. Its colour may be well described as a deep sunflower yellow. The foliage is a deep green, more so than that of the other coloured types, and very finely cut. As a cut flower it lasts well in water, while the plants continue blooming splendidly until cut down by the frost. Plants will grow upwards of 2ft., and when smothered in star-shaped yellow blossoms make a truly showy bed or border. On reasonably light soil I find there is no reason to transplant this half-hardy annual; it will germinate and grow sown outdoors where it can remain undisturbed. Now, past mid-October, this miniature yellow cosmea is full of flowers.—C. T.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

AS in all other garden work, there is a right way and a wrong way of digging the ground. It is such a simple operation that advice on the subject may seem superfluous, but one has only to compare the methods of the workmen usually employed by jobbing gardeners and the way of the amateur who digs his own soil and note the difference in their procedure.

How to Dig Correctly.

The object of the former seems to be determined by the least possible effort, and to accomplish this the spade is manipulated at such an angle or slope that it only penetrates the soil to the depth of a few inches, leaving portions of the manure exposed on the surface. The advantages of deep cultivation are seldom recognised and weeds are treated in the most haphazard fashion. Now, as the object of digging is to turn over and clean the ground that is to be cultivated, it always repays the gardener for the extra time and trouble involved to do the work thoroughly. Hold the spade as nearly perpendicular as possible and force it straight down into the ground, so that the soil to the full depth of the metal will be broken and turned over. Preparatory to starting operations, clear the ground of all surface weeds, while deep rooted perennial weeds should be removed as they are exposed. If manure is to be dug in, avoid the system of scattering the material over the surface, as it is difficult to lift soil and manure together on the spade and transpose the latter at a depth which will not come in contact with the roots of newly planted subjects. Begin by taking out a narrow trench, representing the full depth and width of the spade, and deposit the soil at the other end of the border or plot. Scatter the manure in the bottom of the trench with a fork, and in filling up the space with successive spades of earth, a new trench is formed and the procedure repeated and deeper cultivation assured. Do not attempt making the surface uniform and fine by raking; leave it in a rough condition over winter, and by the time the sowing and planting season comes round the soil may easily be made friable by breaking down the lumps in the process of raking.

When to Dig.

Never endeavour to dig your garden when the soil is in a pasty condition and adheres to the spade. Even in dry weather, heavy or clay land, which is common in Scotland, is difficult to till, as the soil forms into solid clods which break down readily after being exposed to the elements. The texture may be further improved by digging in coal ashes and strawy manure from the stable. On the other hand, the treatment of light or sandy soil is a comparatively easy proposition. While mediums of that description may be forked over at this season, digging and manuring should be postponed until spring, when cow or pig manure, decomposed vegetable matter or other form of humus should be incorporated in liberal quantities.

Treatment of Autumn Sown Sweet Peas.

Sweet peas sown in late September and early October and germinated under glass are apt to become drawn unless they receive cool treatment in a frame. To obtain strong bushy plants in spring pinch the main stem of the seedlings when two pair of leaves have developed. This treatment will cause the side shoots to break, but progress from now onwards will be slow, as development during winter partakes more of the formation of the root system than the growth of the plant above ground. The seedlings should be provided with plenty of air, but the removal of the sashes in fine weather exposes the young and tender foliage to the depredations of the feathered tribe, consequently protection in the form of close meshed wire netting placed over the frame is advisable as a precautionary measure. Slugs, too, are troublesome and their destruction involves systematic inspection, and wherever the presence of mice is suspected one or two traps are usually successful in capturing the vermin, which are capable of inflicting a great amount of injury in a single night. Seedlings in boxes should be transplanted singly into 3in. pots, because, if they are allowed to remain as at present the roots frequently become a tangled mass, which is not easily unravelled without inflicting injury.

Lobelias from Cuttings.

The propagation of lobelia from cuttings is an easy method of producing stocks of that popular edging plant, which, if treated in that way, comes into flower from two to three weeks earlier than plants raised from seed. A few of the old plants should now be potted up and accommodated in a frame or greenhouse where they can be protected from frost, and care must also be taken that they do not succumb to damp. In a short time new shoots make their appearance. When large enough to handle, these should be taken off and planted in boxes of light soil and grown on until they can be safely transferred to their flowering positions in the open bed or border.

Bringing in Bulbs for Christmas.

Early planted bulbs that are wanted for Christmas bloom should now be in a state of growth to warrant their removal from beds of ashes to partial shade indoors. If a greenhouse is available, place the boxes under the staging for a few days until the foliage assumes its natural green colour, when the foliage may be exposed to the full light and endeavour to bring them into flower under cool conditions or moderate heat. Bulbs, that were planted in bowls of fibre in September, and have been standing in the dark, will can be showing good top growth and now be subjected to the warm atmosphere of a living-room. Water may be given more freely, but, while the fibre requires to be thoroughly saturated, stagnant water should not be allowed to accumulate at the bottom of the bowl.

While rhododendrons may be transplanted any time from now until spring, it is advisable, in view of the scarcity of stocks, emphasised in the trade catalogues which have recently been issued, that orders should be placed early rather than later in the season, and should it happen that the site is not yet available for the reception of the plants an endeavour should be made to stipulate the period of delivery. Owing to their close, fibrous root system and the customary method of surrounding it with a good ball of earth, rhododendrons are seldom affected by the change; nevertheless, prudence dictates that the site should be prepared beforehand and made fairly rich in humus by the addition of non-calcarious substances, such as peat, leaf-soil, or well rotted manure. Indeed, there is no better planting medium with which to surround the roots than a compost of peat, decayed leaf-mould and sand. There are many really good hybrids in the various colour classes, but the following representative collection may be helpful to readers who desire a few meritorious and moderately priced sorts: White—Baroness Henry Schroder Mrs. Tom Agnew (lemon blotch), and Sappho. Pink—Princess Juliana, Pink Pearl and Miss H. de Trafford. Rose—Lady Armstrong, Mrs. Chas. Sargent and Rosabel. Crimson—Comte de Gomer, Broughtonii and Michael Waterer. Purple — Joseph Whitworth, Chas. Thorold and Chas. Bagley. Salmon and yellow—Mrs. Holford, Mrs. F. Hankey and Smithii aureum. ST. MUNGO.

FRUIT AND KITCHEN GARDEN

How to Make a Hotbed.

FRESH manure heaped up will always produce heat, but unless the material is arranged in the right way the warmth will not be lasting. Every gardener should master the business of making an efficient hotbed, for the device will be found one of the most useful aids in the culture of plants. On a hotbed crops of vegetables and salads may be raised at all seasons of the year, while the growth of many plants can be advanced. The work of forming a hotbed is really divided into three stages.

Preparation of Manure.

First of all one may deal with the preparation of the manure. The best substance for making a hotbed is, without doubt, stable manure; but such material as grass, fresh leaves, etc., can be employed. It may be pointed out that with the latter substances the heat is more violent but nothing like so lasting. Many gardeners find it an economy to mix the manure with grass or leaves. Make sure that the mixing is very thorough and on no account should the mass be exposed to rain. The fresher the manure is the better, and when secured it should be at once stacked under shelter. Each day turn it well about in conjunction with the other substances until there is little steam and practically no unpleasant odour. When turning over the heap, stack it loosely and work out any lumps that are found. If towards the end of the time the heap becomes rather dry it may be slightly moistened with water, but on no account should it be made really wet. Ten days is not too long a time to allow for this preparatory stage, or sweetening process as it is called. A thorough preparation of the manure in the manner described will prove beneficial when the hotbed is brought into use.

Selection of Position and Making of Bed.

When the material is ready select a part of the garden for the bed. A raised, dry position which is exposed to the south and sheltered from cold winds is the best. Successful hotbeds can, however, be formed in situations that are much less favourable. At times the manure is simply packed in the bottom of a deep frame with a thin layer of soil on the surface. Another way is to build the hotbed and then place the frame on the top. If the latter method is adopted, pile the hotbed the same shape as the frame, and about 18ins. wider and longer. The sides should be perpendicular and nearly finished off, and it is an advantage to stack turf round the outside. Pack the manure tightly and after each 6in. layer beat it well down. The deeper the hotbed the greater and the more lasting will be the heat. The most satisfactory hot bed is that in which the heating material is 3ft. or 4ft. in depth. When the hotbed is made place the lights on the frame, leaving these just a few inches open to permit of the escape of steam.

After the formation of the hotbed in the manner described the heat will begin to increase. As long as the heat is increasing the bed must not be used, and to find out when the heat is on the decline the bed must be tested. A simple plan is to push a stick to the centre of the bed and test it at the same time each day. It

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Continued from page 756.

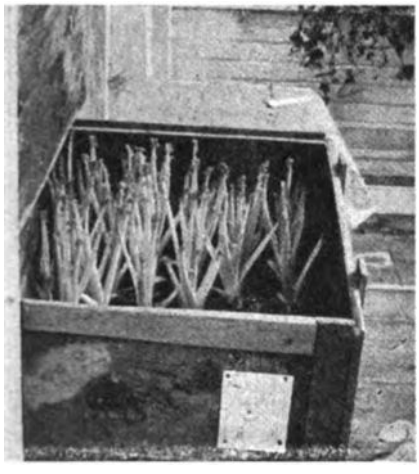
is more reliable to use a thermometer, thrusting this down into a hole which reaches to the centre of the heap. When the stick can be held comfortably in the hand, or the thermometer shows that the heat is on the downgrade, the hotbed may then be used for any purpose. The soil on the top should be from 3ins. to 6ins. thick.

A hotbed made properly will retain its heat for six or eight weeks during the winter or early spring. If the heat begins to decline before the work in hand has been accomplished bank up manure quite fresh from the stable on the outside. The more material that can be applied the greater will be the amount of heat given out by the stimulated bed. These linings, as they are called, are extremely useful in the case of a hotbed formed in winter or where a continuous strong heat is required.

After the hotbed has lost its heat the material of which it was built will be useful for all manner of purposes about the garden, as it has a high fertilising value.—L. B.

Forcing Seakale.

THERE are two commonly adopted ways of forcing seakale. The simplest method is to cover the plants in the open ground with pots, boxes, leaves or stable litter. It



SEAKALE FORCED IN AN ORDINARY PACKING CASE WITH THE LID MADE LIGHTPROOF.

is a mistake to use too much manure, as the heat will then be excessive and it is quite likely that the seakale will have an earthy taste. Plants grown in this way will yield for several years, but the soil should be of a light, sandy and well manured character. Moreover, each spring the ground should have a dressing of a good artificial manure. The original seakale plants are raised from seeds sown in March, the seedlings being ultimately thinned out to a foot or eighteen inches apart. The plants should be allowed to grow for two years before any attempt to grow them in darkness is made. Although somewhat more trouble is involved, a much better way of forcing seakale is to take up the roots in the autumn and force them in succession, as required, in some heated structure. It is well to lift all the roots which it is intended to force and to place them in a thick layer against a north wall or in any exposed position. This will help to ripen the roots and they will then force all the better. Remove all small roots and shoots from the pieces which it is proposed to force. If these are covered with loose litter until the spring, and then planted in rows 18ins. apart and 12ins. apart in the rows, they will in course of time develop into strong crowns, which can be forced. Any place that is quite dark will be suitable for forcing seakale. The roots are packed in boxes with light soil, leaves, or refuse from an old mushroom bed, a few inches being allowed between the crowns to allow of a free development. Quite good crops of seakale may be grown in a cellar and, of course, where anything like a darkened hot-bed or forcing pit is available the results are all the better. It may be pointed out that the temperature should not exceed 55 degrees Fahr., and even if the figure is somewhat below this the crop will be ready in from five to eight weeks.—S. L. B.

Manuring Fruit Trees.

TO enable fruit trees to bear good crops regularly, manuring must be given due consideration. But discrimination in the choice of manures is necessary or the result may be quite the opposite to that desired. Farmyard manure and bulky substances of a similar nature, are excellent for promoting growth, and trees that have become somewhat stunted benefit from their use, but those of normal vigour would be encouraged to make rank, unfruitful growth by the too frequent applications of these manures, especially if the trees were comparatively young. What is needed in their case is a fertiliser that will assist, primarily, in the development of flowers and fruit, and a phosphatic fertiliser is of the highest value in this respect. Basic slag is one of the most valuable manures of the kind mentioned, and as it is slow in action, it is necessary to apply it in winter if the greatest benefit is to be derived during the period of growth. From 4ozs. to 6ozs. per square yard is an adequate dressing. Farmyard manure applied once in three years will, usually, prove sufficient for trees of average vigour, that is when about 1ft. of growth is made annually. Trees of considerable size, with a mass of fruit spurs, which are unproductive, benefit from generous manuring and the reduction of the fruiting spurs. Younger trees in a similar condition may be treated more drastically by cutting the branches hard back with the object of inducing fresh growth below the spurs. With liberal dressings of organic manures and attention to soil cultivation, they may then be brought back to a condition of normal vigour.—J. C.

Early Peas.

I WOULD like to warn cultivators who have not had any experience with autumn sown peas, against sowing any seeds in cold, clayey soils in exposed positions. It is a waste of time and seeds to sow them in such soils. But there are many warm borders and the deep, light soils in them are ideal for the early pea crop. The position should be one facing due south, south-east or south-west, and the shelter should be on the north and east sides. If the border has a natural slope to the south so much the better. Take out soil to form a shallow trench, put in some rotted manure and leaf-soil, mixed and in equal quantities or nearly so. Dig in the mixture leaving the surface of the soil in the trench almost level with the soil of the border. Moisten the seeds, roll them in red lead and sow them evenly about 1in. apart. They may be sown a little closer now than is advisable in spring and early summer time. Cover the seeds 2ins. deep and finish this part of the work by placing a layer of sifted ashes on the covering soil. The red lead will preserve the seeds from birds and rats and the ashes the young, tender plants, as they break through the soil, from slugs. Sow the round-seeded varieties only, as the wrinkled ones decay in the soil more readily. Tiny branching sticks should be placed to the rows directly the seeds are covered and these small sticks will not only support the young plants, but will form some protection from wind and frost.—HANTS.

SERVICE BUREAU.—*continued.*

Planting Out Hydrangeas.

I have a number of two and three year old hydrangea plants, which have now grown too large for their pots and I wish to plant them out in a border, facing south. Will you please tell me which is the best time to do this?—F. Q., Thornton Heath.

Keep your hydrangea plants as cool as possible in the greenhouse and do not subject them to artificial heat, nor to frost, throughout the winter and plant them out next April.

Roses for a Low Wall.

I wish to grow roses, of good colour (some shade of red preferably) and scented, on trelliswork placed against a west wall. The wall is low and the ground loamy. Will you kindly assist me by suggesting a few suitable kinds?—W. D., East Minster, Sheerness.

You probably require some climbing tea or hybrid tea roses for your fence, as Wichuraianas would be too vigorous. Some good varieties for your purpose are:—Climbing Chateau de Clos Vougeot, dark red; Climbing General McArthur, red; Climbing Richmond, red; Climbing Mme. Ed. Herriot; Climbing Irish Fireflame, orange-crimson; Climbing Mrs. Herbert Stevens, snow white.

Replanting Lily of the Valley.

My lily of the valley bed has not flowered at all well this year—it is a very old bed—and the soil is lime and chalk. I have top-dressed it with leaf-mould. Will you advise me if I had better take the lilies up and replant, and when is the best time to do it?—E. C., Winchester.

A bed of lily of the valley can be made up at the present time. Choose well drained soil in a partially shaded position under a north or west wall. There should be plenty of air overhead. Place the crowns 2ins. to 3ins. apart, having first deeply dug the soil and worked in plenty of rotted manure and leaf-mould.

Plants for a Cold Greenhouse.

I should be glad of your advice on what to grow in my greenhouse. There is no heating laid on, the only heat possible being from a door leading from a room which will probably have a fire in every day. I am desirous of growing something in the flower line, and possibly later on a few tomatoes.—H. P., Cowes, I.O.W.

You should be able to grow quite a variety of plants in your greenhouse. To start with you could plant a few bulbs for spring flowering, such as narcissus, tulips and hyacinths. Freesias and ixias may also be successfully grown in a cool house. During the summer you could grow zonal pelargoniums (geraniums), fuchsias and tuberous rooted begonias. For autumn and winter flowering you might try chrysanthemums, selecting some of the dwarfer growing varieties for this purpose. There are a number of primulas that should answer your purpose, including PP. malacoides, obconica, kewensis, and also the many varieties of Chinese primulas, the stellata forms being specially useful. Cyclamens in their many beautiful varieties also succeed in a cool house. Calceolarias are easily grown from seed and do well under cool conditions. There are also a number of ferns, such as adiantums and pteris, which are excellent for such a house. You should start with a limited variety of plants and gradually add to them as you gain experience. If you could visit some greenhouses in your neighbourhood, it would be a great help, as you would be likely to see a variety of plants and gain much useful information.

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THE CHRYSANTHEMUM SHOW

THERE was a record attendance at the annual show of the National Chrysanthemum Society at the Royal Horticultural Hall, Westminster, on November 3rd and 4th last. Throughout most of the afternoon of the first day the hall was so uncomfortably crowded that it was only with difficulty that the flowers could be seen. But for the most part, the blooms were so beautiful that enthusiasts said it was well worth the struggle. In many of the classes the exhibits reached a high standard of excellence and illustrated cultural skill of the highest order.

The large Japanese varieties fully retain their popularity with the exhibitor, and these were the chief feature of the show. It is just a hundred years since Captain Bernet raised the first European seedling chrysanthemum at Toulouse. At that time there were just under fifty varieties in cultivation in this country and, although these and the Toulouse seedling were the "large-flowered" varieties of their day, they would bear no comparison with the immense exhibition varieties that are now grown. Nor were they of the same type, for it was a quarter of a century later that Robert Fortune sent home from China the first Japanese varieties. Since those days an enormous number of seedlings have been raised by our growers, to the great improvement of the flower. Each year sees the birth of very many new seedlings and, in most cases, it also sees their death, for while many are raised, few are chosen. At the show under notice the Floral Committee of the National Chrysanthemum Society considered the merits of thirty-five of the novelties and gave awards to six of them. Of these six selected ones almost certainly two will never gain popular favour.

But, to return to the show itself. The chief honours fell to Captain R. B. Brassey, of Cottesbrooke Hall, Northampton, who showed thirty-six magnificent Japanese blooms in vases. The blooms of the white Victory were considered to be the finest in the whole show, and the other varieties were Julie, Rosemary Simmonds, Mrs. B. Carpenter, Mrs. A. Holden, Golden Rigby, Norman Chittenden, Duchess of Westminster, Mrs. P. Murray, Mrs. J. Gibson, Majestic and Mrs. Gilbert Drabble. Sir John Ward, K.C.V.O., of Chilton, Hungerford, also had a superb exhibit, and this was of thirty-six exhibition blooms shown on boards. The standard show boards were far too small for the full display of these splendid blooms, which were cramped for space. Among his many good sorts he included Mrs. F. Sleck, Tom Abbot, Victory, Mrs. Gilbert Drabble, Julia and Red Majestic. It was interesting and instructive to turn from these standard show boards, where the flowers were so cramped, to the experimental class, in which the Society provided larger boards. In these a space of 10ins. from flower to flower was provided and the result was admirable. With greater freedom each bloom stood clear of its neighbours and the full beauty could be enjoyed. The Dowager Lady Annaly, Holderby House, Northampton, won the first prize with splendid specimens of such varieties as Autumn Tints, Majestic, Julia, Marjorie Woolman, Melody and Mrs. E. A. Tickle. Other prize winners with large Japanese varieties in these open amateur classes included Viscount Hambledon, Greenlands, Henley-on-Thames; Mr. R. L. V. Sherwood, St. Gatien House, Newmarket; and Mr. F. C. Stoop, West Hall, Byfleet.

The several classes for a vase each of three blooms of specified colours showed which varieties the exhibitors and judges considered to be the best. Mrs. Harold Wells was the best white—it displaced Queen Mary and Victory of former years. Princess Mary was shown by the leading four of five exhibitors in the class for a yellow variety, and Mrs. George Monro, Junr., was equally favoured in the class for any crimson Japanese variety. In the class for a vase of any other colour, Red Majestic was placed first, with Majestic second.

There was something of a mild revival with the old-time incurved chrysanthemum, and in his first prize vases of this type Mr. S. W. Wickens, of Southsea, demonstrated most ably that they have considerable decorative value. His blooms of Captain Kettle, Ondine, Golden Glory and Romance were very attractive.

It may be that the season was too late for growers of what may be termed the fancy types to show any blooms, for there were no entries of pompons, anemone or anemone singles. We missed the graceful little pompon chrysanthemums which Mr. W. J. Hussey used to bring from Exeter. That this dainty type has fascinations was fully evident from the attention and admiration given to the vases shown by Mr. H. J. Jones and Messrs. W. J. Cole and Son in their trade displays. The best varieties were Victorine, orange shaded with ruby; Mary Pickford, the tiniest pure white; Lilian Doty, pink; and Bright Eyes, rose pink.

For some reason, not readily apparent, the singles always require an earlier season than the larger Japanese and the incurved varieties, and in this late season the exhibits of this type were fewer than in an average year. But the quality was fully equal to the general high standard of the show. Viscount Hambledon, who won the George Monro Challenge Cup in the open section, had twelve splendid vases of large singles in such sorts as Augusta, Sandown Radiance, Phyllis Cooper, Supreme and Bronze Molly. In the class for nine vases of the same type, Mr. F. C. Stoop, was first prize winner with excellent flowers of Eaton Scarlet, Susan, Crimson King, White Model and Phyllis Cooper. Although they possess considerable decorative value and great lasting properties, the small singles do not appeal so much to the exhibitor. The best exhibit was that of the pink Florrie King, shown by Mr. A. E. Taylor, Winchester.

The floral decorations were especially attractive and well illustrated the great decorative value of the chrysanthemum, though it was the large-flowered sorts that made the best displays. In these classes the use of any suitable foliage was permitted, so that the flowers were arranged with autumn foliage, Asparagus Sprengeri and similar plants. Miss M. Hodges, Sydenham, and Mr. G. Richardson, Tulse Hill, were the most successful exhibitors.

As ever the large trade displays were a great feature of the exhibition. Mr. H. J. Jones, who received the only large gold medal, had a magnificent group arranged with great taste. In addition to many large vases of the best exhibition varieties, he had some delightful colour schemes with chrysanthemums. These included a primrose coloured seedling and the purple Mrs. E. W. Hayes; In Memorian and E. Reeves; White Ball, a tiny incurved; and Fifi, a beautiful pink variety, grown as undisbudded sprays; and the yellow and buff varieties of Rayonante. Among the singles were Absolute, Crimson Dawn, West Hall, Gem and Oaklands.

Small gold medals were awarded to Messrs. Cragg, Harison and Cragg for a delightful collection of the best market varieties, among which were Jean Pattison, rich bronze; Iolanthe, pale pink; Mrs. F. R. Felton, deep crimson; and Atalanta, rich pink; to Messrs. Keith Luxford and Co., who showed many large-flowered varieties of value, a collection of hardy sorts and a couple of attractive anemone singles. The last named were Thora, of mauve colour, and Winsome, of bright crimson colour, with a gold and crimson centre; to Mr. H. Woolman, for a goodly group of representative varieties; and to Lady Macnaghten, Sandhurst Lodge, Berks, who sent many especially well grown specimen plants. These were from cuttings inserted during the second week of last December, and they carried a large number of decorative flowers. On a shapely plant of the White Blanche Poitevine it was said there were one hundred and fifty-six flowers.

Silver-gilt medals were awarded to Mr. A. G. Vinten, for a collection of market varieties, and to the King's Acre Nursery Co. for a large group of the various types. Mr. Wm. Yandell had a large silver medal for his interesting exhibit of undisbudded varieties and silver medals were awarded to Messrs. W. Wells and Co. and Mr. H. Clark for groups of general chrysanthemums, and to Captain A. H. B. Wright, The Rookery, Marlow, for a splendid specimen plant of the brightly coloured Mrs. R. Luxford.

NEW CHRYSANTHEMUMS.

MONUMENT.—A splendid incurved Japanese bloom made up of broad milk white florets. The flower was broad and deep and of the best exhibition type. First class certificate. Shown by Messrs. Keith Luxford and Co.

MRS. KEITH LUXFORD.—A bright reddish chestnut exhibition Japanese variety which has long drooping florets with golden reverses. First class certificate. Shown by Messrs. Keith Luxford and Co.

BLACKPOOL.—A splendid exhibition Japanese bloom. The florets are of rich crimson colour, lightly touched with maroon and they have golden reverses. First class certificate. Shown by Mr. H. Woolman.

SOUTHAMPTON.—Another excellent large Japanese variety. The long, broad, yellow florets curl gracefully at the tips. First class certificate. Shown by Mr. H. Woolman.

EDITH SEYMOUR.—A light chestnut exhibition Japanese variety. The long, drooping florets have golden reverses. First class certificate. Shown by Captain J. Dalgety, Lockersley Hall, Romsey.

CHARLES DAVIS.—This is an excellent, bright yellow exhibition Japanese variety. The long narrow florets are prettily twisted at the tips. First class certificate. Shown by Mr. H. J. Jones.

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SHRUBS FOR AUTUMN COLOUR (see page 760)

THE

GARDEN

THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2921 Saturday, November 26th, 1927 Price TWOPENCE

THE Barberries undoubtedly stand in the first rank of our ornamental shrubs not only by reason of their spring beauty, but also on account of their rich effects in autumn. The majority of the species have handsome foliage which assumes the most brilliant autumnal tints, and bear abundant crops of red or blue berries. In spring they are most attractive with a profusion of bright yellow flowers which wreathe the shoots from end to end. As a family they have many fine qualities to commend them.

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THE GARDEN

VOL. XCI.—NO. 2921. NOVEMBER 26, 1927. PRICE TWOPENCE.

THE PSYCHOLOGY OF THE GARDEN

TO the observant eye and thoughtful mind life and nature in the garden is a fascinating study, and the charm of the subject is emphasised when it is discussed with the sympathetic and literary touch which characterised Mr. A. W. Brown's lecture on the "Psychology of the Garden," at Edinburgh a few weeks ago. While the practical side of things did not come within the field of observation, the subject was treated in its broadest and finest sense and, as the garden of nature has no limitations or boundary walls, the speaker wandered at will along the main avenues into many sidepaths that were rendered attractive by the presence of bees and birds and flowers. In that interesting ramble round the garden, Mr. Brown drew inspiration from Nature's ample lap and commented in poetic language of the many interesting things to be found there. Light and shade flitted alternately across the moving picture and the common enemies of the gardener were treated in such a way that they did not seem out of place in the artist's conception of Nature. There are critics who may regard such views as idealistic rather than realistic, but the true valuator will assess them as the expressions of a thoughtful gardener who finds pleasure and relaxation among his flowers. The real possession of a garden can best be interpreted as enjoyment, and in this sense the visitor and the random passer-by shares it with you, and may be even the larger shareholder if possession is measured by the foot rule of appreciation.

The following are some of the many good points touched upon in the lecture:

You possess a garden so that you may have pleasure in its beauty, but do not forget the wider enjoyment of sharing it with others, for it can bring no real happiness if you keep the gate shut.

It is not sufficient that you walk around and admire its beauty; you must work in it, exercise your ingenuity, put some of your personality into it and not leave all to the hired man. Do not heed although you make mistakes; we learn and grow wiser from the knowledge of our failures as well as from our successes.

What can be more restful or make us realise more and more the wonder Nature so freely displays to us than a walk round the garden, not merely with our eyes open to admire the many forms and colourings of the flowers, but our minds open to ponder and muse among the annual miracle of their birth while we watch the gradual unfolding of leaf and flower.

There are many plants which, if exterminated, would mean the death of a whole race of insects dependent upon them for food, and, on the other hand, for lack of certain insects, specially fitted to pollinate their flowers, whole species of plants would either disappear or would have to modify their flowers to make them attractive to other forms of insect life.

It is all a finely balanced scheme of give and take. Flowers are not made so beautiful nor are their forms so varied for our admiration alone, unless where nature is interfered with. The main object of their gorgeous colours and beautiful forms is the attraction of insects for the purposes of pollination.

What a voyage of discovery one can launch out upon even within the bounds of a garden: the flowers, the countries they come from and their histories; the birds and the insects, what fascinating life stories some of them have, more extraordinary than the most fantastic fairy tale ever written.

Birds brighten life for us more, perhaps, than we are aware of. Many of us would rather lose some fruit than miss the pleasure of listening to the song of a thrush in the quiet of a summer evening, or the joy of hearing the call of the chaffinch at sunrise; aye, or even the noisy chatterings of the sparrows (Philistines though they be) as they preen themselves on the window sill.

Our garden is a place in which, be it ever so small, there is a deal to love, a deal to admire, and a great deal to learn. Only those of courage and cheerfulness can grow flowers—the courage of overcoming difficulties and the cheerfulness which can laugh at failures. Flowers in themselves are cheerful things and you cannot grow them without partaking of their spirit.

The Apple-Shaped Cucumber.

AT the November meeting of the Royal Caledonian Horticultural Society, Messrs. Scarlett, Edinburgh, exhibited specimens of apple-shaped cucumbers which had been grown during the past two years from seed obtained in Australia. The size and colour of the fruit has no resemblance to the ordinary type of cucumber, while a further distinctive quality is its delicate flavour. Moreover, it is easily digested and may be eaten in the same way as an apple.

This novel species of cucumber has to be grown in a warm temperature and fruits best on the lateral growths, as only male flowers are produced on the main stem. In a season like what has been experienced the plants require to be fertilised in the same way as melons.

The Edinburgh firm are endeavouring to raise a green-coloured variety, as the golden-coloured fruits do not sell so well. Once the new form of cucumber is known it will probably become very popular.

This Week's Work

For Gardens in the South and Midlands.

Protect with ashes kniphofias, delphiniums and other herbaceous plants.

Plant roses and flowering shrubs if weather suitable.

Pot early-flowering gladioli.

Remove bulbs in bowls from plunging ground and expose gradually to light.

Lift seakale for forcing.

Make a sowing of culinary peas on a warm, sheltered border.

Prune peach trees and nectarines on walls.

Cut back greenhouse chrysanthemums that have finished flowering and stand the pots in a frostproof frame.

This Week's Work

For Gardens in Scotland and the North.

Lift and dry montbretia roots.

Cover crowns of herbaceous plants with ashes or sand.

Continue the planting of roses.

Pot up Scabiosa caucasica and winter in cold frame.

Sow seed of delphiniums under glass.

Lift and box Lobelia cardinalis.

Divide astilbes and spiræas.

Complete late planting of early and May-flowering tulips.

Lime vacant ground as required.

Prepare compost for planting.

Oil lawn mower and other garden tools.

Propagate achilleas by division.

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SHRUBS FOR AUTUMN COLOUR

The shrubbery should never be allowed to become dull and uninteresting during the autumn months. The following article suggests a few good plants whose foliage turns to the richest autumn tints, and which bear a profusion of attractive fruits. A few such dual purpose shrubs, for flower in spring and fruit and leaf colour in autumn, should be included in every garden.

THE dead season during the late autumn and winter months finds many gardens entirely lacking in interest. There is no excuse for this nowadays when we consider the number of fine shrubs and trees that are kind enough not only to provide us with their wonderful autumn-tinted leaves, but carry brilliant coloured fruits or berries as well which last well into the winter. In addition to this, nature has been a very thoughtful artist and has tinted the bark of a number of them so beautifully as in some cases to surpass their summer clothing. A good instance of this is the red-barked dogwood, or Cornus alba. A group of this in winter sunshine is every bit as fine as many flowers. It is especially fine when reflected into water. It is worth running over a list of many of these winter furnishers, as one may call them.

As far as autumn colour is concerned, there are a few outstanding plants which give us this in great perfection, always perhaps dependent on our fluctuating weather. Given a good growth in summer and a hot August and a dry fine spell in September and October, our colour is certain to mature. Few things are finer in our English landscape than the turning of the beech. Oak, elm and birch all contribute to this feast of gold. The first tree from which we get autumn effect is the rowan, or mountain ash. Unfortunately, the birds take toll of the glorious berries as soon as they are ripe. There are several fine forms of this tree, all of which are valuable.

It is hard to say which family of trees or shrubs produce the best effects of this kind. The Japanese maples are wonderful when they are in happy conditions. Scarlet oak, Quercus coccinea, the true form of this beautiful American oak, is an outstanding tree for autumn, as is also Quercus palustris. Two plants that seem to stand out there are Berberis Thunbergii, of which there are big groups planted in a sunny, rather dry position, which turned to a gorgeous reddish orange tint. Then, again, Euonymus alatus, which also has been planted in quantity in that beautiful wood, and whenever one comes into view of a group of this in October one has a fresh thrill of thankfulness for the colouring. It has an unique tint of rosy pink that is hard to describe and does not occur to my knowledge in any other plant.

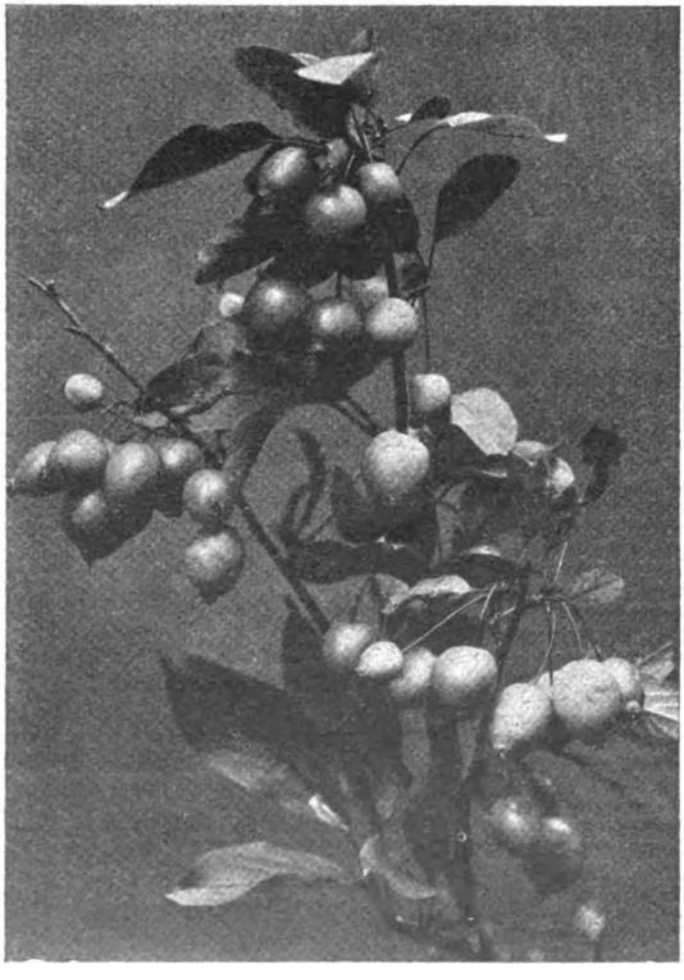
Euonymus yedoensis, the Chinese spindle tree, is also a fine autumn tint and winter plant, the fruit of this resembling our own native spindle tree, but of a beautiful shade of pink.

The common yellow azalea should be planted freely where autumn colour is wanted, and it holds its leaf a long time some years, which gives it an added value.

The crab apples must be held worthy of notice. Nothing is more brilliant than a John Downie in full and ripe fruit, and some of the others, such as Pyrus Malus atropurpureus, Pyrus Malus Aldenhamensis, etc., can be planted freely.

The Japanese cherries have their special value for autumn tint. But it is rather with the winter furnishers that we should turn to. Holly and yew are both beautiful, and not to be passed over are the yellow-fruited forms of both of them. These lighten up the winter sunshine most attractively. Callicarpa Giraldiana when fruiting well is one of the best shrubs. The fruit is small but the colour is very distinct—a bluish purple. Viburnum cassinoides has fruit of a similar tint. With them one can plant Vitis heterophylla.

As a family the berberis are hard to beat. Autumn effect is almost certain to be had from such as B. Thunbergii, B. Coryii, B. brevipaniculata, B. stapfiana and others. They usually provide a fine effect from the turn of the leaf and are equally good in fruit, while B. setnensis and B. dictyophylla are particularly good in the colour of their ripened wood. One is always safe with berberis to get a good show in the dull months.



A GOOD AUTUMN COLOURER, PYRUS ELEYI, WITH PURPLISH RED FRUITS AND DARK RED FOLIAGE.

ONE OF THE BEST OF THE COTONEASTERS FOR AUTUMN COLOUR AND BERRY IS C. FRIGIDA.

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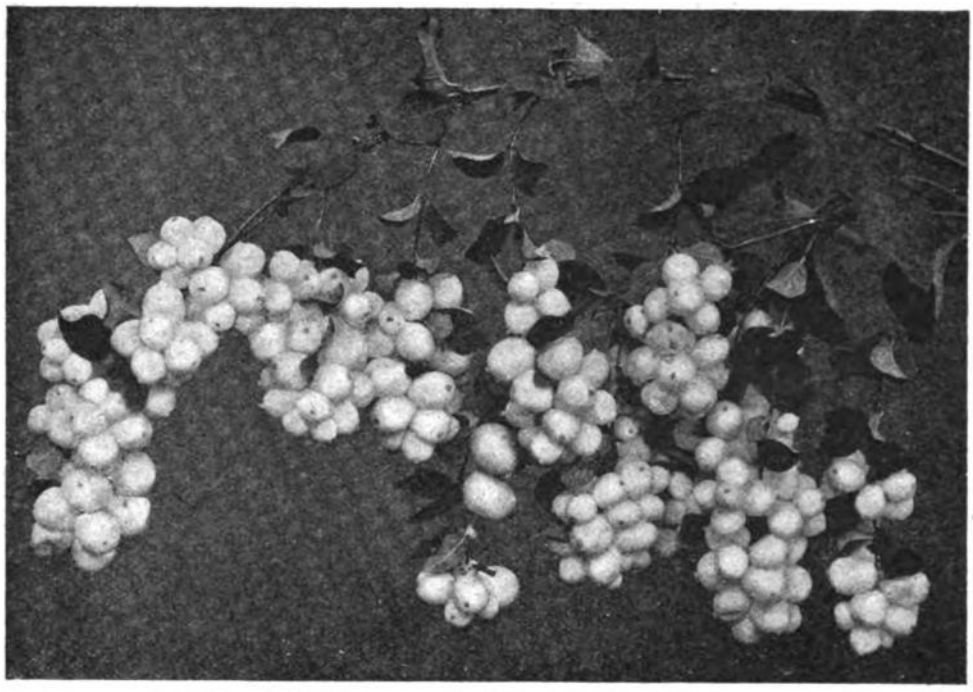

THE DECORATIVE WHITE FRUITS OF THE SNOWBERRY.

Stranvæsias are outstanding winter effect plants. Although evergreen, the leaf takes on a lovely tint of colour, while their brilliant red berries, produced in great profusion, cannot be seen without pleasure. Another fine lot of plants are the cotoneasters, and C. frigida is one of the finest, although there are a number of others equally so in their way. C. horizontalis in full fruit is a lovely plant. A number of new cotoneasters have come in recent years from China, and the new fruited forms are certainly all worth planting for winter beauty. Snowberry is a charming plant with its white berries. One could, perhaps, make a catalogue of all these fruiting and autumn-tinted trees and shrubs, but my wish is more to call attention to the possibilities of their use. One cannot pass over the set of plants that give us their special beauty in the colour of their wood. The willows and red dogwood are very prominent examples.

Given a mild winter the rhododendron family are conspicuous. Our old friend nobleanum will produce flower for three or four months. It has a way of sending out a bud here and there, often, in the mildest winters, well before Christmas. One can see now and again a plant of this in full bloom with snow on their leaves, and nothing is more charming. Quite a number of the new Chinese rhododendrons may be termed winter flowering, such as moupinense, mucronulatum, lutescens, and, of course, a lot of the arboreum forms show flower long before the passing of winter.

Berberis Bealeii and japonica, Viburnum fragrans, corylopsis, winter sweet (chimonanthus) and hammamelis are wonderful winter-flowering plants and in woodland do not suffer from frost as in the open.

Jasminum nudiflorum is a plant of great charm, taking advantage of any mild day in mid-winter to push out a few blooms. The old Pyrus japonica is nearly always in flower on a south wall long before we discard our overcoats. Perhaps I have said enough on the subject, and will only say that many of the plants named are everyday things and generally well known, but, alas! not always planted.

F. GOMER WATERER.

CARNATIONS FOR THE GREENHOUSE

A Strictly Practical Article Giving Hints on How to Raise and Grow Perpetual-flowering Carnations Successfully.

THERE are few amateurs who would not love to grow at least a few of these popular plants in their greenhouses, but for difficulties which are suggested in the cultivation of them. These difficulties are really erroneous mistakes made by the cultivators in not fully comprehending the simple requirements of the plants. It is hoped that the following details will be of use in overcoming some of these difficulties. From December until March is the best time to take cuttings, and in taking a cutting the amateur must bear in mind that it will reproduce the parent plant in every detail, so that it is essential to take the most vigorous growths of the plant.

Taking Cuttings.

The best cuttings are found on the flowering shoots where a number of growths are generally produced, and from the point where these growths are thickest the best cuttings should be taken, where there is a short space between the leaves and while the cuttings themselves have scarcely any space between their leaves. The cuttings should be between 3ins. and 4ins. long and should be detached from the shoot with a slight downward pull, removing a small portion of the bark from the flower stem. This bark should be trimmed with a sharp knife, as a clean cut calluses more easily than a ragged surface and roots are emitted in a shorter time. If the shoot comes away without any of the bark it is too soft and will not root.

"Pipings" are taken of varieties that do not produce cuttings until after the flowers have been cut. They are simply young growths pulled out at a joint, but the wood of the growths must be in the proper condition from which they are being taken from is exactly halved in the breaking. The correct to allow the break to occur so that the joint

A CARNATION SHOWING WHERE TO TAKE THE CUTTINGS.

wood for propagating is that which is in a half-matured state.

Occasionally "layering" is practised with varieties whose cuttings are difficult to strike, but this is only resorted to on such occasions and the process need not be detailed in this article.

Rooting Medium.

The best rooting medium for the cuttings is pure sand, and they may be either dibbled into boxes or pots according to the numbers required. Which ever is used, they must be well drained with potsherds or ashes and the sand pressed down firmly in the boxes to half an inch from the top of the boxes. The cuttings are inserted 2ins. apart.

Bottom heat was always advocated by old growers of carnations for the rooting of carnation cuttings, but results obtained from rooting them in a house with a temperature of 50 to 55 degrees are quite as satisfactory if not more so, as the cuttings have not been unduly excited and stronger and sturdier plants are obtained. Twenty-eight days is the average time for the rooting of cuttings.

Watering and Ventilation when Propagating.

It is impossible to give exact details of cultivation, as one cannot work by rule of thumb, but must be guided by circumstances. On bright days, the cuttings must be shaded, but not repeatedly sprayed overhead, as many amateurs do. The whole secret of carnation propagation lies in keeping the cuttings fresh without excess of moisture on the foliage. During the first few days after the cuttings are put into the boxes, they are like cut flowers and can only take up water to keep them fresh, so that there should be no lack of it in the sand. This will prevent the base of the cuttings becoming dry while forming

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a callus. After this has formed the cuttings do not take harm so readily from dryness.

Light, heat, moisture and air must be controlled by artificial means, but to go to the extreme in any of these matters is as bad as ignoring them. If the cuttings receive a thorough watering in after they are dibbled into the boxes, it will be found that little watering or sprinkling overhead will be required for the three or four weeks it takes to root them. Should the sand dry out before then, do not hesitate to water.

Potting Rooted Cuttings.

As soon as the cuttings have rooted they must not be allowed to remain in the sand, but should be potted on into 3in. pots, potting the plants which show strong rootlets. Be careful when lifting the plants out of the boxes not to injure the young rootlets. Put one good crock over the bottom of the pot, then a little compost, which should consist of five-sixths stiff yellow loam and one-sixth sand, but the latter should be used in accordance with the quality of the loam, *i.e.*, heavier loam requires more sand. Dip the roots of the plant to be potted in tepid water, so as to wash off the sand, as a ball of sand is apt to become dry much more quickly than the surrounding soil, thus injuring the plants. Allow the roots of the plant to rest on the soil in the bottom of the pot, spreading the roots out well. Fill up with the compost to within half an inch of the rim of the pot and make the compost moderately firm. The ideal position for the plants is one receiving full sun and an abundance of air, with a night temperature of 45 degrees. Always strive to obtain a sturdy well matured plant.

Treatment of Young Plants.

After the rooted cutting is potted it should receive sufficient water to penetrate to the bottom of the pot; after that it should only be watered when the soil shows signs of getting dry. On very bright, drying days damp the house down and spray the young plants overhead, but never carry the latter to excess, as it encourages a soft growth, which is not natural to the plants. Shade the plants if necessary from strong sun, keeping a temperature of 50 degrees during the day, always allowing as much air as possible.

This treatment encourages a slow, steady growth and keeps in check insect pests which would doubtlessly attack weakly grown plants. A sturdy grown plant with practically no spaces between the leaves can only be obtained by cool, light and airy conditions.

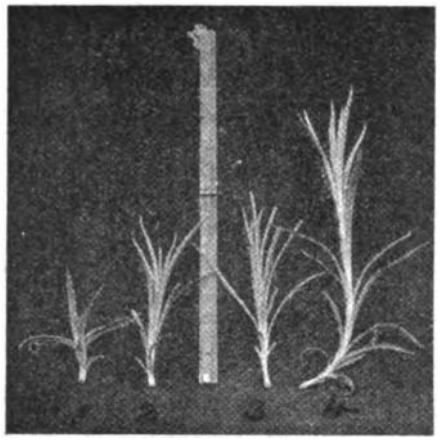
Stopping Young Carnations.

When the 3in. pots have become full of roots, it will then be time to pot on into 5in. pots. But before this second potting takes place the young growths will require to be pinched or stopped. This is done to encourage young growths and so form a bushy plant, which will, in turn, produce a quantity of flowers. If the plant is not stopped it will produce a single small flower stem and break naturally into growths, making a long, straggly plant. Stopping should be done in the mornings when the growths are stiff and brittle, and it is done by simply removing the entire top of the plant at the sixth joint, so that the remaining eyes are in an equal state of maturity and break away evenly, thus obtaining an evenly balanced plant. If the plants are potbound, weak growths will be obtained, so it is necessary to stop when the plant is maintained by free root action.

The compost for the second and third pottings is four-sixths loam, one-sixth manure, one-twelfth wood ashes, one twelfth mortar rubble and a little sand, according to the texture of the loam.

Potting on Young Plants.

The second and third pottings are performed in the same manner as the first potting. The firming of the soil should be done with a rammer. In the case of a light, sandy soil it is difficult to get it too firm, while heavy soil is quickly spoilt by over firming. Crocking of the pots must be done particularly well and no dirty pots should be used.



TYPES OF CARNATION CUTTINGS.
Good and bad: the one on the extreme left is too small, while the one on the right is too large.

A second stopping ot the plants will take place when they have been potted the second time and have matured a number of well matured growths. This is done gradually, one growth per plant at a time so as not to check the plant unnecessarily. Stop again at the sixth joint, removing the top growth of the shoot and the second stopping must cease according to the time blooms are required, remembering that the stopped growth will not produce flowers until about five months later.

Staking.

Plants require to be supported, and the best results are obtained by placing a bamboo cane in the centre of the pot and supporting the growths by wire rings, which can be bought for the purpose and which are fastened to the cane.

Disbudding of the flowering shoots is necessary. All lateral buds close to the crown bud should be removed when they are large enough to handle.

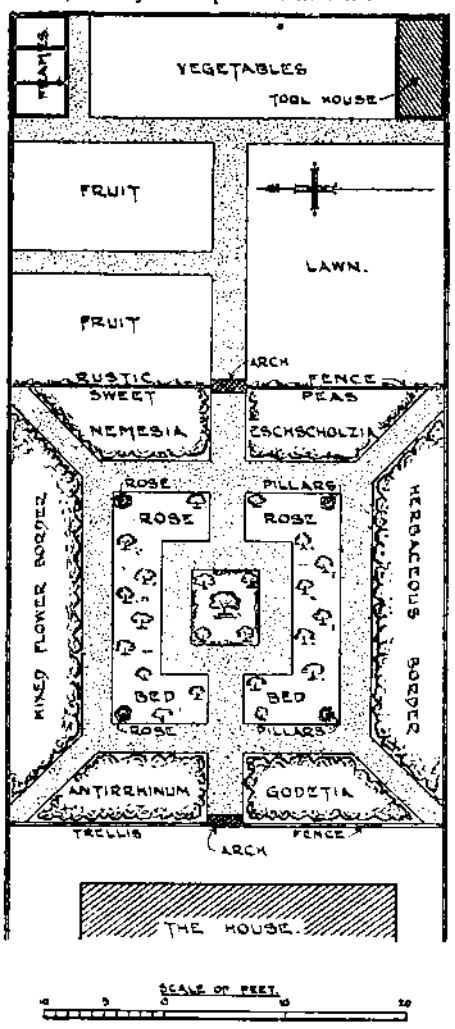
Feeding.

After the plants have received their final potting and when the plant has filled the pots with roots, feed during the summer months every fortnight and during the winter months only once a month. This gives an extra stimulus to the plant. M. H. G.

A GARDEN DESIGN

This design represents a flower, fruit and vegetable garden that may be increased or reduced in size to suit individual requirements. The object is to provide a suitable lay-out that may be formed and maintained at a moderate expenditure of money and labour.

WHILE the planting of the beds will, of course, be arranged according to the personal taste and ideas of the owner, it may be explained that the scheme



lends itself to the formation of a miniature rose garden in the centre. It possesses great possibilities in the direction of colour effect, and the hybrid tea varieties maintain a maximum period of bloom from early summer until late autumn Assuming, for instance, that the small bed in the centre is planted with Etoile de Hollande (crimson), a weeping standard of Emily Gray (yellow) would make a pretty combination, and four pillar or standards of Frau Karl Druschki in each corner of the square would blend with Shot Silk, Mrs. Henry Bowles, Betty Uprichard and Los Angeles, four pink shades to occupy the end positions with Mabel Morse (yellow) and Angele Pernet (orange yellow) at each side.

The trellis fence next the house should be clothed with rambler roses chosen from Excelsa, Emily Gray, Dorothy Perkins, Hiawatha and other Wichuraiana specimens; and Yvonne and Desire Bergera might be suggested for the two arches. Both the herbaceous and the mixed flower borders will meet with approval, but the four beds of annuals may be discarded in favour of begonias, carnations or other flowers. The row of sweet peas forms an ornamental background to the flower beds and also supplements the supply of cut bloom for house decoration.

It is an advantage in many ways to devote a particular section of the garden to fruit culture instead of scattering the trees and bushes all over the garden, as is frequently done. The taller apple, pear and plum bush trees may be associated in one bed with the dwarfer forms of gooseberries, while the other bed is available for currants, raspberries or strawberries, and the walls facing south may also be put to a similar purpose.

The vegetable space is intended principally to keep the house supplied with salads, and the frames and tool house are indispensable.

The question of edgings depends to a large extent on personal taste and the state of the finances. Wood is not economical; box looks well when kept in good condition; but if stone is available and not too costly, it is the most suitable of all edgings for a flower garden.

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ROSES WHICH MAKE GOOD HEDGES

IN the selection of roses that are suitable for making hedges the grower has to consider the type of hedge that is required, and care must be exercised in selecting sorts that are suitable for the particular purpose. One often notices, for example, that the Penzance briars are recommended for forming a hedge. They are, without doubt, splendid subjects for hedge work, but they require ample room for development if their beauty is to be seen at their best, and this demands a position where there is plenty of room. With one or two exceptions the Penzance briars are most rampant growers, and if the position in which they are growing is a confined one the long growths must be kept in bounds by very severe cutting, and when that is done, most of the flowering shoots are removed. The result is that—owing to this constant cutting—the plants grow stronger than ever, and they soon become a perfect nuisance. A hedge formed of some of the Penzance briars should, therefore, be planted only in gardens where plenty of space is at command. Hedges formed by planting the Penzance briars are exceedingly pretty when in bloom, and they have an equally attractive appearance in autumn when the plants are loaded with brilliantly coloured fruits.

The most vigorous grower of the lot is Anne of Gierstein. The colour is a dark crimson, and the foliage is very sweetly scented. Meg Merrilees is somewhat similar in colour and is also a strong grower. The colour of this variety may be described as a rosy crimson. Jeannie Deans, a semi-double crimson, also comes into the strong growing category. The three sorts mentioned are all more or less of a crimson colour and are suitable for planting in association if a hedge of about the same character of growth and of a red tone of colour is required. When we come to pink shades of colour, we have Rose Bradwardine, a pale rose; Amy Robsart, a rich bright rose; Julie Mannering, a pale pink; and Lucy Bertram, a deep rose. These are all strong growers.

Varieties of the Penzance group that are not just such rampant growers as those already mentioned are Lucy Ashton, white with a pink edge to the flower; Brenda, a peach coloured variety; Flora MacIvor, almost white except for a pale flush of rose; Edith Bellenden, pale rose; and Green Mantle, pink with a white ring in the centre of the flower. In Lord and Lady Penzance we have two very beautiful sorts, but they are not—in most places—so strong in growth as the sorts already named. Lord Penzance has fawn and light yellow flowers, and those of Lady Penzance are soft copper with a suffusion of rose. They are both very beautiful things, but it would be out of place to associate them in a hedge with the others. They would be overgrown. Their somewhat weaker constitution is caused by their having been bred from Austrian Yellow in one case and Austrian Copper in the other. These two kinds, nevertheless, make a very pretty hedge or screen, but, as already noted, they must be planted by themselves if a hedge of about similar height in growth is required. In order to get the best effect from a hedge of the strong Penzance sorts I always advise that they be planted 5ft. apart, and pruned hard back in March. This prevents undue overcrowding and gives a more graceful effect to the hedge once it has become established.

The common sweet briar makes a good hedge, but it does not grow so strongly as the Penzance sorts. The double scarlet and the double white sweet briar are also good for a hedge, but these seem to have disappeared from commerce. Janet's Pride, a sweet briar with semi-double white and rose flowers, is still offered. These sweet briars should be planted 4ft. apart.

Visitors to the Border districts of Scotland are often impressed with a yellow rose hedge they note when motoring north, and there are constant enquiries as to what variety is used for this hedge. I have seen a number of those hedges in different parts, and I have noted three kinds of yellow roses that are used. The most beautiful, to my mind, is Harrisonii. This is a double golden yellow, and it is, when established, a most profuse flowerer and is also a good grower. It will form a hedge 6ft. or more in height. Persian Yellow is another that is used. It makes a nice attractive hedge, but I hesitate to advise its use in the rose garden owing to its proneness to black spot. The other is the old double yellow Scotch rose. It is not so strong in growth as the other two, but it makes a good low hedge. It should be noted that all the roses mentioned only flower once in the season.

For low hedges about 3ft. to 4ft. in height the old Scotch roses are quite good, and the only objection to them is that they flower for so short a season. They have practically disappeared from catalogues, and I really think there need be little regret for them. I am of the opinion that if we want to make low hedges of roses, some of the new breaks in the polyantha section are ideal for the purpose, and they actually give us flowers all through the season. One of the very best in this respect is Else Poulsen. It will grow 3ft. or more in height, and it is always in bloom. The semi-double flowers are bright rose in colour. Leonie Lamesch, a polyantha with coppery red flowers, is another sort that makes a good hedge.

Some of the China roses are good growers and are often used in gardens for low hedges, and they flower almost perpetually. The common blush is one of the best, and Fellenberg, deep rosy red, may be coupled with it. Gloire de Rosomanes is a vigorous grower and is good for a hedge about 4ft. or 5ft. in height. This is a very old rose with brilliant crimson flowers, borne in bunches.

A WELL TRAINED SCREEN HEDGE OF PENZANCE BRIARS, WHERE GROWTH HAS NOT BEEN ALLOWED TO BECOME RAMPANT.

Coming now to sorts that flower over a longer period and all of which are suitable for hedges, I think Zephirin Drouhin is one of the loveliest and sweetest of all for the purpose. If well treated and pruned hard back the first season after planting it will soon make a hedge 6ft. in height. It flowers very freely and is at its best in autumn, owing, no doubt, to the large infusion of Bourbon blood in its parentage. The colour is a rosy cerise. This rose is a great favourite and worthily so. It is difficult to know why some of the other old Bourbons of similar sweetness and beauty have fallen from grace. The old Bourbon Queen, with its deep rose, fairly large fragrant flowers, is an ideal rose for hedges. So, too, is the old Mme. Isaac Perèire. Its colour is a vivid carmine, and although the flowers are large and lumpy, they are deliciously fragrant. It is an old world flower, with a grace and attraction of its own, and few, very few, of the more modern sorts can equal it either as a pillar rose or as a rose for the formation of a hedge.

Madalena Scalarandis, a little known China, is a vigorous sort with pale rosy pink flowers, and it makes an attractive and almost perpetually floriferous hedge. It is still in commerce.

The selection given in this article will enable growers to choose sorts for hedges of varying stature. If a very tall hedge is wanted it can be obtained by selecting the stronger growers in the Penzance section. For a hedge not quite so tall the more medium kinds in that section may be chosen. Then we have the Bourbons, followed by the Chinas and polyanthas. The ground upon which the hedge is to be planted should be well manured before putting the plants in, and, with the exception of the polyanthas, all should be pruned hard back the first season after planting in order to get them into vigorous growth and then to be well established.

The next note will deal with roses that form large bushes and are, consequently, valuable for positions where they can stand isolated so that their full beauty as flowering shrubs may be revealed. GEO. M. TAYLOR.

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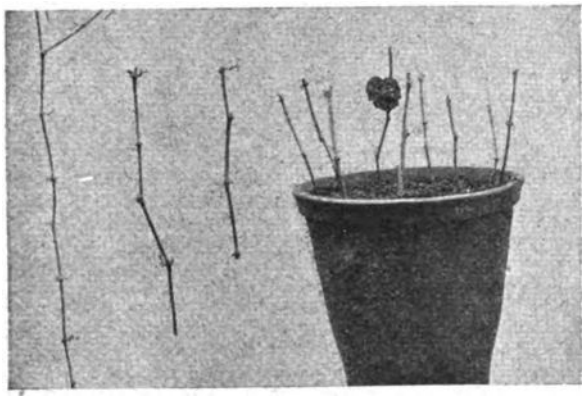
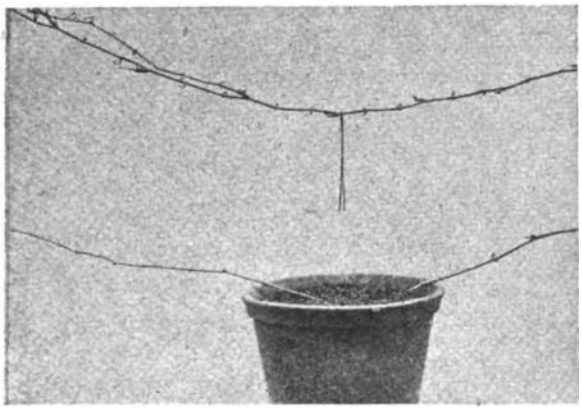
THE BUSY MAN'S PAGE

Propagating Virginian Creeper.

AMPELOPSIS VEITCHII, as well as the older ampelopsis or Virginian creeper, familiar to most readers from their childhood, may be propagated by cuttings and layering the shoots. A. Veitchii strikes very readily from cuttings and yet few amateurs raise plants in this way for themselves. Prepare cuttings some 6ins. in length, selecting fairly ripe shoots of the current year's growth for the purpose. The right kinds of growths to select can be seen in the illustration, and each growth should be trimmed off immediately below a joint. Insert the cuttings in a 5in. pot that has been well drained and filled with a compost of sifted loam, leaf-mould and coarse silver sand in equal proportions. The



CUTTINGS BEFORE AND AFTER INSERTION.
Note that the cuttings are placed round the edge of the pot.



THE METHOD OF LAYERING A GROWTH OF THE CURRENT YEAR IN A POT.

cuttings should be inserted 2ins. deep round the edge of the pot and the soil at the base of each cutting should be made quite firm. The pots should then be watered and stood in a cold frame or cool greenhouse. It is wise to leave the rooted cuttings in the pots in which they have rooted until the succeeding autumn, and then to plant them out.

Layering of ampelopsis is also a simple means of propagation. This operation may be done in the open ground or in pots. In the open ground where suitable growths are obtainable, all that need be done is to form a shallow basin-like cavity in which should be placed a small quantity of sandy soil. The layer should be bent down and a cut made nearly half through the stem just below a joint, a peg being fixed across below where the cut is made. Soil should be added in sufficient quantity to cover the cut and the stem round about it. Much the same method is adopted when the shoot is layered in a pot, as seen in the illustration.

Waterlogged Soils.

BADLY drained soil quickly becomes sour and acid through the exclusion of air from the minute spaces between the soil-particles. It is useless expecting good crops from ground in this condition, and no matter what pains are taken in other ways to promote fertility, disappointment is sure to follow. Deep digging in autumn, leaving the surface rough in winter, facilitates drainage and is beneficial in any case; but when water does not pass freely through the soil at all times something more is needed, and recourse should be had to pipe drains, or to some such means of disposing of superfluous water. For permanent results, pipes should be given preference as, although the cost may at first seem heavy, in the end it will be found the most economical method having regard to its efficiency and long-lasting character. In stiff clay the drains need not be deeper than 2½ft., and 12ft. apart will be a suitable distance. Another way is to dig trenches 3ft. deep and place in the bottom to the depth of 9–12ins. coarse materials such as stones, broken bricks, clinkers or whatever will allow water to pass through freely, afterwards filling in with soil. When neither of these methods is employed, a deep ditch in the lowest part of the garden will be of some service in promoting drainage. If fruit trees are to be planted, or are already occupying the ground, see that the drains are midway between the rows. Subsidiary drains can be made to connect with the former if desired, to form the well known herring-bone system. The main drains should be constructed with 4in. pipes; the lateral ones will not require pipes of greater diameter than 2ins.

Work to be Done Now in the Greenhouse.

GLADIOLI as pot plants are still unknown to many amateurs, but when they are once tried as such they are considered as worthy of a place in the greenhouse or living-room, as do tulips or hyacinths.

Plant five corms 1in. deep in a 5in. pot in a compost of two parts loam and half a pot each of well decayed manure and silver sand. Crock the pots well and over the crocks put a few pieces of fibre from the loam to aid drainage. After potting water the bulbs and stand them outside on a cinder or ash path and cover with bracken or cinders until growth begins.

The early flowering varieties should be used for this purpose, and there are a number of beautiful varieties. The Bride, which is pure white, is very pretty; Brilliant, a vivid scarlet; Peach Blossom, rosy blush blotched with rose and cream; and Blushing Bride, a white with deep crimson markings—all are good.

Roman hyacinths potted in August and put under ashes can now be lifted and placed for a few days in a cool, semi-dark place to insure them to the light, afterwards they can be brought into a temperature of 55 degrees.

Watering of plants in greenhouses should be done very carefully from now on until March. Geraniums and phyllocactuses scarcely require any water; keep the soil nearly dry. Watering is best done in the forenoon and no plant should be watered unless the soil looks dry.

Primulas.—Plants required to bloom by Christmas should be encouraged by manure and soot water alternately, provided the pots are well filled with roots. Do not attempt to force the plants by placing them in warmth, as they never succeed if thus treated. Primula obconica grandiflora, P. kewensis and P. malacoides will flower throughout the winter if the faded flowers are removed regularly.

Planting Roses.

THIS is the most suitable period of the whole year for planting roses, provided the ground has already been thoroughly prepared. Owing to this recent spell of dry weather the ground should be in a suitable condition and no time should be lost in getting on with this work. Be careful to make the holes large enough to accommodate the roots when the latter are spread out. As regards depth, be guided by the mark of the soil on the stems, which will indicate the depth at which the plants were growing in the nursery, and plant them slightly deeper. All damaged roots should be cut off cleanly and the soil trodden firmly. Standard roses ought to be staked and tied before the holes are filled in, thus preventing any damage to the roots. When preparing new rose beds it is essential to see that no fresh manure is added. All manure that is used should be thoroughly well decayed, and should be incorporated with the lower spit, and it is most important that manure is kept from actual contact with the roots.

Covering a Corrugated Iron Shed.

ALTHOUGH the corrugated iron structure is often extremely useful, no one can pretend that it improves the appearance of the garden. To cover a shed of this nature with creepers is not quite such an easy matter as when dealing with wooden erections, but with a little care much may be done to hide the unsightliness of the hard metal outlines. A very good plan is to drive strong nails about a foot apart at each corner of the building. Between these lengths of strong wire should be stretched, and in this way support will be secured for some of the strong-growing climbing plants. Non-clinging climbers should be selected, such as hop, cobæa, virginian creeper, Polygonum baldschuanicum and polyantha roses. These plants will soon screen the shed, at any rate in the summer, and even in the winter will do much to hide the more ugly features of the structure. By means of special treatment it is even possible to prepare an iron fence or shed so that clinging plants like ivy and the Ampelopsis Veitchii can secure a hold. For the purpose prepare a special mixture to apply to the iron. Get four handfuls of cement and two handfuls of lime and mix them with water until rather a stiff batter is secured. The mixture should be applied to the iron with an old brush. It is a good plan to give two or three coats, allowing a suitable interval for drying between each. The preparation is best applied in the autumn as soon as the climbers are planted, for they will cling all the better to the surface if it has been exposed to the weather for a while. It will be found that almost any of the climbing plants that cling will do well on a prepared surface of this nature

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Grow More Trees.

IT is well known that leaves, in carrying out the processes of food-making, return free oxygen to the air, and in this way are very valuable purifying agents. In towns, where we use up the oxygen very rapidly, the growing plants assume great importance, every additional plant meaning a slightly improved atmosphere. Trees with their huge heads smothered with leaves are probably more beneficial in this way than any other class of plants, and for this reason alone their planting in town gardens and streets should be encouraged. In the garden I would encourage tree planting for the additional reason that trees break the skyline, hide ugly buildings (of which there are only too many), and give a beauty and distinction to the garden which cannot be obtained by any other class of plants.

But, of course, this does not mean that any and every kind of tree can be bought and planted without consideration. A tree once planted remains where it is during the whole of its lifetime. It cannot, as a patch of bulbs might, be moved from year to year into a fresh situation. Moreover, a tree which during the first three or four years may be suitable for a small garden would perhaps after that time grow too large to be accommodated without severe pruning, and pruning is to be avoided where possible. For a small garden, therefore, a tree of small habit, not too spreading, is best. Trees that give flowers and berries as well as foliage are to be recommended, such as the mountain ash and white beam (Pyrus aucuparia and P. aria). Trees whose autumn tints rival the colours of the border flowers are also good subjects for the small garden. Ailanthus glandulosa, the tree of heaven, which is just now shedding its glorious red leaves, is a favourite town tree, but it must be confessed that in a small garden this tree will outgrow its allotted space unless it is prevented. It grows well, however, if it is cut back to the ground each spring. The new shoots should be limited to one which will produce fine leaves several feet long. The Norway maple (Acer platanoides) is another tree which will grow well in the town garden and produce foliage of great beauty.

Planting.

If a tree does not succeed after you have planted it, do not blame the nurseryman unless you are sure the fault is not yours. As already mentioned, trees have to remain their whole lifetime in the same site, and they therefore deserve some care in its preparation. It is not necessary to put manure at a great depth, but it is necessary to break up the subsoil and to see that it is well drained. Otherwise the roots may become waterlogged. A little organic manure should be worked into the top soil, but this should be well mixed, and the manure should not come into actual contact with the roots at the time of planting. A hole to receive a tree must be *wide*. The roots can then be well spread out in a horizontal position. A very common mistake is to allow the roots to drop vertically into a narrow and deep hole. The result is that these roots are huddled together and are not able to reach the food supplies which are most plentiful in the top 12ins. of soil.

November is the best planting month for most trees, and those who can spare room for a few ornamental trees should order them immediately and plant them at the first favourable opportunity. Do not be misled into the idea that you will be merely planting for posterity—ornamental trees are charming from the first season, and will amply repay you by their increasing beauty as the years go by.

A Selection of Dwarf-growing Trees.

Amygdalus communis (almond), Ailanthus glandulosa (tree of heaven), Acer platanoides var. Reitenbachii (purple-leaved Norway maple), Betula alba (silver birch), Crataegus oxyacantha (double scarlet thorn), Prunus padus (bird cherry), Cercis Siliquastrum (Judas tree), Ginkgo biloba (maidenhair tree), Liquidamber styraciflua, Laburnum vulgare ("Golden Rain"), Populus (balsam-scented poplar), P. Bolleana (Bolls poplar), Prunus persica (double red peach), P. Pissardii (purple-leaved plum) and Pyrus floribunda (crab).

Points About Manuring.

FARMYARD manure is the most valuable of all natural manures, but the greater part of its value lies in the fact that it returns so much humus to the soil.

Artificial fertilisers are quite suitable, and as good as farmyard manure *if humus can be given* to the soil at the same time.

A compost pit into which all vegetable peelings and other household refuse, together with weeds, leaves, etc., from the garden are put from time to time will provide sufficient humus for an average small town garden. Of course, such a pit should be screened from view, and its contents covered with a layer of soil and lime occasionally to keep it from becoming a nuisance.

Spent hops, leaves and green manure (*i.e.*, mustard or other seed sown in autumn and dug in in springtime) can all be used to add humus to the soil.

Animal manure should never be kept exposed to the weather. *In the soil* is the proper place for manure to decay. Manure stacked in heaps loses the greater part of its nitrogen by the wastage of ammonia which drains away.

Only slow-acting manures and fertilisers should be used at this season. Bone meal, basic slag, farmyard manure and fish manure are suitable for application during autumn digging.

Evergreen Shelter Hedges.

HEDGES within a garden are required for ornament, shelter and as a dividing screen. The most important of these, I think, is shelter. It is a pleasure to us on a windy day to walk within the shelter of a yew hedge that changes the whole feeling of a garden. And how the plants must appreciate it! Yew is too poisonous to live stock to be grown as a hedge plant on boundaries, but inside the garden it can be used with safety. Nor is it so slow growing as is usually imagined, provided the site is trenched properly and is well manured. Small seedling are best. All they need is to be kept clean and given a friendly top-dressing of nitrate of soda during the growing season. Berberis stenophylla is another good hedge plant, and can be used on boundaries. It is a close grower, very prickly, and would prevent even pussy from breaking through if pruned back occasionally to induce a thicket of basal growth. It can be clipped or cut back after flowering to restrict it to hedge proportions. The use of secateurs is best. They leave the small shoots, and it is possible to cut back a berberis fence and leave it with the appearance of never having been pruned at all. That is the art of pruning, to conceal the wound. Of course, where there is plenty of room, berberis can be allowed full fling, and rich will be its fountain of flowers.

Another plant that will make a shelter hedge where there is plenty of room is Laurustinus (Viburnum tinus). It is evergreen, and seems to flower all winter—truly a gem. Cut it back into shape like berberis from time to time. Holly is another shelter fence plant that is evergreen. Again, small plants get away quickest if properly tended. Cupressus macrocarpa is another that makes an excellent screen for a suburban garden.

A DECORATIVE TREE FOR A SMALL FRONT GARDEN, THE TREE OF HEAVEN (AILANTHUS GLANDULOSA).

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NOTES ON THE FLOWER GARDEN

The Value of Pinks as Edging Plants.

ALTHOUGH regarded as one of the most humble and lowly of our garden flowers, there is no doubt that pinks are among the most useful and decorative plants, and they deserve better recognition in this respect Few plants can equal them for dry, sunny situations, and they are equally at home in damper spots; but, like most plants, they appreciate something between the two extremes. And, while not becoming decadent in a poor soil, they, nevertheless, appreciate the richness of good soils.

I think one of the most charming places for pinks is the kitchen garden, as an edging. Here they take away the sombreness of the ground when it is bare, in winter and spring, and form a beautiful frame for the various greens of the vegetable plants in summer and autumn. In fact, pinks can help to form an actual colour scheme in the kitchen garden, and make that department as attractive as the flower-bed and border may be.

A DECORATIVE EDGING OF PINKS IN THE KITCHEN GARDEN.
An admirable idea to make this part of the garden beautiful.

The accompanying illustration will show what a wide bed of pinks can do for a large kitchen garden of the old type, with its box edging. There is one thing about the box—it does keep the path tidy, and when flowers are grown as an edging it keeps them off the path too, and helps them to maintain their erectness, thus showing off the beauty of the flowers to advantage. What is done in the large garden can be equally well carried out in a small area, for the pink edging is possible everywhere. A row of plants by the side of the main paths will be sufficient in the small garden.

There is no difficulty whatever concerning the growing of pinks. Left to themselves they increase each year, and may be thus treated if masses of flowers are wanted; but in most cases it will be found desirable to lift the plants every three years or so, divide them up into smaller ones, or cuttings may be struck and a fresh lot of plants be raised, say, every two years. Huge masses of any plant encourage insects, although pinks are not such good hiding-places as many other low-growing plants are.

If you want pinks to give their best, let them have a medium soil of good quality—that which is found in the vegetable garden as an example. Sandy loam is good, and they will not do so badly in almost pure sand. In stiff soils and very damp soils, especially in low positions, pinks often fail to flower satisfactorily. The plants love sunshine and exposure; they will stand drought as few other plants can, giving an abundance of flowers at the same time.

A good form of edging that is useful for a raised garden bed is that composed of alternate rocks of clinker or other stone with a clump of pinks, perhaps of varying colours. This makes a permanent edging far superior to plain boards, tiles or other material, and certainly more decorative. The grey of the foliage, filling the space between the dark rocks, shows up against them to great advantage and, when covered with blossoms, makes a pretty sight.

Everyone knows, of course, that pinks form an excellent edging to flower borders and certain styles of beds. The plants can be grown in conjunction with bulbs, too, for it is easy to plant crocuses, bluebells, grape hyacinths, etc., among the pinks. The bulbs will push up above the grey foliage and form a beautiful floral edging in the early spring before the pinks begin to bloom, and the bulb flowers and foliage will have disappeared before the pink blossoms come. Autumn crocuses could follow, and thus a succession of blossom kept up in the edging. And all the dreary winter, when no flowers grow, there remains the beauty of the grey and silver foliage to make up for lack of floral effect. Surely a better plant for an edging could not be found than the pink.—B. S. S.

A Hedge Hint.

IN course of time many hedges become somewhat bare at the base and there may be considerable gaps at intervals. A very good way of dealing with a hedge of this description was shown to the writer recently. The base of the hedge was filled out by building a rough bank of some pieces of turf that had been cut from a piece of waste land. The turf employed was of very coarse grass, and it would not have been of the slightest value for the making of a lawn. The formation of the bank was carried out in this way: The turf was piled, grass side downwards, one above the other to the height of about a couple of feet, which was more than sufficient to close all the openings. The width of the turf bank was about 15ins. The turves were beaten down well with a spade in order to consolidate matters as much as possible. On the top of the bank a layer of good soil was placed in order that the bareness of the stacked turf might be relieved with flowering plants. Shade-loving subjects were found to be the most suitable, and ferns, violas, primroses and violets found a situation to their liking. Such a bank would be an admirable position for daffodils, which would give a charming effect in the spring. The grass soon grew out to the front of the bank, and by cutting this bank a neat green surface was maintained. The layer of soil at the top being quite 8ins. deep, there was little trouble with the grass working up from the turf. The arranging of a bank of this nature would be likely to make the growth of the hedge plants more vigorous and improve them in all ways.—L. B.

Marsh Marigolds for the Margin of a Pool.

MANY will be well acquainted with the marsh marigold or kingcup (Caltha palustris) of the bogs and marshes of the countryside; but perhaps not so many have enjoyed its beauty in close proximity to the garden. For some years we have had it in a bog near the edge of a lily pond, where its large golden-coloured flowers are a great source of pleasure in the spring. Both the type and the double-flowered forms are grown, but the variety known as Tyermanni should be obtained, if possible. This, perhaps, is the finest of the kingcups, producing eighteen or twenty beautiful yellow flowers on a single spray, and, moreover, they are well above the foliage.

The Pontic kingcup, C. polypetala, is also a delightful subject for shallow water or near the margins of streams or ponds. It is a vigorous plant, with leaves a foot across, and strong spikes of golden flowers which are 3ins. across and larger than in C. palustris. It is a native of the Alps of Armenia, North Persia, etc., and when shown before the Royal Horticultural Society on April 17th, 1906, it received an award of merit which it richly deserved. It is surprising that such a glorious plant was not introduced some years earlier; but now it is quite common, and can be secured at a reasonable price. There is a legend concerning this marsh marigold, and hence the name Pontic kingcup. It was stated that this plant only grew in the ponds of the Vatican, and the Pope refused to furnish outsiders with any roots; but one day a plant-lover succeeded in hoodwinking the custodians, and eventually fished out a few pieces of this wonderful caltha with his umbrella; moreover, he got away safely with his treasure.

Although the ideal situation is by the lake side and in swamps for all the calthas, especially C. palustris, they may be grown in the border, particularly those of a damp nature. Much can be done with tanks, tubs and small concrete pools, while bogs connected with the rock garden might well contain a colony of C. polypetala and C. Tyermanni, if not the native C. palustris. Here they will succeed in a peaty soil and flower freely every spring, remaining in full beauty for several weeks. I have seen them employed as cut flowers, with very pleasing effect.—B.

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A Selection of Useful Rock Roses.

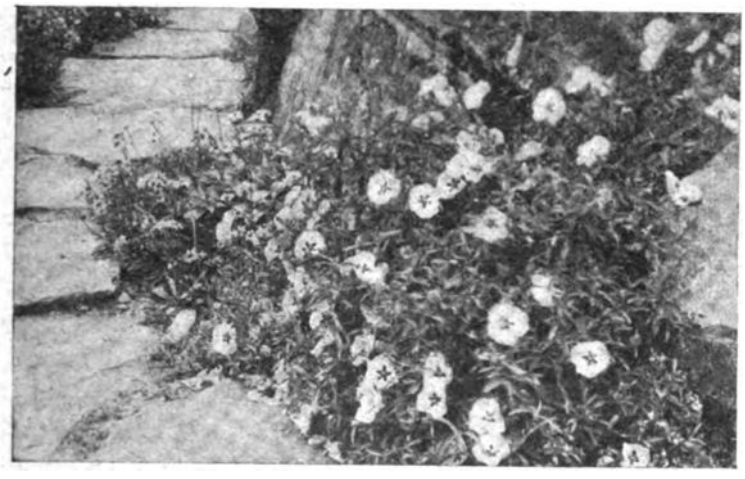
IT is a matter for regret that the rock roses are not more widely grown, seeing that they will thrive where many plants would barely exist. True they blossom during the morning and are more or less closed in the afternoon, but even so, they are most floriferous and create a brilliant display for several weeks. Many of them are more hardy than is generally supposed, and where they are not likely to resist a severe winter, it is an easy matter to insert a potful of cuttings in July or August, and keep them in a cold frame or cool greenhouse during the winter months. All are readily increased from cuttings.

The rock roses or cistus transplant badly, so it is advisable to transfer them to their flowering quarters when quite small, and to trust to pot-grown specimens. The cistus are essentially sun lovers, so positions fully exposed to the sun's rays should be chosen, and remember that better results are obtained from poor, stony soil, than from a rooting medium of average quality. In the former the growth is less rampant, it is short and firm, free flowering and is more likely to resist frosts than a lot of sappy growth produced from a rich soil. Many of the cistus could occupy a site on the rock garden, dry banks will be found suitable, while beds in the pleasure grounds or near the dwelling house would be a noteworthy feature.

Individual flowers are short lived, but this is not detrimental, because others take their place and the supply of fresh blossoms are kept going for quite a long period. The rock roses are fairly quick growers, but with a few exceptions they do not exceed 3ft. in height, and rarely need any pruning. A little trim over after flowering is all that is required. There are quite a number of these charming plants, and one of the best is C. purpureus, with rich reddish purple flowers 3ins. to 4ins. across, the dark red blotch at the base of each petal is an additional charm. C. crispus is rather dwarf in habit, with rose coloured blooms, while Sunset is somewhat similar, with flowers of a bright rose shade. Then we have C. laurifolius, with white blossoms, and this plant will form a shapely bush 6ft. to 8ft. high, and the white C. florentinus is remarkably floriferous, while the habit is rather spreading. C. Gauntlettii is also an acquisition, and no collection would be complete without C. Loreti, the base of each large white petal being stained with a crimson blotch.

Another charming and well-nigh indispensable rock rose is C. Silver Pink; in fact, there are now several exquisite pink forms, which are decided acquisitions to a genus already well blest with delightful species and hybrids. Quite distinct are the somewhat straggling C. algarvense and C. formosum, but on account of their yellow flowers, they deserve to be grown, especially the latter. It may be described as semi-prostrate, the bright, rich yellow flowers being larger than in C. algarvense, and each bloom has a zone of dark chocolate spots in the centre, altogether a wonderful rock rose. C. algarvense is more upright in habit, the flowers are rather on the small side, yellow, with a chocolate blotch at the base of each petal. There are other rock roses, but enough names have been quoted for the beginner to make a good selection of plants that will add interest and beauty to any garden.—T. W. B.

CISTUS FLORENTINUS BY THE PATHSIDE IN THE SHRUBBERY.
It is one of the best of the rock roses.



CISTUS PURPUREUS ALLOWED TO FLOW AT WILL IN THE ROCKERY.
It makes an admirable plant for edging the rock garden path.

A Fragrant Winter-Flowering Shrub.

ALL flowering shrubs are interesting, but are doubly so when they are deliciously sweet scented and flower from December to April. Buddleia asiatica is a new kind of shrubby habit. One cannot call it a highly decorative shrub, but it has nice grey-green foliage and is covered with bloom from December onwards. The flowers, which in form are like those of other buddleias, are described in catalogues as white, but buff would be more correct, as the inside of the tiny calyx is deep orange, which gives th outside a buff appearance.—E. V.

CISTUS LORETI AGAINST A PORCH FACING SOUTH-EAST.
It grows well in such a situation and blooms profusely over a long period.

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FLOWERS FOR AN UNHEATED GREENHOUSE

A Selection of Suitable Plants and how to Bring them on in Rotation.

A GREENHOUSE which depends entirely upon sun heat cannot be expected to keep out more than 3° to 5° of frost, and for this reason all tender plants must be left out of consideration. In spite of this fact a fairly good display can be maintained during the year, especially in the spring and summer. Winter is the worst period, for in addition to frosts, we have damp to contend with, and this is most difficult to hold in check. However, with care the greenhouse need not be quite devoid of flower even in the winter. A few of the early-flowering shrubs will be found useful, and although they may not bloom much in advance of their neighbours outside, the flowers will be much cleaner and brighter, while they can be seen to better advantage under glass. The well known winter Jasmine, Jasminum nudiflorum, is beautiful when protected from bad weather, and its ally, J. primulinum, is quite satisfactory inside. Both require cutting back after flowering to promote new growth, which will produce blooms next year. Rhododendron præcox and other early-flowering kinds would bloom in January, while Chimonanthus fragrans, the winter sweet, is worthy of a place for its delightful fragrance alone. Little pruning of the latter is needed except the cutting back of old shoots to keep the plant in shape. Forsythia spectabile will bloom in February, and this hybrid requires little or no pruning. Laburnum, lilac, Azalea mollis, deutzia, philadelphus (the smaller varieties) and roses could also be utilised for an early spring display. To get the best results these plants must be potted up in the autumn and the pots plunged in ashes till early December, when they are taken inside. After flowering they must still be kept in the greenhouse till the weather is congenial, say, early April, when they are plunged again in ashes for the summer. The pots will be filled with roots, so a generous supply of water will be needed, and a fortnightly application of liquid manure or artificial manure will prove beneficial. If given proper attention they will be available for three years, when they will need replacing by smaller specimens, which can often be found in the garden.

A collection of Christmas roses (helleborus), if potted in the autumn, would be a perfect joy when in flower, the spotless purity of the blooms would appeal to all flower-lovers. The sweet violet, both single and double forms, are admirably suited for pot culture, and would produce a quantity of bloom if lifted and potted up in September. Bulbs ought certainly to play an important part in the spring, when they will be in blossom in advance of those outside. Narcissus, crocus, scillas, tulips, hyacinths, etc., are potted in the autumn, plunged in ashes for six or eight weeks, and then brought into the greenhouse. Iris tingitana will be potted about the same time, but it does not need covering to induce root action. This is such an easily grown plant that another batch could be potted in October for succession. In the spring the house will be available for raising seeds, such as stocks, asters, nicotiana, alonsoa and a host of other choice annuals for filling the flower-beds later on. The seeds are sown in boxes of light soil, and until germination takes place the receptacles are covered with sheets of newspaper. This conserves moisture.

Vegetable marrow plants, ridge cucumbers, celery, mustard and cress and such like can also be raised successfully. If it is decided to fill the house with tomatoes for the summer, it is advisable to purchase the necessary plants about April and fruit them in pots 10ins. or 12ins. in diameter. Fibrous loam should form the staple of the rooting medium, to which is added a liberal sprinkling of wood ashes and bone meal. When well rooted and the first truss of fruit is set, the plants are fed with liquid manure and some special tomato fertiliser. Fumigate occasionally to destroy white fly. If tomatoes are ruled out and flowering plants are chosen, then fuchsias, pelargoniums and similar subjects will succeed. It will be found profitable to purchase a few small plants and grow them on, but the tubers of begonias can be kept intact in the dwelling-house while they are dormant and restarted in the spring. The chimney campanula, C. pyramidalis, both blue and white, produce a fine show in August if good plants are potted up in the previous autumn and brought into the greenhouse in March. This is another hardy subject much improved under glass. A small collection of chrysanthemums should certainly be cultivated. The earliest varieties will blossom in September and the last about Christmas; but much will depend on the weather regarding the success or otherwise of the latter. For the greater part of the year chrysanthemums will be in the open. When in flower the atmosphere of the greenhouse must be kept as dry as possible to prevent damping of the blooms and the loss of foliage. A few other hardy plants that will help to furnish the unheated greenhouse include lily of the valley, the best crowns from the bed outside being potted up in November. Solomon's seal and Dielytra spectabilis are lifted from the open and potted when dormant. This remark also applies to the astilbes or spiræas, and most lilies will be available for our purpose, especially auratum, Harrisii, regale and lancifolium. Good flowering bulbs can be obtained in the spring, and should be potted up directly they are received. An interesting pursuit is raising liliums from seeds, and a cold greenhouse is well adapted for this purpose. Many of these will blossom the second year.

Double wallflowers, stocks, Canterbury bells, Phlox Laphamii (a delightful pot plant), the shrubby Veronica Hulkeana, Spanish iris, such fine hardy primulas as P. helodoxa, Bulleyana, Red Hugh and the orange-scarlet Cockburniana, while polyanthus in shades of yellow or mixed are a revelation in pots when flowered in a greenhouse.

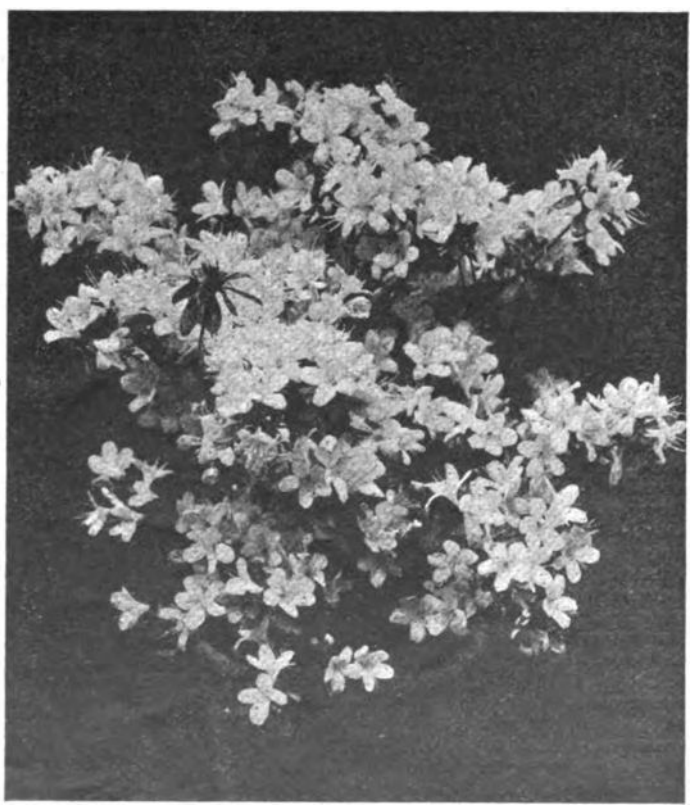
For those who wish to specialise and have something out of the common run they could not do better than try a selection of alpines in pots and pans, and, moreover, the house would be available for other purposes during the summer and autumn. It will be necessary, however, to have the plants in their receptacles the previous spring, so that they will be established by the following winter, when they are transferred to the greenhouse.

On the whole they are of easy culture, and a gritty soil will be found to suit the majority. It should be borne in mind that it will take two or three seasons to build up really good specimens. As a beginning the following are suggested, and the number could be increased as the grower became better acquainted with this type of plant. The dwarf forms of iris, such as Histrio and reticulata, are excellent for pans, a large number of the saxifrages, the various forms of Phlox subulata, particularly Vivid, the smaller narcissus, trilliums, grape hyacinths (Muscari), androsace, the dog's tooth violet and several of the primula family, such as P. rosea, denticulata, farinosa, Forbesii, cashmeriana and viscosa, while a collection of alpine auriculas would be a feature in themselves.

With the unheated greenhouse in winter it is a wise policy to take advantage of any sunshine by closing the house soon after midday, thereby retaining as much sun heat as possible. This is also necessary in the early spring, when a bright day is occasionally followed by 6° or 7° of frost.

Full use should be made of the blinds in frosty weather, and in a cool house I have covered plants with paper and saved them from damage. Careful watering must be practised, and this is best carried out in the morning, while the floors are kept as dry as possible. It is safer to have the plants on the dry side when there is any fear of frosts likely to enter the house.

T. W. BARCOCK.



ANY OF THE VARIETIES OF AZALEA MOLLIS MAKE A DECORATIVE POT PLANT FOR AN UNHEATED GREENHOUSE.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

OUR first experience of winter has been severe and prolonged. Since the beginning of November low temperatures have prevailed, and, while the country is clothed in a white mantle in some districts, it is frost-bound in other parts, and outdoor operations in the garden are at a standstill. Very little progress has been made with the planting of roses, fruit trees and shrubs, and those gardeners who have received delivery of their plants would be well advised to keep the packages intact and place them under cover in a dry, frost-proof place, and, provided they have been securely packed at the roots before leaving the nursery, there need be no anxiety as to their safety under cover of a sack or matting. Preparatory to planting steep the roots in a puddle and make hard planting the rule.

In view of the increasing popularity of the herbaceous border among amateurs, practical hints regarding the selection and culture of the plants are usually helpful, and there is an added value to the information when it emanates from one who is in close touch with the subject and has acquired a good reputation as a grower and exhibitor. Few gardeners are better able to speak on such a theme than Mr. James Currie, Barskimming, Mauchline, who for a number of years has won the principal prizes at the Glasgow Flower Show, and he was able to convey much useful knowledge to the members of the Glenfield and Kennedy Horticultural Society, who invited him to lecture on Herbaceous Plants for Exhibition at their monthly meeting held at Kilmarnock recently, under the presidency of Mr. Robert Robertson. The lecturer recommended that fifteen varieties should be grown for a twelve class, nine varieties for a six class, and six varieties from which to select three vases; and in submitting the following collections he emphasised the point that most of the sorts were also suitable for ordinary garden purposes.

Best Fifteen for Exhibition.

Astilbe Davidii	Achillea The Pearl
Aster Acris	Chelone barbata
Cimicifuga Simplex	Helenium rubrum
Helianthus Lodden Gold	Lobelia Firefly or Huntsman
Lythrum roseum superbum	Sidalcea Sussex Beauty
Montbretia Lord Nelson	Lilium tigrinum or Fortunei
Veronica subsessilis	Delphinium, any variety
Thalictrum dipterocarpum	

Nine Varieties.—Astilbe, lobelia, lilium, montbretia, thalictrum, lythrum, sidalcea, achillea and veronica.

Six Varieties.—Lilium, gaillardia, thalictrum, sidalcea, montbretia and lobelia. The above are in flower for the August and September shows.

Here are a few tit-bits selected at the lecture: The ideal herbaceous border is a double border with a grass path between. Japanese anemones should be severely left alone, as they resent disturbance at the roots. For vase decoration split the stems, otherwise the flowers will flag very soon. In winter the kniphofias have a bad habit of rotting off in the centre after snow and rain, and should be protected with their own foliage. Young plants of phloxes should be grown every year. Take cuttings in September, put them in a cold frame until April, and you will get decent flowers the first year. Scabiosa caucasica requires to be potted up and wintered in a cold frame. It is a failure in cold, wet soil, and succeeds in a sunny position in a good, well drained medium which contains lime rubble. At the close an interesting discussion was initiated by a question regarding Thalictrum dipterocarpum, and the various speakers referred to the difficulty of obtaining a true strain.

There is a proposal to hold the National Trust Show at Glasgow next year, and the wonder is that such an arrangement did not materialise before this, as the second city of the Empire is, barring Liverpool, the largest distributing centre for apples in the kingdom. In view of the ample accommodation provided in the New Kelvin Hall, it is suggested that competitive exhibits of chrysanthemums and potatoes should be incorporated with fruit. Mr. William Cuthbertson of Messrs. Dobbie and Co., Edinburgh, who is closely associated with the potato interests, is sanguine that the prize money will be raised, and the assistance of the Royal Caledonian and Glasgow and West of Scotland Horticultural Societies will probably be invited on behalf of the chrysanthemum section.

The mention of potatoes reminds me that Arran Banner is commanding the highest price since the days of Northern Star and Eldorado. In their report on the trade in Scottish seed potatoes to England, the National Farmers' Union of Scotland states that Mr. McKelvie's latest introduction is commanding £500 per ton, £300 per half-ton, £50 per cwt. and £8 per stone; while the quantity offered of Messrs. McGill and Smith's new maincrop variety, Doon Star has been sold out, except a few garden parcels, at £50 to £60 per ton in one or two ton lots, £25 per quarter ton lots, and £6 to £10 per cwt. Herald, the new earlier potato, also raised by the Ayr firm, is meeting a good demand at £30 to £35 per ton and 40s. to 50s. per cwt.

During spells of open weather, attention may profitably be given to the propagation of herbaceous plants by division. Astilbes may be increased by that treatment in autumn or spring, but the former period is preferable in a dry season. Achillea (The Pearl or Perry's White), aconites, artemisea, delphinium, rudbeckia, are but a few subjects which may be divided when the weather is open. Advantage should be taken of this opportunity to dig in a generous supply of leaf-soil and manure in the lower spit preparatory to replanting.

As outdoor chrysanthemums have had their prolonged season of bloom finally terminated by frost, which, in a few exposed districts, registered 20°, the plants that are required to provide a stock of cuttings for next season should now be lifted and planted closely in a cold frame or packed in boxes and placed underneath the staging of a cold greenhouse. Where glass protection is not available and the stools are allowed to remain in their flowering quarters over winter, it is necessary to provide a surface covering of some kind if they are intended for future use. Light sandy soil, fibre, moss litter and bracken are suitable material for the purpose; but, unless the winter is exceptionally severe, a 4in. layer of moss litter will be found an effective protection and reduce the mortality rate to a minimum. ST. MUNGO.

WHAT OUR READERS SAY

SAFER THAN CREOSOTING.

SIR,—Your reply to a correspondent in the issue of November 5th regarding the danger of using recently creosoted poles for training rambler roses, etc., suggests that many gardeners might be glad to know that charring the poles has a preservative effect similar to that of creosoting, while it has the advantage of being quite harmless to plant life. The poles, to the extent to be put underground, are simply held in or over a fire, a garden bonfire, for example, until the surface is well charred. They may then safely be used at once, without any of the delay necessary in the case of creosoting. In the tropics and elsewhere, where facilities for creosoting are not readily available, this process is much employed for preserving piles, etc., which have to be driven into wet ground, and it is found entirely effective.—M. A. S., *St. Andrews, Fife.*

MAGGOTS IN RASPBERRIES.

SIR,—In a recent issue (October 29th) of your charming paper I have observed a complaint as to the great frequency of maggots in raspberry fruit, and asking if there is any remedy for the infestation of the fruit.

May I offer you and others a suggestion which I have carried out for about thirty years and which I still practise. It is a simple one, akin to that suggested for black currant mite (big bud).

When gathering the raspberries do not strip the fruit off the stalk, but with a small pair of scissors cut off each fruit. Then pick off the raspberry and *burn each centre*. It is, I believe, in the centre that the maggot dwells, so by this method one destroys the grub instead of allowing it to develop and become a fly and so propagate its species.

Many people will jeer at this method and term it an old woman's foible. Well, so it is, but I do know this—that, many years ago, the raspberries in our garden were horribly wormy, but now I can pick 4lb. or 5lb. of fruit and not find more than two or three grubs.

By *personal* persistence in the above plans I believe I have greatly lessened the grievance. —ANTI-GRUB, *Huntingdon.*

CARE OF TOOLS.

SIR,—The article on "Care of Tools" in the October 29th number leaves out the busy gardener's best friend, fresh quicklime. I keep two large pots of it in the tool-room, and all tools are kept in them. It gradually becomes air-slaked and powdery, and is changed every month or so and used as fertiliser. Everyone knows the capacity of fresh lime for absorbing moisture—it keeps the tools clean and shining as brightly as if polished. Dibblers, small hoes, rakes, hand-tools, even scissors, sometimes are left permanently sticking in the dry lime and never have a spot of rust. Its advantage over oil or grease is that they are always clean and ready for use.—R. R.

USE FOR OLD RASPBERRY CANES.

SIR,—A recent suggestion dealt with the use of dried flower-stems of herbaceous perennials for supporting plants. Many owners of gardens cultivate raspberries, and I find that the old canes when cut down at the end of the fruiting season are even more serviceable for the purpose named, since they have a prickly habit which assists greatly in supporting the young plants. Particularly are the canes useful in supporting dwarf peas, the tendrils of which readily grasp the thorny sides of the canes. The

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latter, once dry, are very rigid, and are not so liable to rot as some of the stems of herbaceous plants. In a garden where annuals are a feature the expense of staking is quite an appreciable item unless small twigs or branches of trees are available, and these are not always so regular in shape as raspberry canes.—LEONARD PECK, *Seaford.*

HOW TO BEAUTIFY A HEDGE.

SIR,—In my country garden there is an old yew hedge which is in full view from the windows of the house. For a long time it was a perpetual eyesore, as it showed signs of far-advanced age. Its lower branches were thin and bare, and there were large dead brown patches in various parts of it. A narrow border in front of it was quite useless. Seeds sown in it never came up and the hardiest plants dragged out a short poisoned existence and soon disappeared. Even weeds avoided it!

An aged landlord, whose gardening ideals were as conservative as his politics, refused to allow me to have it rooted up and replaced with the low stone wall garden for which my soul longed. "It had served his time and his father's before him; he didn't hold with these new-fangled gardening notions, and, anyway, you knew where you were as long as you stayed where you were." So that ugly hedge, alas! stayed where it was and troubled my gardening senses exceedingly. Your readers may care to know how I grappled with the problem and turned the unsightly nuisance into a thing of beauty.

The wall ran north and south. In the narrow border on the sunny side I sank nine 15in. flower-pots, filled with a good compost of garden soil, loam, leaf-mould and a little sand. I sank a couple of pots on the shady side in the same way.

In Nos. 1, 3, 5, 7 and 9 I planted a clematis (Jackmanni superba), Eccremocarpus scaber, a winter-flowering jasmine, a small-leaved ampelopsis and the wild black bryony. In Nos. 2 and 6 I sowed the Morning Glory convolvulus (blue) and canary creeper, and in Nos. 4 and 8 I put polygonum and Solanum crispum. In the two shaded pots I sowed the scarlet tropæolum.

The result was delightful. The climbers completely cover the hedge, and from the jasmine in the winter to the blaze of the scarlet Virginian creeper in the autumn it is a mass of foliage and blossom, and the hedge is one of the special features of my garden.—G. H., *Northampton.*

A FRAGRANT FREE-FLOWERING SHRUB.

SIR,—Abelia chinensis is a beautiful shrub—one to be possessed by all who love fragrant, free-flowering plants. True it is not strictly hardy, save in the warmest of gardens and where the soil is light. But it will thrive with the minimum of protection in the average garden—such as a practically cold greenhouse, or outside in a southern nook, given the protection of a mat hung across it or laced over with bracken fern, or such materials, in frosty weather. I grow it in the cool greenhouse, the garden here being cold and devoid of a warm corner suitable. Planting out is not essential—whether given an outside position or grown under glass—pots of 10in. diameter will grow capital plants of 3ft. 6ins. high and more, with proportionate bushiness. The recognised height of this abelia is 5ft. to 6ft., but to attain such the growing site has to be of the most favourable.

This rock abelia, as it is occasionally called, flowers in clusters at the ends of the growths, the colour taking on a pale blush tint when open a little time, while the evergreen foliage reminds one of the myrtle plant. Pruning is rarely advisable, simply a little thinning of the tiniest twigs should the shrub get too thickly packed. My biggest plant here has not been touched for three years or more and it has been, for several weeks past, laden with the sweet smelling blossoms, quite a good sprinkling of which still remain. Those who wish to do so can make this plant to resemble a climber by tying in to a trellis or wall its longest shoots; and this is quite a good way to grow this subject as distinct from bush form.

Abelia chinensis is a native of China and was introduced in 1844.—C. T., *Ampthill Park.*

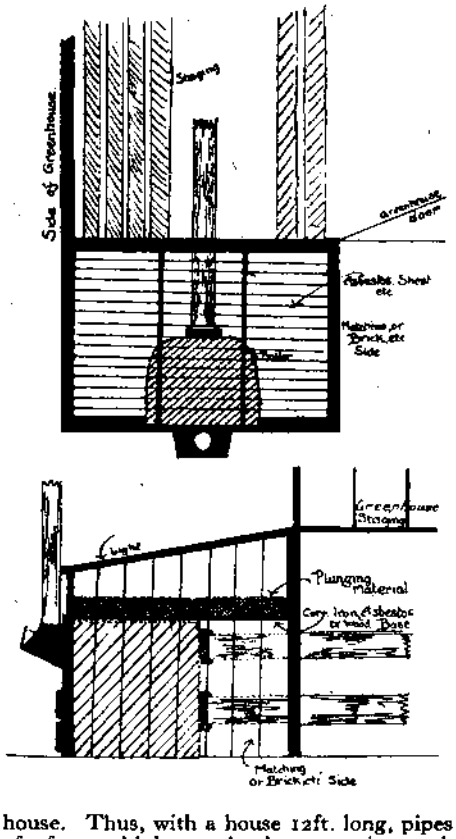
HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the Contributors.

THE HALF GUINEA HINT.

How to Make an Economical Propagating Case.

Amateurs possessing a greenhouse who intend installing a coke boiler may find the following useful. The orthodox method of installation is for the front plate of the boiler to be let in flush with the outside of the



house. Thus, with a house 12ft. long, pipes of 9ft. would be used—the expansion tank and body of boiler utilising the remaining space.

By using—for a 12ft. house—two pipes of 6ft., or one each of 7ft. 6ins. and 6ft. (for flow and return), it will readily be seen that the front of the boiler is from 2ft. to 3ft. outside the house. The sides may be filled in with matchboarding and a sheet of asbestos, etc., placed horizontally immediately over the boiler, the whole being finished off with a frame. By placing a thick layer of peat moss, kept damp, over the asbestos, a satisfactory striking pit is the result, the pots being plunged in the peat.

The obvious advantages to the amateur with limited means and only a small house are the initial cost of a propagating case, upkeep of same and saving of valuable space in the greenhouse itself.—*S. V. Redman, Surbiton.*

Young Fruit Trees.

Young fan-trained fruit trees often develop one or two branches at the expense of the remainder, resulting in unsightly, lop-sided specimens. In this case spare the knife: unfasten the branches from their supports, re-tie the weak-growing shoots in a perpendicular position, while the stronger and more vigorous ones are brought down and tied to the horizontal according to the degree of growth. The tendency is then to invigorate the weak shoots and retard the robust growths. Re-train the branches into the desired positions during the next dormant season.—J. W. H.

When Pruning Fruit Trees.

In addition to the ordinary pruning saw, I find that a joiner's panel saw is invaluable when pruning fruit trees. This has a thin blade of about 10ins. length, which screws into a pear-shaped boxwood handle. For thinning crowded fruit spurs, cutting out old wood from flowering shrubs, etc., it cannot be beaten. The thin blade will go where the ordinary pruning saw cannot be used without doing harm.—W. G. E.

Mending the Greenhouse Pipes.

At this time of the year, when the heat is being increased in the house, it is no uncommon thing for the pipes to exhibit a burst, and it may be of interest to others to know how such a contingency may be easily and effectively dealt with without running off the water or reducing the fire heat. As soon as the crack is observed, obtain a pound or two of ordinary builder's cement, and with each pound mix in a dry state 1 oz. of common washing soda. Next fix a wooden or strong cardboard box around the pipe so as to form a mould, then add a little water to the cement and soda, and after mixing it into a thick paste, pour it into the mould. This mixture will be found to set very quickly and will make a watertight joint, but to be successful it is important that the ingredients be first mixed together while dry, and that it is used as soon after the water is added as possible.—R. K.

A Binding Case for "The Garden."

As the articles and hints which appear in THE GARDEN weekly are very often useful weeks and months afterwards, it is best to keep the weekly copies of the paper in a handy form. The writer did this by making a binding case from two pieces of strawboard (same size as THE GARDEN) and a piece of binder's cloth.

The wires were abstracted from each of the issues of THE GARDEN for January-June (and then July-December), the covers and advertisement pages removed and the remaining pages of text matter were punched with two holes to take the screw binder, which could be bought from any stationers for 6d. Holes were also punched in the binding case and the screw binder passed through the case and the twenty-six issues of THE GARDEN and then screwed down. In this way each six months issues can be kept for quick reference. Additional interest can be given to the volume by cutting out the coloured illustrations off the front cover and mounting them on brown paper and inserting in the binder between each issue. The whole cost of this plan was 1s.—A. R. D.

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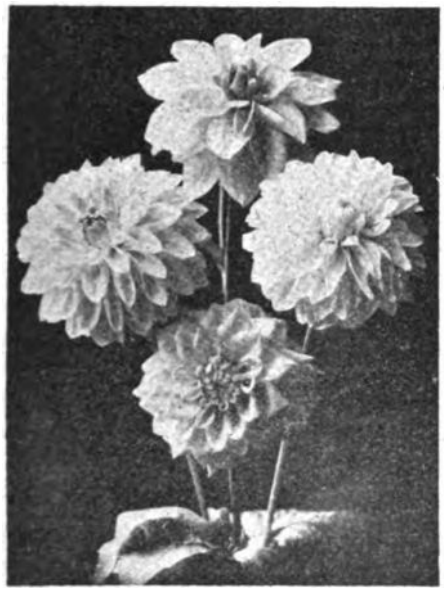
NURSERIES OF THE BRITISH ISLES.—XII

MESSRS. CHEAL AND SONS, LIMITED, CRAWLEY.

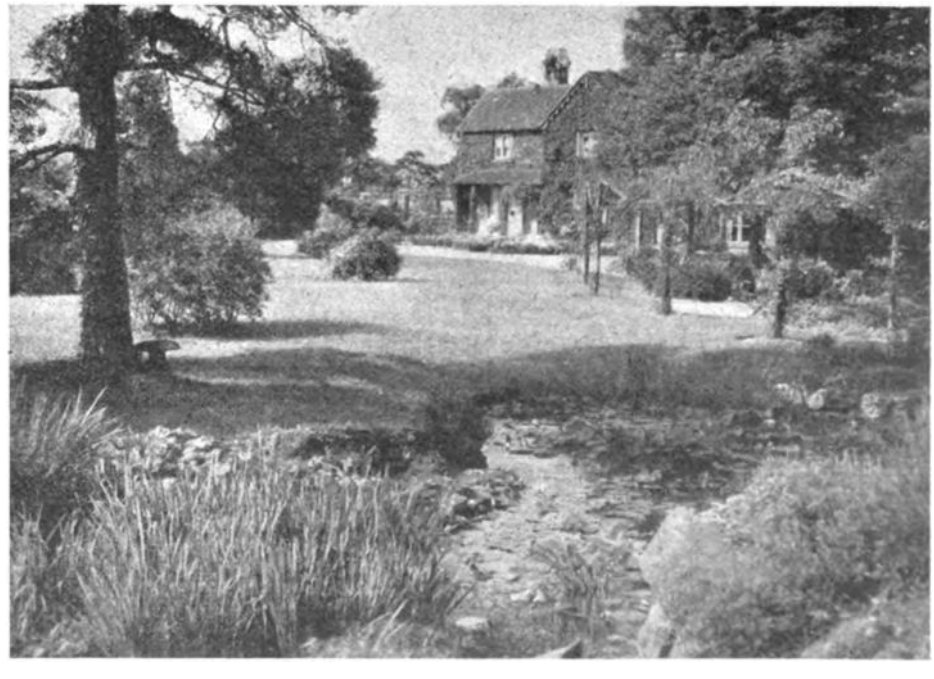
AMONG nurseries of the south, there are few which can lay claim to have established such a world wide reputation within the short space of fifty years as that achieved by Messrs. Cheal and Sons, Limited, of Crawley, Sussex. This firm is only fifty-six years old and yet within that period they have built up a reputation as fruit growers, landscape gardeners and general nurserymen that extends all over the Continent as well as in this country. The secret of their success is largely due to the initiative and enterprise that have been shown by all the members of the firm, and especially to the activities of the two original partners, Mr. Joseph Cheal, V.M.H., and Mr. Alexander Cheal, who founded the business in 1871. Messrs. Cheals is a firm that has kept abreast with the gradual changes in horticulture. They have never been slow in altering their methods to suit the changing conditions of the times and in that way have gained the respect and thanks of many thousands of customers. They have ever been eager to assist in promoting in whatever way they could the cause of gardening and horticulture in this country. They have endeavoured to specialise in certain aspects of nursery practice and in the growing of certain kinds of plants as a means to popularise these plants and bring them into public favour, and that they have succeeded in their object few will gainsay. They have contributed much to the general store of horticultural knowledge, not only as a firm, but also as individuals, and in this respect we would single out the name of Mr. Joseph Cheal, the senior member of the firm, who has done so much to promote interest in fruit growing in all gardens and also with his magnificent work in connection with the dahlia. It is to this firm that all gardeners owe many of the finest varieties of dahlias in cultivation to-day, and also the fact that they are represented in almost every garden. A flower or a plant seldom becomes popular unless many years are spent in trying to mould and fashion public taste in that direction by producing a plant that is certain to attract. It is now, when the dahlia has achieved the rank of one of our favourite garden flowers, that Mr. Cheal can see the reward of his labours.



FOUR NEW SMALL DECORATIVE DAHLIAS RAISED BY MESSRS. CHEAL THIS YEAR.
These are Belle Mauve, Omesan, Mrs. F. C. Selons and Topaz.

AMONG THE DAHLIAS AT MESSRS. CHEALS, IN SEPTEMBER OF THIS YEAR.
The double border contained thirty-six varieties of mignon dahlias.

The nurseries are situated on the main London-Brighton road, some two miles from the town of Crawley, and we know of few situations which could prove so favourable from the standpoint of attracting public attention. It is safe to say that they receive thousands of visitors a year and they welcome a visit to the grounds. When the business commenced the nursery occupied a few acres of their father's farm, and three men were employed. As the years went on and the business grew, the acreage was increased, till now they have extended on to the opposite side of the road and in all take in about a hundred and twenty acres, employing a staff numbering a hundred and forty. There were many difficulties at the beginning, but by dint of much patience and hard work these were overcome, till the nursery was in a sound position. The cultivation of fruit trees, herbaceous plants, ornamental trees and shrubs had the first consideration of the firm, but as time went on a landscape department was added: this has now become probably the most



AN ATTRACTIVE GARDEN VISTA AT THE NURSERIES, SHOWING A SMALL WATER LILY POOL WITH A PORTION OF LAWN AND ROCK GARDEN.

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important side of the business. This department was for many years under the management of Mr. Joseph Cheal, who built up a splendid reputation, and his work is now ably carried on by his sons, Mr. Ernest Cheal and Mr. Arthur Cheal, who have charge of this department. They have now a wide reputation all over the country and on the Continent for important works in this department, and it is interesting to note that they have carried out some large works in remodelling old castle and mansion gardens.

The progress and development of the landscape department has led to the consequent increase in the volume of nursery work, as the two departments work hand in hand. All trees and plants that are required for use in their garden schemes are supplied either from the nurseries at Crawley or from the small nursery at Pulborough, which covers about fifteen acres and is chiefly used as a supply ground to the main nurseries to keep up the stock. All styles of landscape work are undertaken, either in laying out new gardens or in remodelling old ones.

At the time of our visit, over four weeks ago, a start was being made with the despatch of plants to meet autumn orders and we were enabled to see how well organised is this side of the business. All orders are checked and rechecked and well packed, and only the very best of material is sent out. It may interest readers to know that visitors to the nurseries can go round and make their own selection of plants. If they think one plant out of a batch better than another, they can label it and it will be sent at the proper time. This is an excellent way of doing business, since both parties are satisfied and it makes for better harmony between customer and producer.

We were much struck with the neat, trim and tidy appearance of the nursery itself, despite the very bad season for weeds. The ground is well laid out and organised. The stock is divided off into compartments, each in charge of a foreman, who has a knowledge of every plant under his charge. Each section is separated from the other by means of well furnished hornbeam hedges, which seem to thrive well in the clayey soil of Crawley. It does much better there than beech. The hedges also assist in protecting the plants from undue exposure to gales. The stock carried is a large and extensive one and is of a high standard of excellence. Every attempt is made to produce robust and healthy plants of good quality and which consequently will succeed in any garden to which they may be transferred. Some forty acres of the nursery are devoted to fruit alone, and all the leading varieties of apples, pears, plums, cherries, gooseberries, raspberries, currants, etc., are represented. The quality of the stock is excellent. The trees are healthy and well grown, while due consideration is paid to the type of stock on which the varieties are grown, in order that results may be compared and the very best material sent out. It would appear, too, that fruits, especially apples, take on a distinctly fine and rich colour, which may be possibly due to the amount of iron in the soil. The presence of salts in the soil is said not to affect the colouring of apples to any extent, but certainly at Crawley there would appear to be something in the theory.

A wide and varied collection of ornamental trees and shrubs, including conifers, is stocked, and the size and quality of several of the large batches of plants were remarkable. A particularly large stock of hybrid rhododendrons and azaleas are kept, while special interest is taken in veronicas, of which a large stock of New Zealand species is held, heaths, flowering cherries and plums and many other ornamental kinds too numerous to be detailed here. Conifers, both for ornamental purposes on the lawn and rock garden and for forestry purposes, are grown in variety and in every case the plants are of a convenient size for transferring to the garden. Many choice varieties of ornamental dwarf conifers are to be seen, and readers who are interested in conifers would find a visit interesting as well as instructive. Climbing plants and hedge plants are also to be found in variety and suitable for various aspects and soils. The flowering shrub department is a flourishing one and the stock is thoroughly up to date, embracing all the new and more modern introductions. Of interest to the amateur are the ornamental shrub borders laid out in the nursery to show how shrubs may be employed in the garden, giving ideas on how they may be grouped and the kind to use to obtain different effects. These borders, as well as lending beauty to the general lay-out of the nursery, have a definite educational value. Roses, too, are grown in variety, and it suffices to say that all kinds are grown and almost every modern variety is represented. At the time of our visit the polyantha and standard roses, grown on briar stock, were particularly good. We were informed that the use of rugosa stock for roses has practically been discontinued except in the case of a few varieties, and the chief stocks used are briar and laxa, which undoubtedly are to be preferred for all general purposes.

ONE OF THE WELL PLANTED SHRUB BORDERS IN THE CENTRE OF THE NURSERY.

A large collection of hardy plants, embracing herbaceous and alpine varieties, are grown. All the leading kinds are included and there is a wide selection from which the intending planter may draw. In the nurseries the visitor can appraise, first hand, the decorative value and usefulness of all the varieties, since they are included in herbaceous planting schemes which are on view at the nurseries and they can thus be compared one with another; also a sample rock and water garden may be seen.

It is when we come to the dahlias, however, that some of the outstanding work of the firm is noticed. Reference has already been made to the work done by Mr. Joseph Cheal in this connection, so ably assisted by Mr. Holton, who for many years had charge of this department, and how their efforts have been so successful. The type known as the mignon dahlias, now so popular for bedding purposes, were introduced by the firm more than twenty years ago. They are admirable for producing bold colour patches in beds or in borders, especially as an edging, since they only reach some 18ins. in height. Moreover, their flowering period extends from early July until the end of October. The Star class of dahlias was also raised and introduced by Messrs. Cheals about fourteen years ago now and the appearance of flowers of this type has probably added more to the popularity of the dahlia than anything else. The star dahlias in their new varieties are now general favourites. They are free-flowering and of robust habit and are excellent either for garden or home decoration. New varieties make their *début* every year and each year the new varieties seem to outdo the old. One of the novelties in this class for 1928 is Rye Star, with blooms of a coppery orange tipped with rose. This variety was recommended for trial at Wisley by the R.H.S. Floral Committee. Attention is also paid to the other types and here again Messrs. Cheals are making their interest felt by the production of numerous new varieties every year. In the camellias or small decorative class four of their novelties for 1928 are, Belle Mauve (pale mauve), Omesan (clear yellow), Mrs. F. C. Selons (salmon rose) and Topaz (a brilliant scarlet). All are over 4ft. in height, with strong, wiry stems, which carry the flowers well above the foliage and thus give the plant a handsome appearance. The charm or miniature peony, decorative, cactus, peony-flowered and collarettes are all grown, and an extensive range of varieties is offered in every case. All dahlia lovers should certainly make a point of visiting Crawley during early autumn to see the dahlia borders. This year the display was magnificent. Thirty-six mignon varieties, each in bold groups, form the foreground of a double border each side of a grass path, while the background was composed of a ribbon of Crimson Flag and the taller White Star, which made for a most effective combination. It was an object lesson in the decorative value of the dahlia in the garden.

The firm has numerous other activities and we advise all readers who may be interested to take advantage of the invitation offered by the firm to visit the nurseries in order to appreciate the pleasant lay-out of the grounds and to learn something of what Messrs. Cheals are contributing to the world of horticulture.

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THE FRUIT AND KITCHEN GARDEN

A Few Hints on Pruning Young and Very Old Fruit Trees.

WHEN the weather is open the pruning of fruit trees may be done. The following hints will be helpful to inexperienced cultivators. Young specimens recently planted for training on walls or wooden fences should be left untied or unnailed until the early part of spring, so that the roots may settle down in the loose soil. If the branches are tied up too soon the roots may be suspended in the soil, the latter settling down away from them. Usually these wall specimens possess from five to nine long shoots, and it will be safe if the ends to one-third their length are cut off. Young trees planted as bushes, pyramids, espaliers or standards should be treated in a similar way as regards pruning. It will be advisable to place stakes to every one, because trees blown to and fro get very loose in the soil and root action is retarded. The stakes must be so placed that they will keep the trees steady while not hindering the due settlement of the roots in the soil. Very old trees, especially those that have been neglected, require very careful treatment as regards pruning. Injudicious cutting away of branches will result in the removal of many fruit buds. Most of the latter are borne on the ends of the extreme outside branches and careful thinning out of these branches will do a lot of good. Quite plump buds may be found on the ends of shoots, varying from 5ins. to 12ins. in length, and these shoots should be retained as the cutting off may do away with many valuable fruits. Some old, stunted trees may be greatly strengthened by rather severe cutting out of branches so as to induce the growth next year of strong shoots. These kinds of trees need some attention to their roots as well, feeding with new loam, manure and, while growing, doses of liquid manure.—CHRISTCHURCH.

Protecting Broccoli During Early Winter.

BROCCOLI are much hardier than cauliflowers, but even so in severe winters the plants may be killed or so much crippled that they soon become useless. After the recent long spell of cold, rainy weather the whole of each plant, stem, main leaves and roots too, are more tender and more sappy than usual. When in such condition hard frosts will have more effect upon them. The tenderest part of a maturing plant is that portion of the stem just below the main leaves. A covering of ordinary soil will preserve the stems. Late varieties—those plants that will "turn in" during April, May and the early part of June—must not be disturbed as regards their roots. Allow them to remain in an upright position or inclining a little towards the north while you heap up the soil so that it touches the lower leaves. Mid-winter varieties should be treated a little differently. Take out a spadeful of soil on the north side of each plant, depress the latter by placing a foot upon it if working single-handed, then drop the soil on the stem. If frost comes plants so treated will be safe. Their white heads, or curds, will not be frozen very much, or, if they are, the thaw that comes will be gradual, and discoloration will not be such as to spoil the broccoli for cooking. If any readers do have frozen broccoli, kale or any kind of winter green plant and are obliged to cut such when in a frozen state, soak in cold water in a cold place for several hours or until the frost disappears. The plant then will be quite fresh and sweet.—G. G.

Present Treatment of Maincrop Celery.

MANY fine rows of celery plants are successfully grown through the summer and autumn months and then lost in mid-winter. It is not exactly the mid-winter treatment that is at fault, but the late autumn treatment, which has not been such as to prepare the plants for withstanding the rigours of winter. The losses are greatest where the plants are grown in double rows. Inexperienced cultivators should always grow their plants in single rows and learn to manage them before they adopt the plan of growing two rows abreast in one trench. The final earthing-up should be done now. Select a dry day for the work and, also, when the soil is fairly dry, too. Reduce lumpy soil to a powder so that when placed to the rows of plants it will fit closely to the stalks near the top. Press the soil in firmly between the two rows of plants and have a rather sharp ridge of it between the rows. It is when there is a depression in the soil there that water enters constantly and freely, and this causes the sticks to rot. Earth-up so that some of the top leaves are covered; it does not matter if they are lost. Then loosen the soil between the rows and have ready at hand some dry litter in case severe frosts come suddenly.—HANTS.

Winter Care of Peaches and Nectarines.

PEACHES and nectarines, whether growing under glass or out of doors, should be looked over carefully each winter while they are dormant in case any destructive insects may be lodging about the branches. Two common sources of injury to peach trees are found in scale insect and mealy bug. By far the best time to deal with these pests is in the winter, for at that season strong insecticides can be used which at any other period would cause injury to leaves, shoots and fruits. All trees, whether infested or not, are the better for being sprayed with a caustic wash. A very suitable preparation is formed with half a pound of caustic soda, half a pound of commercial potash and five gallons of water. Keep this mixture away from the clothes. This not only kills insects, but also destroys the moss and lichen which harbour the pests. When the insects can be seen an additional step would be the brushing of the branches with a paraffin emulsion prepared in this way: Add one pound of soft soap to one quart of soft water. Boil for half an hour, take off the fire, and then add half a pint of ordinary paraffin. Dilute with eight gallons of water and stir up well when using. If desired, the mixture may be applied with a syringe, but it should be used freely to be effective. Pay special attention to the young flower-bearing shoots, as it is most important that these should be perfectly clean.—L. B.

Planting Fruit Trees.

THE best time to plant fruit trees is some time during the month of November when the soil is still warm and atmospheric conditions are favourable to root growth.

The ground for planting should be prepared several days previously, the holes for the trees being got out two spits deep, the top spit being placed on one side of the hole and the bottom spit on the other.

Upon the arrival of our trees from the nurseryman they should be unpacked in a shed, and if we are not ready to plant should be laid in the ground, covering the roots with soil until such time as planting may be done. If frosts or excessive wet intervene it is advisable to place straw or bracken over the roots, covered with soil, to act as a shield.

Choose a period when the weather appears to be settled for planting. Take the trees for planting and examine their root systems. Any roots which are damaged or bruised should be cut back to healthy tissue and the cut made so that the cut surface will be away from the top of the groud when planting. Roots such as tap roots going vertically downwards should be removed entirely, and long branch roots slightly shortened.

One great mistake often made in planting fruit trees is in not getting out a sufficiently large hole to take the roots without curling or bending them. Be sure to make your hole large enough to take the root spread out.

The ground below the bottom spit should be broken up with a fork and the bottom spit replaced in the form of a slight mound, *i.e.* rising in the centre and falling away slightly to the sides. If the soil is good soil, no additions need be made to it; but if it is poor, the addition of loam and lime rubble plus some wood ashes to the top spit will materially assist the trees.

Having replaced the bottom spit, a stake should be driven in just a little to one side of the centre. This stake is the one to which the tree will be tied, and its length will depend on the tree to be planted. It should be driven 1ft. to 1ft. 6ins. into the soil. It is a bad though common practice to stake after planting, but this is liable to injure the roots. The bottom spit should be covered with about 2ins. of prepared soil, and the tree, with its roots spread out, placed on top of this. Work the prepared soil well between the roots and take great care that the tree is not planted too deeply. As a general rule, the tree should not be planted deeper than it was in the nursery row, and the junction of stock and scion should never be covered. When the roots have been covered the soil should be firmed by treading and soil added to bring up to about 3ins. above the surface of the roots.

A light top mulching of stable manure placed on the surface of the ground materially assists the tree, as it helps to keep the soil moist and warm and is a protection against frost. The tree may be loosely tied to the stake at once if there is likelihood of much wind, otherwise it is best to leave it for a week or so until the tree has had time to settle.

Remember—never plant in wet weather, and never plant too deeply.—K.

Rhubarb all Winter.

AS soon as the stalks become soft rake them off the rhubarb crowns and dig out sufficient roots to last throughout the whole winter; do not take them inside, however, but simply turn them upside down to expose the roots, this proving, in some mysterious way, helpful to the forcing process. Take a few roots inside as soon as demand makes itself known. Place the roots close together and packed in sifted leaf-mould or soil under the stage of the greenhouse and keep out most of the light by placing mats or sacking in front. Or place them in boxes and keep these near some source of heat, the interior of the boxes being again in darkness; a warm cellar is quite all right for this, or the boxes may be laid directly over or in the middle of fresh, warm manure. Rhubarb comes away quickly when placed near heat, but care must be taken to see that the forcing process is not overdone, otherwise the stalks will be too thin and spindly. See that the roots and the mould in which they are packed are kept moist, as plenty of water is needed to keep the stalks fleshy and sweet. Introduce fresh roots whenever the first show signs of losing energy.—H. H. A.

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Dwarf Conifers for Tubs.

Being anxious to grow some of the dwarf conifers in tubs, i.e., *12in. in diameter, will you kindly give me names of some that would be suitable and the best soil, etc.?—W. L. S. L., Cornwall.*

We suggest that you grow some of the following dwarf conifers, which are suitable for your purpose: Cupressus Fletcheri, C. obtusa compacta, Picea excelsa Clanbrassiliana, P. e. Maxwellii, P. e. pygmæa, P. orientalis gracilis, Juniperus hibernica compressa, Thuya occidentalis globosa, T. Spilmannii, T. umbraculifera. The most suitable soil is a fibrous, loamy soil to which a little peat and leaf-mould with a little coarse sandy grit has been added.

Plants for a Lily Pond.

I have a lily pond in my garden and wish to grow some decorative reeds or rushes in it. Would you be good enough to advise me as to a suitable variety for this purpose?—F. P., Westcliff-on-Sea.

Some suitable aquatics for your lily pond are: Butomus umbellatus, the flowering rush. This can be grown in 1ft. of water. The leaves are 2–3ft. in length. Cyperus alternifolius, umbrella grass, can be grown in shallow water. Cyperus longus, ornamental grass like species in length. Glyceria aquatica spectabilis, an effective variegated grass. Juncus articularus, a pretty rush. Scirpus zebrinus, one of the bulrushes, and Sagittaria japonica plena, one of the arrowheads. There are many other plants that can be grown either in shallow water or at the water's edge.

Roses Attacked by Aphis.

I venture to send some rose leaves which have been badly affected this season. I am not sure if they are attacked by insects or fungi. Some trees have been so badly attacked that I have stripped off the whole of the leaves and burned them, so spoiling the appearance for this season, in the hope of stamping out the trouble. Mme. Butterfly has been one of the worst, but the blooms have been quite beautiful, and I am still bringing in buds which open well in water.—K. S., Clacton-on-Sea.

The mottled appearance of the rose foliage sent for our inspection is due to one of the plant bugs—the rose leaf-hopper—and aphis. The bushes should be sprayed periodically throughout the growing season with nicotine-soap wash. A special endeavour must be made to direct the wash to the undersides of the leaves, for it is on this surface that the insects congregate. The immature and wingless leaf-hoppers appear in early July, when spraying must be commenced as soon as their appearance is noted. The mature and winged adults are very active and fly away as soon as the bush is sprayed. Spraying for aphis must be commenced in May, using the same material.

Whitethorns from Seed.

I should like to grow whitethorns from seed, and I should be much obliged if you could give me any hints as to the best time and methods of sowing the seeds. Would it be better to raise them in a frame or in the open?—M. E. M., Redhill.

Put the fruits of the whitethorns in wet sand now to rot the fleshy portion. If only a hundred or so plants are required, sow in a box in a frame during March, or for large numbers sow outside in drills. Rub the sand and fruits through the hands to separate the outer portions. If there is not too much sand the whole can be sown; it will help in the thin distribution of the seeds.

Remedies for Apple Scab.

Would you tell me what is wrong with the enclosed apples and suggest treatment next year if the complaints are not due to the abnormal wet season with its accompanying troubles? (A) *is a Lady Sudeley, of course very small. All the apples on the trees this year, except one here and there that was sheltered, were rough in the skin like this.* (B) *is a small Irish Peach, cracked, as were most of the apples on this tree. What is the cause and remedy?—G. H. P., Beauly.*

Both the apples you send are attacked by the apple scab fungus disease. The bad season has, of course, encouraged this disease, but it is likely to appear in any year. The remedial measures to adopt are to spray the trees with Bordeaux mixture immediately before the blossoms open in spring, to spray with lime-sulphur—at summer strength—immediately the blossoming is over, and to prune out as much diseased wood as possible in winter. Diseased wood may be distinguished by the cracked and blistered bark where the fungus is present in the tissues. A quick cure must not be anticipated, for if the disease is deep-seated it may take several seasons of the above treatment to get rid of it entirely, though the spraying should keep the fruit fairly clean. We rather question if the variety labelled B is Irish Peach, though the specimen sent may have been a late fruit. Irish Peach is generally eaten in July and August, as you may know, and the apple sent was still fairly hard.

Perennials for a North Border.

Can you suggest a few low-growing plants that would be happy in the following conditions? Bed facing north, house behind it, and flagged surround to house, with slight fall towards the bed. Damp, from rainfall, draining from the flags into the soil. No trees overhead, and plenty of light and air, but scarcely any sun, owing to the house shading it. A little sun, in early morning, reaches it from the east, and a little in late afternoon from the west. Cold and windy in winter months. Grass lawn in front, trees beyond. I thought that possibly, with suitable soil, a couple of half-standard hardy roses might do at either end of bed; but what to plant between? Violas, I suppose, would find it too wet and sunless.—R. D., Oxton.

If you can raise the border a little, both violas and pansies would grow in it. For spring, wallflowers and myosotis, also a few narcissi would do well. Fuchsias and tuberous begonias would succeed in the summer. Blue-flowered vinca (periwinkle) and St. John's Wort would both form permanent occupants and succeed. Two weeping standard roses should do well, the variety Albéric Barbier being very charming as such.

Treatment of Young Peach Trees.

Last spring I planted three peach trees against a wall (6ft.) facing east. They have made a lot of growth to height of wall. Will they require pruning and when; also when is the right time to spray against leaf curl? On one of the main branches gum is oozing out from where the leaves were attached to a length of 6ins. or 8ins. Will it seal itself or must I treat it? They were disbudded at the time you recommended. Are peach trees fertile on their own, or do they rely on other trees?—R. R., Chelmsford.

The time to prune them is now. You should select the best growths to train in as main branches and shorten the young extension growths of these by about one-third. Other young shoots should be trained in wherever there is room and from these only the top inch or two of unripened wood should be cut off. As the growths have already reached the top of the wall you must bring the branches down training them out so that they extend laterally, of course keeping the trees balanced and well shaped. The time to spray to prevent leaf-curl is in February, when the buds are just swelling preparatory to "breaking" into leaf but before any sign of "breaking" shows the best mixture to use being Burgundy mixture. The gumming will probably cease of its own accord as the tree settles down, but if it is bad and the shoot can be spared, cut it clean away. It is quite possible the tree is growing too rankly. Young peach trees are inclined to make too much wood and the remedy for this is to lift the tree, prune back the roots and replant in the same hole. This can be done now—the sooner the better. Peaches are self-fertile and do not rely upon cross pollination with other varieties for good fruit setting.

Pruning Neglected Apple Trees.

I have several apple and pear trees, the youngest apparently about eighteen years old, which have evidently been badly neglected for the past ten years or so. They have made a lot of tangled growth and long, upright shoots, but fruited well this summer. Could you outline the way I should prune them during the winter?—F. C. H., Enfield.

You should get the apple and pear trees pruned as soon as possible now. The first thing to do is to cut away the tangled and crossing branches that choke the centre of the tree. This should leave the branches well spaced and the centre of each tree fairly open. When doing this thinning, be careful to cut back to a side branch or to the stem, so that no snag or stub of wood is left to die back. It would be well to pare smooth every cut made with the saw, and then cover the surface of each with lead paint. With trees some eighteen years old very little shoot shortening should be required, and beyond cutting back to two or three buds, and young shoots that are cramped for space, little further is necessary. The long growths will "spur up" and fruit well without any drastic cutting. Of course, you will aim to keep each tree shapely and balanced, but remember that very drastic pruning is likely to hamper fruitfulness, and to promote rampant growth, which is not wanted. By "thinning-out" each season you should soon get the trees into good trim again.

Celery Rust.

Could you tell me what is the matter with the celery leaf enclosed, also what remedial measures I can adopt? I have put soot, lime and sulphur, separately, and still it spreads.—H. H., Hereford.

Your celery plants are badly affected with rust. The disease is found in the seed, and you should obtain a guarantee from the firm from whom you obtain it that the seed has been treated specially by them. In your case, judging from the specimen sent, there is no cure. Next year grow the plants on fresh ground, after liming it, and spray lightly with Bordeaux mixture as soon as any sign of disease appears.

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GARDENING IN TUBS (see page 776).

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THE IDEAL GARDENING PAPER

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IT is now when the thoughts of all gardeners turn to the beauties that spring will bring forth in the garden. An attempt should be made on the part of every amateur to visualise the results of his autumnal planning and planting. Nothing should be undertaken in a haphazard way. Unless the amateur knows his plants, their habits and their colourings, it is better to plan out his ideas on paper rather than to juggle with the plants *in situ*. Only professionals can do that with success. This illustration shows what may be accomplished by careful planning in a front garden. The bed of brilliant May-flowering Tulips makes a bright splash of colour in the mass. Their colours harmonise and tone in with the surroundings—for example, the Clematis montana over the doorway. The planting of all May-flowering Tulips should be completed to ensure an attractive display during next May.

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THE GARDEN

VOL. XCI.—No. 2922. DECEMBER 3, 1927. PRICE TWOPENCE.

A WINTER CORNER

THE ideal "winter corner" is a nook that gets all the sunshine available and no cold winds, and is not much in evidence from the rest of the garden, for there will be a good many months of the year when it will have little to show. Its "lay-out" must, of course, depend on its size and contour, but the paths should be of brick or stone, so that one may walk dry-shod in wet weather; the beds and borders should be well raised to ensure good drainage, especially if the soil is on the heavy side; and at least part of the area should be enclosed by walls or a high, close fence. Against this should be grown Chimonanthus fragrans, the winter-sweet; Jasminum nudiflorum; Garrya elliptica; the deliciously scented Lonicera fragrantissima and L. Standishii; and Hamamelis arborea and H. mollis, with their tufts of yellow, spider-like flowers. Neither the honeysuckles nor the witch hazels require support, but they are the better for the shelter of the wall, on which may be also grown the gold and silver ivies, Hedera argentea variegata and H. angularis aurea. In front, in a narrow border, should be planted Daphne Mezereum (the white variety is prettier, but less hardy than the purple crimson type); some small gold and silver hollies (their slow growth will render them suitable for such a situation for many years), and, for the sake of their bright berries, Skimmia japonica and Pernettya mucronata, although it must be borne in mind that to the latter a peaty soil is a necessity. The very early-flowering periwinkle, Vinca Bowles' variety, which has mauve blue flowers and is of less straggling habit than the better known kinds, may form a carpeting under the shrubs, and here, too, the winter aconites, both the type and the new hybrid between Eranthis hyemalis and E. cilicica, E. Tubergenii, should be planted in quantity, as they do best in slight shade. A semi-shaded place protected from cutting winds must be also found for the hellebores, especially for the Christmas rose, H. niger and H. n. angustifolius, which are more fastidious as to their quarters and far less easy to establish than the later-flowering H. orientalis, of which there are very many varieties all worth growing and quite admissible in the winter corner, although the majority do not blossom before February.

Room must be found for that useful if commonplace and (when out of bloom) dull shrub, laurustinus, now known as Viburnum tinus; and, if the soil suits rhododendrons, the earliest flowering of them, the vivid rose R. Nobleanum, should certainly be grown, massed in a bed or in an angle of the walls, if possible. And Prunus Miqueliana is a beautiful little Japanese cherry of dwarf habit which is well entitled to a place in the corner, as it produces its rosy white flowers in November or December and continues to do so until February if in a warm, sheltered place.

Part of the plot should be laid out as a miniature rock garden, in the higher part of which—although the whole should be kept at a comparatively low elevation—should be planted the winter-flowering heaths, Erica carnea, E. mediterranea and E. carnea hybrida, the result of a cross between the two former, which blooms before either of its parents and is of a very rich shade of pink. Other little shrubs suitable for the situation are Berberis buxifolia nana and B. stenophylla nana, Cassinia fulvida (sometimes called the "golden heath," by reason of the colour of its stems and foliage); the dwarf gorse, Ulex nana; Juniperus hibernica compacta—neatest of all evergreens; the creeping juniper, J. prostrata, valuable in winter for the lovely blue-green of its leaves; and another low-growing shrub, Gaultheria procumbens, the partridge berry, the brilliant scarlet berries of which make a welcome patch of colour. In pockets in the rock garden and in little stone-edged beds at the base should be grown the winter-flowering Crocus Imperati; Cyclamen Coum; Iris stylosa (syn. unguicularis), I. reticulata, I. histrio, I. histrioides cicilica and I. alata; the latter, however, is doubtfully hardy in cold districts.

Finally, although we hesitate to suggest the introduction into a garden of that irrepressible rover, Tussilago fragrans, yet its pale heliotrope blossoms are so sweetly scented and appear when flowers are so scarce that, if its roots are confined in a sunk pot, its admission is, perhaps, worth risking. Still, even so restrained, it calls for watching.

These are a few plants that can be planted for winter decoration in the garden, and they will be found useful for brightening many a dull corner. An attempt should be made to cover up any deficiencies that have made themselves apparent now, and secure a winter display next year.

This Week's Work

For Gardens in the South and Midlands.

Start pruning all hardy fruit trees.
Finish planting flowering shrubs, roses and herbaceous plants.
Lift seakale and rhubarb for forcing.
Protect during frosty weather with mats plants in frames.
Take cuttings of perpetual flowering carnations and greenhouse chrysanthemums.
Begin all garden renovations.
Dry off fuchsias and place them under the greenhouse staging.
Bring bulbs in pots into a warm greenhouse for forcing.
Fumigate greenhouse when green and white fly are troublesome.
Lay in manure supplies for winter use.

Royal Horticultural Society's Trials at Wisley.

THE Council of the Royal Horticultural Society is arranging a trial of herbaceous veronicas at Wisley during the coming season, and invites entries of three plants of each variety, which should reach the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, on or before Saturday, December 17th. The necessary entry forms may be obtained o application to the Director.

This Week's Work

For Gardens in Scotland and the North.

Protect Christmas roses with hand lights or frame sashes.
Start retarded clumps of lily of the valley into growth.
Cut down pot chrysanthemums as the plants go out of bloom.
Remove fallen leaves from alpine plants.
Repot or top-dress clivias.
Stir soil between rows of cuttings in frames.
Continue pruning fruit trees and currant bushes.
Make a sowing of dwarf peas for early cropping under glass.
Continue planting rose trees and shrubs.
Double dig site of new herbaceous border.

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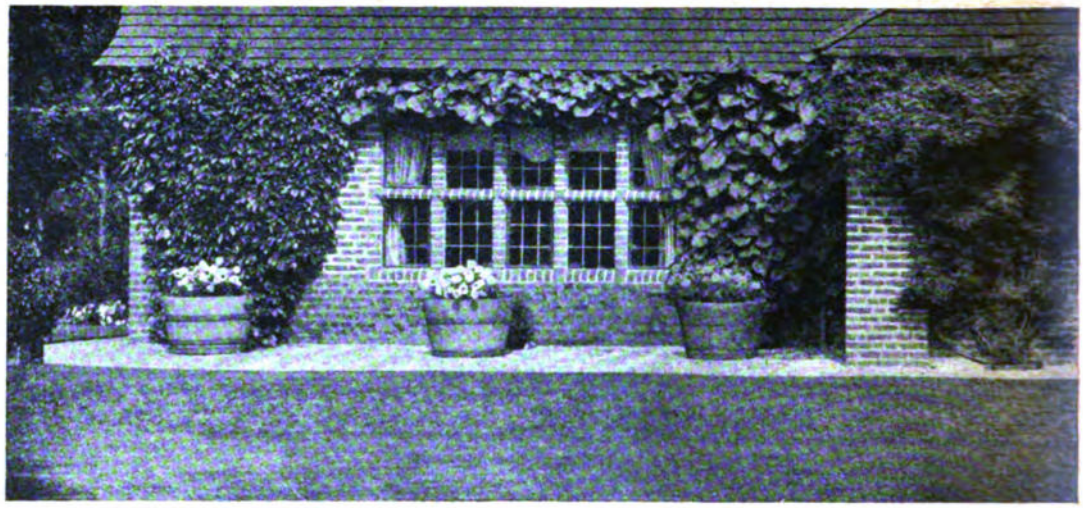
TUBS FOR ORNAMENT IN THE GARDEN

Shrubs, flowers and fruits can be successfully grown in tubs, and these should be placed at different vantage points in the garden to provide the best effects. In front of the house wall at the entrance door, or on terracing or steps, are all admirable positions.



THE POPULAR CHINA ASTERS CAN BE PLANTED IN TUBS WITH GREAT EFFECT. *They will make a bright display throughout the summer.*

FOR this attractive form of gardening it is not necessary to have special tubs made, although very excellent tubs are supplied in teak and oak. Inexpensive and good tubs may be prepared by cutting petroleum casks in half, and butter casks may be treated in the same way. The casks must, of course, be cleansed, and there is a very simple way of doing this. All that is necessary is to burn a handful or two of straw inside the cask. This should remove all future dangers of ill-effects from the oil. If the cask is not easily cleaned by means of burning straw, it should be charred inside with a plumber's lamp. After the cask has been cut in half, two iron handles should be fastened on each tub to render them easy of removal when filled with soil and plants. It is also advisable to place an additional iron hoop round each tub to strengthen it. After this the tub should either be painted green or black ("Adamantine" Garden Black is very serviceable for this purpose), or stained with "Solignum." With occasional coats of paint or stain they will last for many years.

The special square tubs—if tubs can be square—are sometimes used for orange trees, sweet bays and oleanders of large size. These tubs are constructed with movable sides, so that when necessary the roots can be examined and the soil removed. With ordinary tubs, of course, the roots cannot be examined, nor is the soil easily removed without knocking off the hoops and removing the staves, to replace which needs the skill of a cooper. It will be realised, therefore, how necessary it is to have the tubs filled with good soil that is likely to remain sweet and well drained for a long time.

Whatever form of tub is used, proper drainage is essential. This is provided by boring several ½in. holes in the bottoms of the tubs to allow water to pass freely away. The tubs should be raised off the ground by means of tiles, bricks or short legs, and they should be filled with soil in the following way: Over the bottoms put at least 3ins. of broken pots or clinkers; then, on this, some lumpy pieces of turfy loam, grass side downwards; then a layer of rough leaves; and fill up with a compost consisting of two-thirds good rich loam and the remainder of flaky leaf-soil and a suspicion of bone meal. Place the plant in such a position that when "tubbing" is completed there is about 3ins. left at the top for watering and a little surface dressing.

Most plants, from the stately fuchsia to the humble nasturtium, can be made happy in tubs. Perhaps the most popular of all plants for tub gardening is the hydrangea. With very little care and with copious supplies of water in the summer, hydrangeas will give an abundance of bloom for many weeks.

The plants should be transferred from the pots to the tubs in April. The hydrangea, unlike the bay, does not lend itself to any formal method of training, and staking only is required to assist the plants to carry their flower heads or to make them secure from damage by rough winds. The plants should be grown naturally; this will give by far the most pleasant result.

TUB PLANTS MAKE FINE SENTINELS TO A HOUSE ENTRANCE.

FERNS IN TUBS WILL IMPROVE THE SHADY CORNER.

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No plant can be happier in a tub than the blue African lily, or agapanthus. Its lovely flowers are borne on stout stems thrown well above the graceful dark green leaves. There is nothing so fine for a terrace walk.

The laurustinus and sweet bay are two very popular tub plants; the former flowers well early in the year. Other plants worthy of special mention are fuchsias, camellias, the lemon-scented verbena, and ferns for shady places. This year I am trying cistuses, or rock roses, in tubs. I have never seen them so grown before, but there seems every reason why they should succeed.

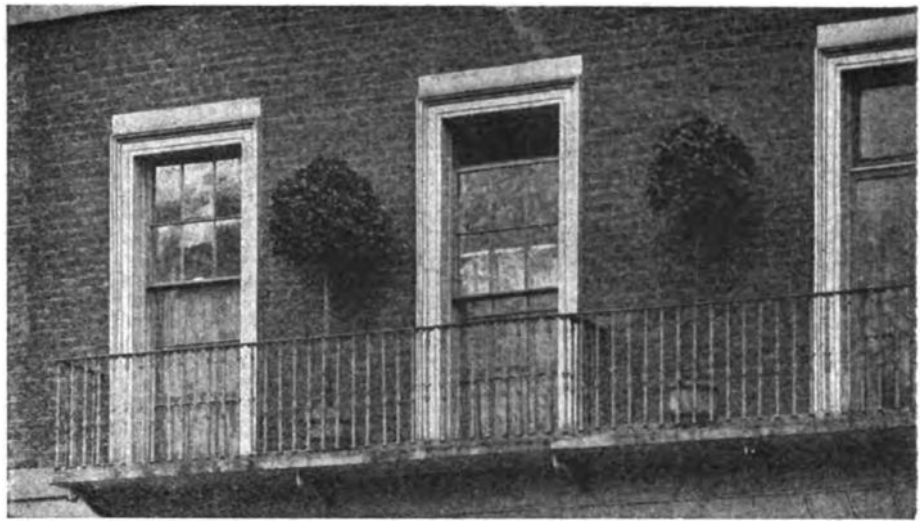
The ivy-leaved geranium is another plant which may be used with good effect in tubs, but it is best to have some fixed method of training the plants. Scented plants are welcome in all gardens, especially if arranged near seats, and as tub plants they can be placed where required. For this reason the lemon-scented verbena, the myrtle, the sweet bay, rosemary, lavender and scented geranium are worthy of a place wherever tub gardening can be carried out.

Then, again, sweet peas, columbines, campanulas and white marguerites may also be grown in tubs. These flowers are all quick growing and give a wealth of bloom in a very short time.

Fruit trees, including apples, cherries and plums, have produced excellent crops in tubs, but top-dressing and feeding with liquid manures is necessary in order to bring the fruits to perfection. Also, strawberries do well in barrels, planted not only in the top, but also in holes about 4ins. square made around the sides of the barrel; but to grow strawberries successfully in this way copious supplies of weak liquid manure are needed.

The most difficult problem in connection with plants in tubs is housing them during the winter. Hydrangeas and agapanthus will take no harm even if several degrees of frost touches them at times, so long as they are dry, and if, when frozen, they are allowed to thaw gradually, but it is usual with these plants to give them some protection during the winter. If they can be placed in a roomy outhouse or similar structure it will be sufficient to carry them through the winter. The same applies to half-hardy plants like the myrtle, pomegranate, oleander and orange, all of which are charming in the summer. I have known these plants to be wintered successfully in cellars, stokeholds and outhouses, but in southern gardens the sweet bay may be wintered in the open successfully. A cool greenhouse is, of course, an ideal place for wintering any tender tub plants. Geraniums are not so easily accommodated as most of the other plants mentioned, as it is not advisable to allow the temperature to fall below 40 degrees. Plants which shed their leaves, or most of their leaves, during the winter, like the fuchsia and the lemon-scented verbena, may be stored in a fairly dark place, but evergreens, such as myrtles, camellias and rhododendrons, should, if possible, find accommodation under a glass roof. The hardiest of the plants may be brought out when the first signs of activity are noticed. They may then be placed outside in a sheltered spot, so that growth may develop gradually, and what pruning is required may, as a rule, be given at that time. Occasional syringings may be necessary, especially on summer evenings, to keep the plants in fresh condition. An important point to bear in mind is that these plants require occasional top dressings with rich soil and goodly supplies of weak liquid manure in the growing season.

Nowadays conifers are becoming increasingly popular for use in tubs. They look particularly well when placed on terraces or at the top of a flight of steps. If well placed, they will transform many a dull corner. Before planting, place a good drainage layer of broken crocks or cinders at the bottom of the tub, with mossy fibre or well decayed manure on top, filling up with a good loam with coarse sand added. Among the conifers that may be so used are Cupressus, Golden Yew, retinosporas and junipers. With their rather formal yet feathery and graceful habit, they will provide a really attractive feature.—N.



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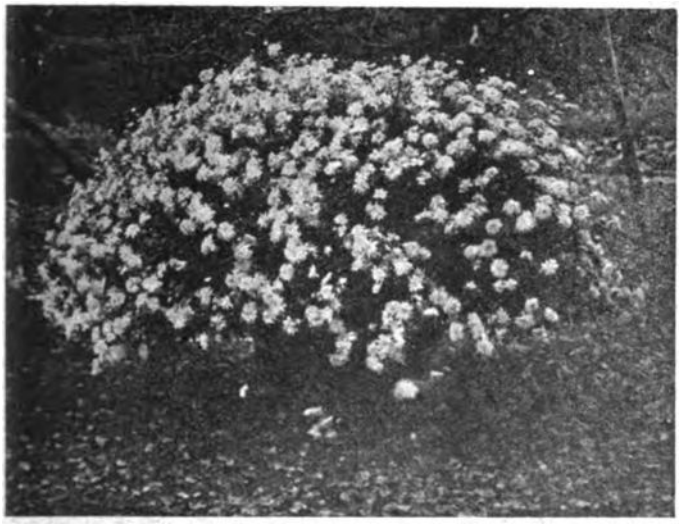
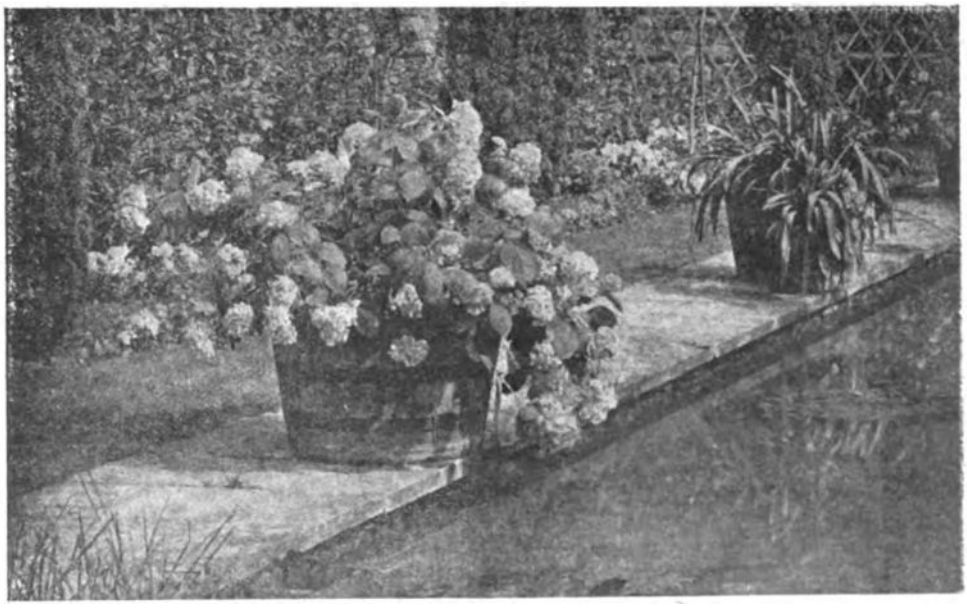


A FINE DISPLAY OF CHRYSANTHEMUMS IN A TUB.



TUBS PLANTED WITH AGAPANTHUS AND HYDRANGEAS LOOK WELL AT THE SIDE OF A GARDEN POOL.
Hydrangeas should be allowed to grow naturally. They do not lend themselves to formal training.

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ROSES FOR SCOTTISH GARDENS

Failures and Successes This Year. A Novel Planting Scheme.

IN the rose world of to-day, good varieties suitable for general garden cultivation are so numerous that the selection of a small collection becomes a perplexing task. It is customary in a rose article to specify what are described as the best twelve sorts. As applied to horticultural subjects that adjective is so frequently used without regard to its significance or real meaning that its value as an expression of quality has depreciated and is apt to mislead the seeker after knowledge. The reasons are obvious. Roses that succeed in one garden may prove disappointing in another, because they are influenced by soil, situation, climate and methods of culture, all of which conditions are naturally of a very variable character. Then the personal element is a factor that has to be considered. Some rosarians are more successful than others and their superiority in the field of production can be traced to their wider experience or individual aptitude, while the ambition to be ahead of his neighbour or opponents at a local show is sometimes an incentive. At the provincial exhibition of the National Rose Society, held at Glasgow a few years ago, Mr. James Kerr, Stewarton, staged a basket of blooms of Mrs. Henry Bowles, which were the object of general admiration. The flowers were of such a high standard of quality that many amateur and professional growers were induced to cultivate Messrs. Chaplin Bros. pink novelty, but in the interval which has elapsed, nobody has been able to show it to the same perfection, while not a few rosarians have since confessed disappointment at the results obtained under ordinary bedding culture. The best guide is personal experience and in course of time the grower will learn to discard those varieties which, on trial, have proved unsatisfactory and increase his stock of successful sorts. To do so it is necessary to add a few new introductions from time to time, and as a year or two generally elapses before a reasonable price level is reached, he will be in a better position to judge of their individual merits and not rely entirely on catalogue descriptions of raisers or the significance of a gold medal award.

As a large number of roses belong to the nondescript group and new combinations of colour are being created almost every year, the difficulties associated with the formation of a colour classification scheme will be appreciated by readers, and it may better serve the purposes of this article to discuss those varieties which, on the basis of experience, observation and report, have done well during the past season.

Taking the red or crimson roses first, Etoile de Holland, General McArthur and Earl Haig, have justified their good reputation. In several parts of the country the latter sort is described as the best red rose of the autumn, and among others which have excelled in a poor season, may be mentioned Fred. J. Harrison, Hugh Dickson, Covent Garden (especially in September), Holt Hewitt, Henry Nevard (in the north), and Dr. I. Petyt (in the south-west).

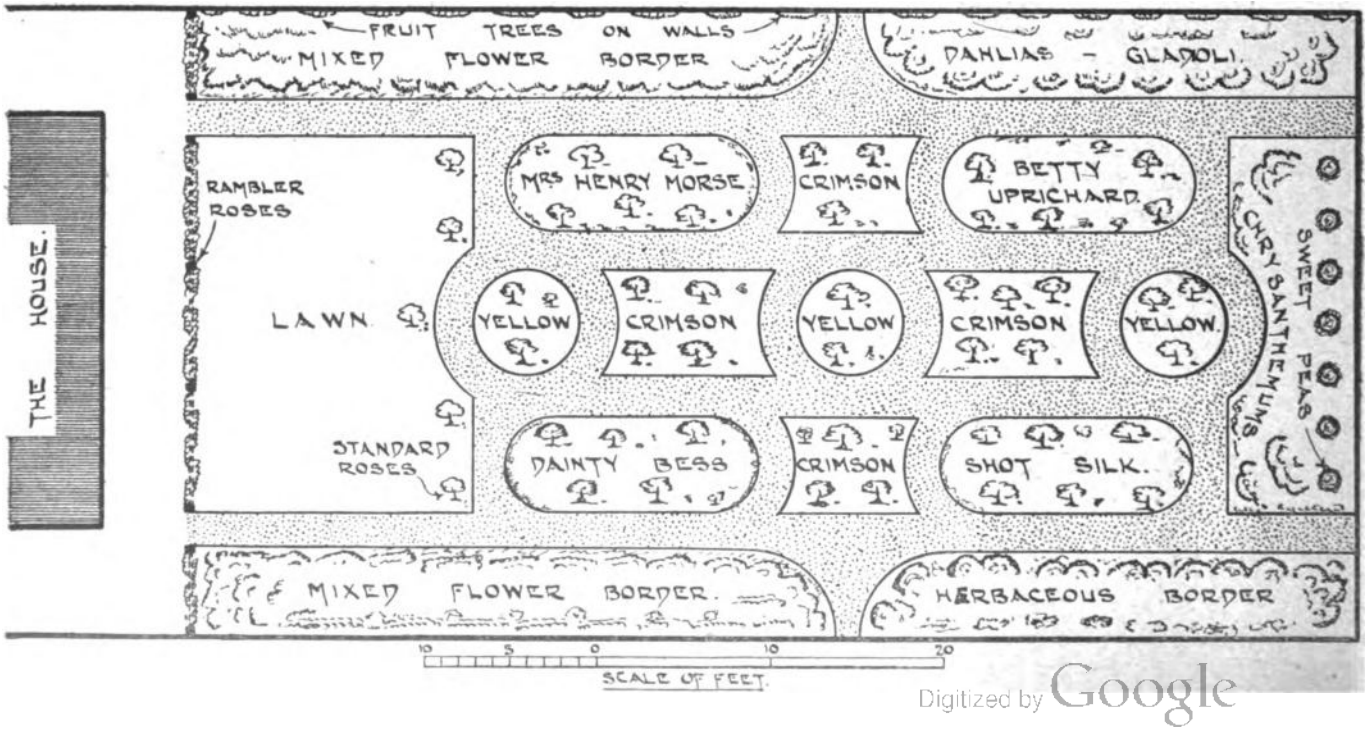
Mabel Morse and Florence Izzard share the leading honours in the yellow group. Mrs. Wemyss Quin was as prolific as ever, and in gardens where Golden Emblem survived, the amateur gained in quality if he lost in the quantity of the blooms. Betty Hulton gave some perfect blooms during the mild spell in early October.

Probably white roses were more affected by the wet season than any other. Frau Karl Druschki seldom developed to the perfect open flower and Marcia Stanhope suffered severe losses. Edel "balled" badly and the outer petals discoloured readily. Strictly speaking Clarice Goodacre is not a pure white, as there is a touch of chrome in the perfectly shaped flowers, but it was the best of the lot.

Pink is a favourite and prolific colour class and embraces many popular varieties that seldom disappoint in a normal season. Mrs. Henry Morse, Caroline Testout, Los Angeles, Mme. Abel Chatenay and the indispensable Betty Uprichard are to be numbered in the catagory of the successful, and a good word may be said of Mrs. E. J. Hudson, although the habit of growth may be considered faulty. Of the newcomers, Dame Edith Helen did not come up to expectation, but Ivy May was most floriferous and took a high place among the decorative bedding roses.

The most outstanding rose of 1927 season in Scotland was undoubtedly Shot Silk. First blooms were a little variable in colour, but autumn emphasised the beauty of the flower, and having regard to its fragrance and behaviour under none too favourable conditions it should be included in every garden collection. Angele Pernet will appeal to all rosarians who appreciate the decorative value of blooms that are carried on strong, erect stems. Admiration also belongs to that class and may be grouped with Mrs. Henry Morse and Ivy May for freedom in flowering. Maud Cuming, pink shaded coral and orange, is a variety that deserves to be more generally grown, while the bushes of Ruth, orange flushed salmon, were seldom without a bloom. Among other roses of the dwarf type which deserve honourable mention are Lady Pirrie (magnificent in late autumn), Venus, Princess Elizabeth of Greece, Mrs. Alfred Tate, Lamia, Lady Inchiquin, Gorgeous, Independence Day, Emma Wright, Diadem, Benédicte Sequin, Dorothy Page Roberts, Mrs. Fred H. Howard and Duchess of Atholl.

In the accompanying plan of a rose garden there are eleven beds in various forms and sizes, which have been designed to meet the requirements of a colour scheme. The four corner beds are furnished with pink varieties, the inner quartette provides accommodation for crimson sorts, while the three circular may either be planted with roses of a yellow shade, or an alternative arrangement of a yellow bed at each end and a white bed in the centre would be equally effective. There is wide scope for individual treatment and selection and a rose garden composed of small beds is generally preferred to larger planted areas, as the former are more easily worked from the paths and offer the grower a larger field of selection. Standard roses planted on the edge of the lawn and ramblers trained on pillars or trellis and carried along as festoons on rope, complete the scheme. Roses are not to be grown, however, to the exclusion of other flowers, and space is accordingly provided in the borders for herbaceous plants, favourite things like sweet peas, dahlias, gladioli, chrysanthemums, etc., while advantage may be taken of the surrounding walls to cultivate a representative collection of hardy fruits.



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ROSES THAT MAKE LARGE BUSHES

FLOWERING shrubs are very valuable in gardens where space can be found for them, and there are many gardens where these subjects make a most beautiful display. During the last few years attention has often been directed to the many lovely flowering shrubs that are available for growers who have space for them, and the names of several showy and easily grown hardy species have been recommended by many writers. But in all the articles upon flowering shrubs I have noticed that no reference is made to some of the stronger growing roses that are capable of making large bushes, and one cannot get away from the fact that several of these roses are actually flowering subjects of the highest merit and cannot be excelled by any other shrub. In gardens, therefore, where shrubs are about to be planted, attention is directed to some of the roses mentioned in this article.

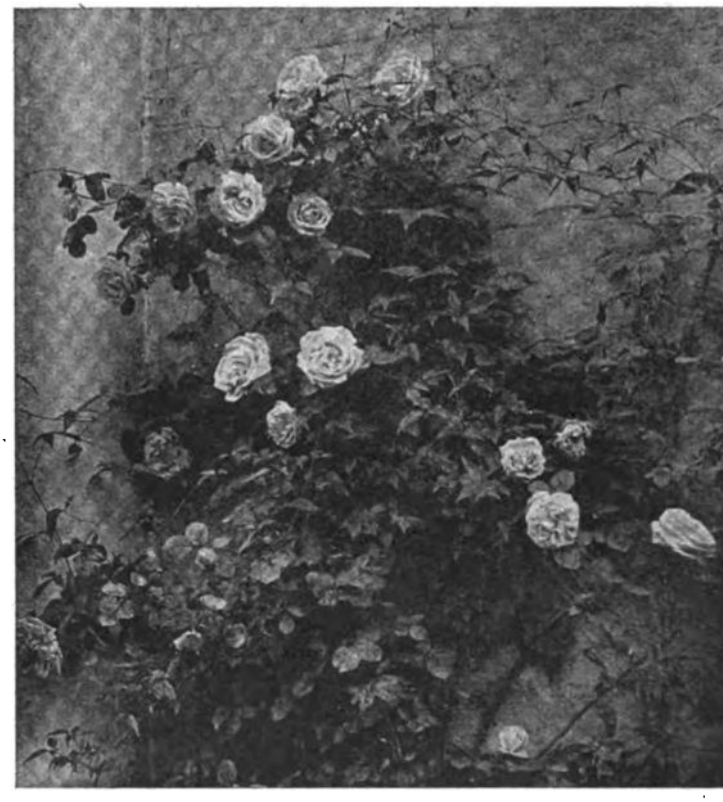
Bush roses have been neglected by raisers of modern times, and there is a good reason for this neglect. It is simply that there was and is no demand for such roses. The call is for roses that are suitable for beds and borders, and a certain height is taken as the standard for them. There are gardens, however, where, apart from beds and borders of accepted patterns, there are also spaces where it has been the practice to fill with shrubs, and no one will deny their ornamental character when judiciously placed. It is into such places that some of the following roses might be used, and they will rival any shrub that one can name. It is true, of course, that they only flower for a very limited period. Their season is, indeed, a short one, but the same may be said of rhododendrons, azaleas, lilacs and others.

To begin with, let us take as an example the old alba roses that still survive. They are rapidly passing out of commerce because nurserymen find that the demand for them is so small. Maiden's Blush is surely one of the most floriferous and sweetest of all shrubs. So, too, is the old Celestial, another of the tribe that is very fragrant. Rosa alba plena, often a sight in old cottage gardens, is surely unrivalled by any other white flowering shrub. These three roses will make bushes 7ft. in height or more, and when in full blossom are most attractive. It is a great pity that they are not more often employed in planting schemes where shrubs are part of the lay-out.

Half a century ago the Bourbon roses were reckoned as the most satisfying of all the garden roses, but with the advent and gradual improvement of the hybrid teas, they gradually dropped out of cultivation. It is a pity. I do not contend that either the Bourbons or the albas compete with our modern hybrid teas. What I do contend, however, is that if we are to plant flowering shrubs in gardens or grounds, we have some desirable things among roses, and these will compare most favourably with anything that can be named for any such purpose. The Bourbons are ideal autumn-flowering subjects, and at that season flowers are somewhat rare upon shrubs. The alba roses, of course, are practically the earliest to come into bloom.

Shakespeare, an old Bourbon variety, is a tremendous grower, and I wonder if it is still in commerce. It made a grand bush, and was a striking sight when covered with its rose-coloured flowers, borne in bunches. Bourbon Queen, deep rose, is another fine old rose. It is a good grower and a constant flowerer. Mme. Isaac Pereire, vivid carmine, flowers more or less throughout the season, but it is especially fine in autumn. Its flowers are somewhat large and lumpy, but they are very sweet. Fragrance is actually a well marked characteristic of the Bourbon roses, and no other shrub can rival them in this respect.

There has been some demand recently for Souvenir de la Malmaison and Mrs. Paul, and I should include both under the Bourbon section. The first, a clear flesh in colour, is a fine autumn rose. Mrs. Paul is a blush white. Both make excellent large bushes.



CONRAD F. MEYER, ONE OF THE MOST OUTSTANDING OF BUSH ROSES.

Yellow flowering bush roses are available in Harrisoni, Austrian Yellow and Le Reve. Harrisoni is more robust than Austrian Yellow and will thrive in places where that sort simply will not. It is very pretty with its double yellow flowers. Austrian Yellow, where it does grow, is quite a sight when in full blossom. It is well worthy of a trial. Le Reve is one of the roses sent out two or three years ago by M. Pernet Ducher, of Lyons. It makes a bush 6ft. in height or more and has golden yellow, semi-double flowers. I have seen some lovely examples of this variety. Mme. Hector Leuilliot, also raised by M. Pernet Ducher, and sent out about 1903, is another yellow rose that makes a big bush. This is a most distinct rose, and it sometimes comes almost the same colour as that of William Allen Richardson. Mention might be made here of another fine bush yellow rose named Reinhard Badeckei. It was sent out by Kordes in, I think, 1918, and I have had it 9ft. high and covered with very large, yellow flowers shaded with red. Frau Karl Druschki is one of its parents, and its flowers are most unshapely and large, but it makes a nice shrub and is quite attractive in a proper place.

George Arends, sent out by Hinner in 1910, was classified as a hybrid perpetual, but I think it really belongs to the hybrid tea section. It is a lovely rose of a beautiful shade of pink, and the shape and perfume are remarkable. It makes a fine bush, notable for its freedom of bloom, and I cannot understand why this rose has practically dropped out of commerce. The reason, I am afraid, is that it was too strong a grower and nurserymen never pushed it. Mme. Wagram, Comtesse du Turenne, an old tea rose, is another fine bush sort. It is a good companion to George Arends. The colour is a pale flesh, and it is remarkably good in autumn. Furstin Pless (Lambert) is descended from Caroline Testout and Conrad F. Meyer. I used to admire this variety very much when I grew it alongside George Arends. It reminds one somewhat of the modern Clarice Goodacre in colour. There is a decided rugosa character about it, but it is well worthy of a place where large bush roses are the concern of the planter.

Coming to the rugosa section we have one or two really good things. The most outstanding from the aspect of this article is probably Conrad F. Meyer. It makes an outstanding bush, and it is one of the first and last to flower. Its flowers, too, are very sweetly perfumed. Its only fault is its enormous spines. It requires staking owing to these, because if left unstaked the swaying of the branches in the wind results in laceration from the large thorns. Despite this little drawback it is well worthy of a place in a collection of the larger growing roses. Nova Zembla, the white form of Conrad F. Meyer, we may pass over, as it is not a free flowerer. It is a sport from C. F. Meyer, but it altogether lacks its free-flowering character. If a white is required there is nothing better than Blanc Double de Coubert, a rose that has been greatly in demand this season. It makes a beautiful bush and has semi-double flowers. Mme. Georges Bruant is another fine white rugosa with semi-double, fragrant flowers. Amelia Graveraux has deep crimson full flowers and it also is capable of forming a nice bush. Rose a Parfum de l'Hay, although not quite so vigorous as the other rugosas I have mentioned, is well worthy of notice. It is one of the most fragrant roses in commerce and has well shaped, rich crimson flowers. It is a rose which deserves wider popularity than it enjoys at present and it should appeal to everyone who likes scented flowers.

There are two moss roses which make good bushes. The old purple moss, the nearest colour to blue we have in roses, is a very vigorous grower, and I have seen plants 10ft. in height. The other variety is Cumberland Belle, with silvery rose flowers. They are both typical moss sorts.

GEO. M. TAYLOR.

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THE BUSY MAN'S PAGE

December Reminders.

GET as much planting in the fruit garden as is possible done before Christmas, as the coming of the New Year always brings a lot of fresh work.

Attend to pruning, digging, nailing and clearing up generally.

Wash the trunks of fruit trees with a winter wash if this seems needed.

Prunings from gooseberry bushes should be burned in case they hold the spores of the American gooseberry mildew.

With gooseberries and currants it is a very good plan to syringe the bushes with a mixture of lime and soot in solution to keep away the birds.

In the vegetable garden wheel manure on to vacant land and trench it 2ft. deep. Leave the ground in a rough state until the spring, especially if it is of a retentive nature. In all cases the more fully vacant land can be exposed to the action of frost the better.

Use the hoe in dry spells among growing crops of cabbage, broccoli, brussels sprouts.

Any vegetables or salads grown in frames should be given the greatest possible amount of air in mild weather.

Outdoor lettuces may need some shelter with dry fern, etc., if the weather is severe.

Forcing operations with such plants as asparagus, seakale and rhubarb are now in full swing, and with a little scheming a succession can be maintained. Where a hot-bed is available it is interesting to start a few potatoes, which will provide some very welcome dishes in the early part of the coming year.

There is not much to be done in the flower garden beyond generally tidying up and mulching with decayed manure.

Lawns should be swept and rolled occasionally when not in too wet a state. A dressing of guano or some other artificial manure will be very helpful. About 4ozs. to the square yard should be scattered in mild rainy weather.

Deciduous ornamental shrubs that flower in the summer and autumn should be pruned by cutting now the older wood and shortening back the leading young shoots. Almonds, peaches, lilacs, winter jasmines, forsythias, etc., which flower in the spring and summer, should not be pruned now but after flowering.

Bedding plants in the cold frame should be kept from actual frost, and water should be given very sparingly.

Cinerarias and calceolarias will not need artificial heat if they can be kept frost-free. Primulas and pelargoniums require a little warmth if they are to be brought into full flower. Fuchsias can be rested off and placed under the staging, where they can be allowed to become almost dry.

In the greenhouse ventilation should be given whenever the weather permits, and only on foggy days, or when there is a keen frost, should the house be kept closed.

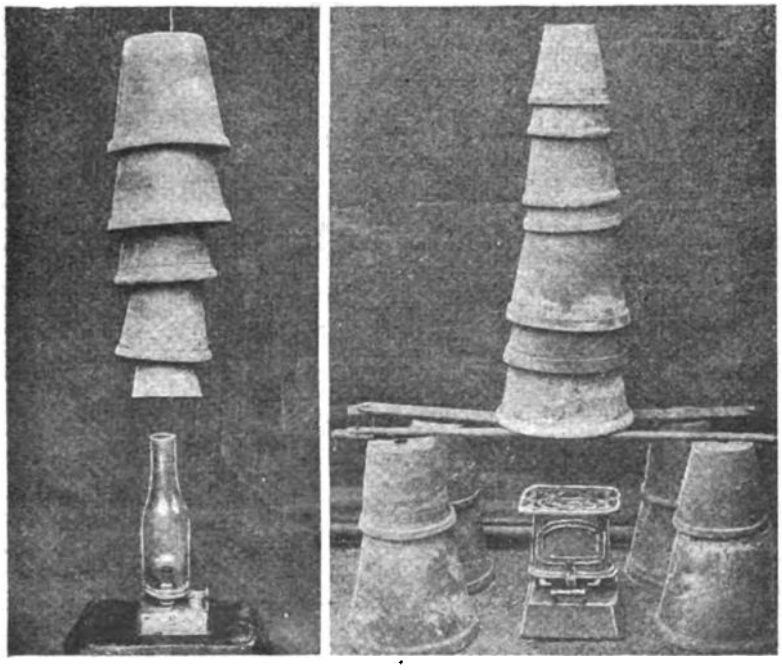
Well rooted bulbs do not require a great deal of heat to bring them into flower, and in fact, in many cases, strong forcing is harmful. It is a good plan to use water that is just off the chill and overhead sprinklings are helpful. Arrange the starting of the batches so that a good show will be available for Christmas.

Keeping Frost Away.

THERE are a good many more or less tender plants which can be wintered quite well in a cold greenhouse or a conservatory providing anything like severe frost can be kept at bay. At any time now a sharp night may come along, and it is well to be prepared for the emergency. Without any artificial heat at all much may be done to keep the frost from the plants by means of sheets of newspaper. These should be placed lightly over the plants, care being taken to cover all parts of the foliage. It is worth bearing in mind that during the winter delicate plants are much less likely to suffer from cold if they are kept on the dry side. Active growth is largely suspended, and anything like a really wet soil is sure to be harmful.

If the conditions are very winterly it is worth while placing a paraffin lamp in the house. See that the wick is well trimmed and the burner quite clean; also before shutting up for the night adjust the flame so that it is not likely to go up and smoke. The heat from such a lamp secures a better distribution if things are fixed up in this way. Stand the lamp on the floor and then on either side place bricks or boxes. These should be arranged so that the base of a large inverted flower-pot can be rested on them and so over the chimney of the lamp. To the large pot add two or three more of smaller sizes, and when the pile is complete a considerable radiating surface for the heat will have been secured. Another very effective way of heating a small greenhouse is carried out with the help of a Beatrice type of stove. On the top place a tin biscuit box which is about half-filled with fine sand. When the sand is well heated the flame may be turned to a point where it will just keep the sand hot. Oil stoves in a greenhouse should always be placed in some corner where they will be out of the draught, seeing that if the flame gets blown about it is almost sure to smoke. If liked, the plants may be grouped round the lamp, as, providing the burner is quite clean, such fumes as are given out are not harmful.

At times, even with the utmost care, pot plants do get nipped with frost, and they then present a very dejected appearance. Nine times out of ten the specimen is not really dead, although people who do not understand matters will often kill a frosted plant by giving it warm water. This tends to thaw the cell contents too quickly, with fatal results as far as the plant is concerned. A safe method is to give the soil a good soaking with water at the ordinary temperature. At the same time sprinkle the foliage with cold water and, finally, place the plant in a cool place where there is no frost. In a few hours the plant will have revived most wonderfully and be little the worse for its experience. When the soil has been soaked in this way it is most important that the plant should not again be exposed to frost.



A NOVEL METHOD OF HEATING A SMALL GREENHOUSE WITH OIL STOVES.

How to Grow Fine Mignonette.

An Annual that Requires Careful Treatment.

FEW plants are more valued than mignonette, and yet it is curious that quite often it is grown in a very indifferent manner. This is a pity, for there is no plant which pays so handsomely for careful treatment. The old idea that one could not transplant mignonette is far from being correct, for, as a matter of fact, the finest specimens are secured by a system which involves removal. Another popular error is that mignonette revels in very rich soil, but really the plant cares very little about the nature of the ground in which it grows, always providing there is plenty of lime.

The finest bed of mignonette which was noted last season was growing in a limestone district on land which had not been enriched in any way at all. Moreover, from start to finish the bed had never been watered. Therefore, on stiff, close soils it is far better to work in mortar rubbish, or anything similar, and to use no other fertiliser. This will result in finer plants which produce highly fragrant blossoms with great freedom. In the ordinary way the seed may be sown in March. After the plants have developed a little, thin out rather drastically, as crowded mignonette never does well. If some specially fine plants are needed, this is the way to get to work: Sow a tiny pinch of seed in 3in. pots about the end of March. Then remove all save one of the plants and, at the end of April, place out of doors. Prepare the holes in the ground in advance, and get the entire ball of soil from the pot so as to avoid root disturbance.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Room Plants in Winter.

DURING the summer months, when doors and windows are frequently open, indoor plants generally thrive well. As soon as fires are commenced, however, there are generally a number of casualties among the ferns and plants that are grown in living rooms. It should not be forgotten that plants dislike sudden changes of temperature just as we do, and, further, that in a warm temperature they consume more moisture than in the extreme cold. A fire in the room tends to exhaust the moisture in the soil very rapidly, and watering may require to be done more frequently. The water given should be slightly warmed, *i.e.*, to make it as warm as the temperature of the room, otherwise the plant receives a shock.

With plants that are "resting," *i.e.* ceasing to make new growth for a time, it is advisable to keep them away from heated rooms. If a greenhouse is not available, a spare box-room or shed, provided it is frost-proof, will often prove a better place in which to winter pot plants than a room which gets heated during the day and is allowed to cool rapidly during the night. But always remember that the cooler they are kept, the less water they require. A word about bulbs in bowls and pots. Very hardy bulbs like snowdrops and crocuses *must be grown in a cool atmosphere* all the time. Hyacinths, daffodils and tulips can be brought on more quickly by growing them in a warm room. Of course, all bulbs grown under the artificial conditions need keeping cool, in the dark, and well ventilated for a few weeks after planting.

The Best Form of Lime.

LIME in some form must be applied to the garden each year to maintain the correct soil condition. After a season of much rain and consequent excessive growth, the addition of lime to the soil is specially important. There is no better form of lime to apply to the garden than freshly slaked quicklime. It is obviously cheaper to buy quicklime, because slaked lime contains 40 per cent. water. Air-slaked lime is inferior to that of properly water-slaked. No more water should be used than will thoroughly wet the lumps of quicklime. Heat is produced and in twenty minutes a very fine dry powder will be obtained. Avoid using an excess of water, or a sloppy mess will be formed. It is advisable to wear old clothes when liming the garden.

Alternative forms of lime are available. Many of the limestone quarries grind the actual *limestone* without burning it at all, and this is quite as effective, only a more liberal dressing should be applied. *Ground limestone* is calcium carbonate, and *slaked quicklime* is calcium hydroxide, which eventually turns into the carbonate. *Chalk* is another form of calcium carbonate, and powdered chalk should be applied at double the quantity of ordinary lime.

Another substance which contains lime is the *acetylene waste*. But if this substance is used, it should be exposed to the atmosphere for a month before application. *Lime rubble* is a mixture of sand and calcium carbonate, and is excellent, especially for heavy soils, to which it can be applied in liberal quantities.

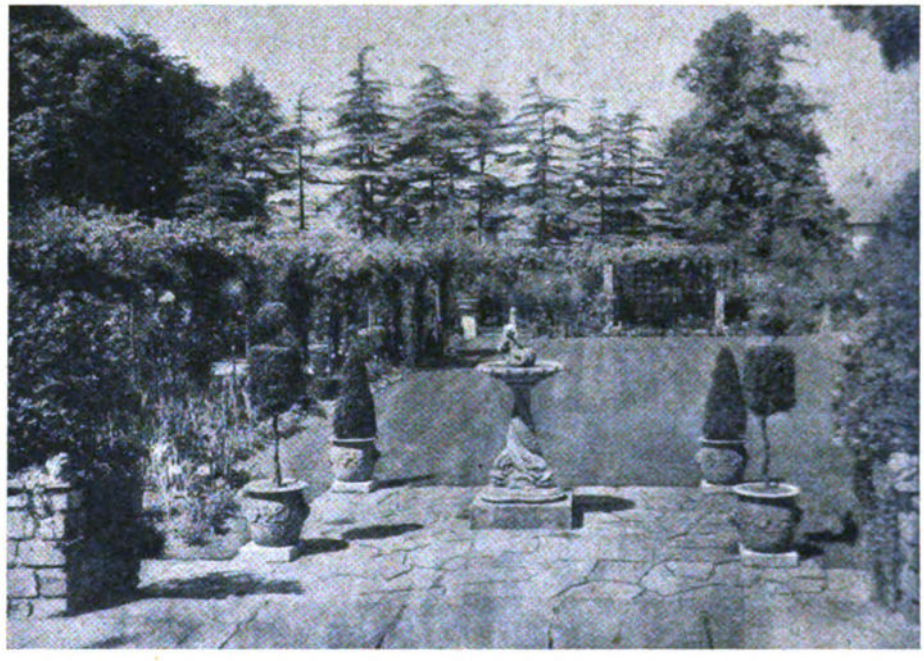
Quantities to Apply.

Apply as follows: Slaked quicklime, 2 oz. to a square yard; ground limestone, 4 oz. to the square yard; chalk (powdered), 4 oz. to the square yard; acetylene waste, 2 oz. to the square yard; and lime rubble, 6 oz to 8 oz. per square yard. These quantities are not too much to apply annually to gardens in smoky districts, but all gardens would benefit from a dressing of lime in the above proportions every two years.

The Value of a Background.

WHERE space permits, a row of conifers like the Cedrus deodara in the illustration forms an admirable setting for a garden. There is a feeling sometimes that in planting trees one is planting for posterity, but the trees in the illustration are comparatively young. After all, we have to thank many gardeners in the past for the beauties of our countryside to-day, and if, in a sense, we are planting for posterity when we plant trees it is pleasant to reflect that we leave the world a little better than we found it.

In the illustration, four box plants are grown in ornamental pots. The two in the foreground are clipped in conventional designs. An alternative would be to use dwarf conifers which give congested bushes, of formal appearance, without the necessity for clipping.



A WELL DESIGNED SUBURBAN GARDEN SHOWING THE VALUE OF A WIDE SWEEP OF LAWN AND A WELL FURNISHED PERGOLA WITH A BACKGROUND OF TREES.

Replanning an Old Garden.

THIS is the time to consider the replanning of the whole garden, so that next season any mistakes in design which have become apparent this year, may be corrected. It is opportune, too, for those who take over an old, neglected garden, to clean it up, preparatory to reconstruction work, which will be done during the winter as occasions arise.

Suppose, for instance, that you have a typical town garden, with a weedy lawn in the centre, an even weedier path round the lawn, surrounded on all sides by borders in which leggy shrubs and frowsy Michaelmas daisies run riot. It takes only a season or two of neglect to transform the best of gardens into such an untidy patch. The first thing to do is to cut back the shrubs. If they are very overgrown, you can hardly trim them back without making them unsightly for a time, but most ordinary shrubs will very quickly shoot again into healthy bushes. It may be that flowers on some kinds will be scarce next season if the pruning is very severe, but the shrubs will be all the better in the years that follow.

The next thing is to cut the grass of the lawn. If the lawn is to remain, see that the surface is fairly level. If hollows or humps are present, lift the turf carefully, level the subsoil, and replace the turf. Give a dressing of lawn fertiliser, and remove large weeds. Roll it occasionally during the winter, and by next spring it should be ready for use, and able to be kept in condition by a weekly cutting and rolling. Of course, if rain stands in puddles on the surface, or if much moss is present, it may be necessary to lift the turf in places and arrange bricks or clinkers a foot below the surface, to improve the drainage.

Now turn over the gravel paths with a fork, or put down fresh gravel if this is necessary. Cut all the tops off the dying herbaceous plants in the borders, and put them with fallen leaves and other vegetable refuse into a compost pit, sprinkling each layer with a little lime and a little soil. The contents of this pit will be used during the winter as digging is done, and will add far more value to the soil than if the rubbish were burnt and only the ashes used.

At this stage, the reconstruction of the garden must be considered. If a rockery, a water garden, or other special feature is to be introduced, this must be fitted into the most suitable part of the rock garden.

Finally, do not forget, in replanning the garden, that a simple design is best for small areas. Try to make each feature seem a necessary part of the garden. An archway should be over a path, and all paths should lead somewhere. Contrive that some pleasing feature is seen from the house windows, or from the entrance to the garden. A sundial or garden ornament seen through an archway adds apparent size to the garden. A rose screen or a few rose pillars give privacy to any part where this is desired. These features can be all constructed during the autumn, so that the garden will be in readiness for the spring planting.

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NOTES ON THE FLOWER GARDEN

A Standard Hydrangea.

Hydrangea paniculata Grandiflora.

A DIFFERENT method of growth can almost transform a plant beyond recognition. Certainly few gardeners will have seen Hydrangea paniculata grandiflora, the plumed hydrangea, grown as a standard, familiar as they may be with the ordinary type of border shrub or the pot-grown plant.

In Japan it grows as a forest tree, and as n that country winter is severe, it can survive our climate better than may be supposed.

The illustration is of a fine tree grown in the garden of Mrs. Medlycott Rumsey, Dormer Cottage, Camberley. It is now more than twenty years old, and from year to year is covered with large bold blossoms nearly a foot long and 4ins. to 6ins. through.

In cultivation its requirements are few; for preference, it enjoys a site sheltered on the north and east, and a well drained situation. For fine flower display, mulch the ground in early spring and prune back the last year's growth severely in February or early March. This encourages the large panicles of creamy white blossom to form at the terminal of each shoot and keeps the round, dome-shaped tree in form.

In point of flowering period there are few shrubs that remain in blossom so long. Commencing to flower at the end of July, it tints gradually to rose colour and finally russet, until leaf and blossom fall with the first frosts.

It should certainly be grown in the standard form more commonly, and used as a specimen shrub, not included as an ordinary member of the shrubbery, where it would not be seen to advantage, and would be likely to lose its shape from overcrowding.—M. B.

Violas for the Small Garden.

IT is questionable whether any other garden flower gives a better display of colour over a long period than the viola. There is, of course, a great difference between the varieties, and it is not always wise for the novice to purchase varieties seen at exhibitions, for often the plants which produce large blooms are not suitable for border culture. The essential things for a border plant are a good tufted habit, with a quantity of blooms to each plant, and a vigorous constitution which will stand the weather.

Violas will grow in almost any soil, but the condition of the natural soil should be improved by deep digging and by certain additions according to the nature of the soil. On sandy soil, or soil of a peaty kind, cow manure is the ideal manure to use. Heavy soils should be dressed with lime, and all available strawy litter, bonfire ashes and very well rotted horse manure should be added. Wireworms and leather jackets are enemies of the viola, and if the land in which they are to be grown is infested with these pests, a good dressing of a soil fumigant is useful at this season of the year.

Late Autumn and Winter Cuttings.

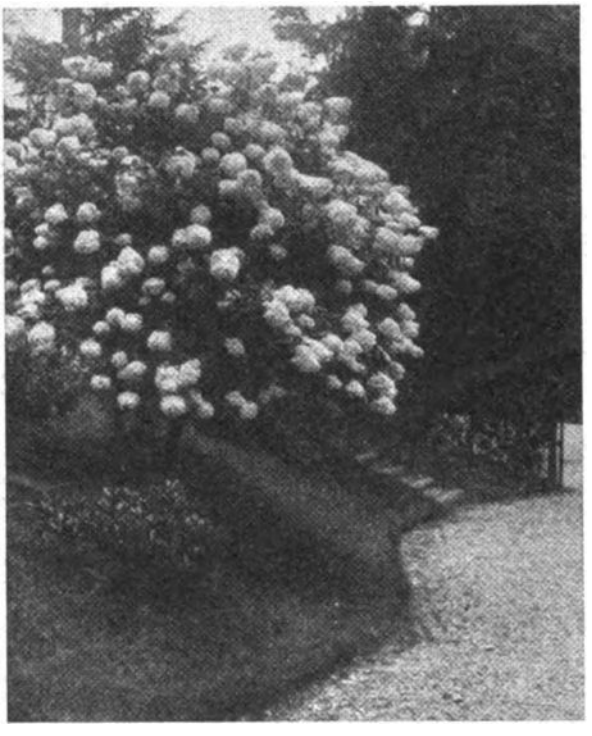
One good authority on viola culture states that he finds plants raised from cuttings taken in November, and wintered in cold frames, are almost invariably the best and most vigorous plants during the following summer. Even in December cuttings can still be taken with excellent results. Cuttings should be sturdy and short jointed. Take them from the base of the crown of the old plant, about 2½ins. in length, and insert in a cold frame in rows 3ins. apart, allowing 2ins. between each plant. The soil in the cold frame should be well mixed with sharp sand. Good cuttings cannot be made from hollow-stemmed pieces, and in each case the lower leaves on the stem should be removed before the cutting is inserted.

Where no cold frame is available, cuttings will usually root in the open, but it may be more reliable if small pieces are broken away from the base of the plants with tiny rootlets attached. This can usually be done quite satisfactorily.

Ventilation Essential.

One of the most important factors in the care of the viola in cold frames during the winter is the giving of sufficient ventilation. The plants are very hardy, and except during the most severe of frosts some air should always be given, otherwise damping off will account for many fatalities among the stock of cuttings and mildew may appear.

It is difficult to advise regarding varieties on account of the variations in tastes, but the following may be regarded as good plants for the garden border: Swan (white), Primrose Dame (light yellow), Mrs. E. A. Cade (deep yellow and very early in blooming), Archie Grant (purple), Maggie Mott (mauve), W. H. Woodgate (almost blue).



HYDRANGEA PANICULATA GRANDIFLORA AS A STANDARD MAKES A DECORATIVE SHRUB FOR A FRONT GARDEN.

A Distinctive Magnolia.

Magnolia conspicua.

THIS, the yulan or lily tree, is one of our best early-flowering shrubs. The rather low rounded trees or shrubs are about 8ft. high and about the same distance across, but I believe this tree is capable of attaining a height of 30ft. or even 40ft. It is deciduous, but the flower buds are conspicuous throughout the winter months, when, with the arrival of congenial weather in the spring, they develop into pure white fleshy blooms 6ins. or 8ins. across when fully developed. When partially open the flowers are erect and bear some resemblance to a lily, and in this stage the tree is even more beautiful than when the blossoms are flat. Nevertheless, it is a beautiful tree, quite hardy, and will thrive in most gardens. It is a native of China, from whence it was introduced in 1789, and no doubt there are now some fine examples in various parts of the country.

Propagation is effected by grafting on M. Soulangiana, and at one time M. conspicua was largely employed for forcing work. For the cool greenhouse it will be found useful, coming into flower fairly early without much fire heat.—B.

A Brilliant Blue Rock Plant.

Gentiana acaulis.

OF late years much has been written concerning the merits of recent additions to this charming genus, so much so that the merits of the above or the gentianella are apt to be overlooked. During the month of April this charming plant produces quantities of its beautiful blue tubular flowers, and no plant in the garden can excel it for sheer beauty and attractiveness at this season. It can be grown at the very front of an ordinary border: in fact, I have seen it as an edging with excellent results; while a bay in the rock garden filled with this handsome species is sure to afford pleasure, especially if the visitor meets with it unexpectedly. In such a position we have it at Castleford, Chepstow, and the best colony is one that was lifted, divided and re-planted in September. It is a native of the Alps and Pyrenees, and it is quite hardy in this country. In some gardens it will thrive and flower freely, while in others no amount of care will induce it to succeed. In spite of this, everyone with a garden should give it trial and try it in various positions and different soils before giving up the attempt. As a general rule a south-east or south-westerly aspect should be chosen, and the rooting medium consists of loam to which is added a liberal quantity of lime or mortar rubble and sand. The gentianella forms a dense carpet of short growths, and when overcrowding begins the plants should be lifted, divided and re-planted a few inches apart. Firm and deep planting is essential, and later on, when the shoots are well advanced—say the following early spring—a top-dressing of leaf-mould, loam and sand will be beneficial. This mixture is worked well between the growths, made firm by treading, and when the operation is completed the tips of the shoots will be just visible above the soil. It is also a good plan to place stone chippings over the soil, and should the weather prove dry during the spring and summer the roots must be kept well supplied with water. There are different forms of G. acaulis, including a white variety, but few are improvements on the type.—T. W. B.

The Lychnis in the Border.

THE most popular member of the lychnis family for growing in the border is undoubtedly L. chalcedonicum (sometimes known as the Maltese—or Jerusalem—cross flower by reason of the arrangement of its petals), and a bold mass of its pure scarlet flowers has certainly a gorgeous effect, especially when seen against the background of a yew hedge, or one of the blue-grey Cupressus Triumph of Boskoop, or some brown-foliaged tree such as the copper beech or Prunus Pissardi. Like the majority of its kin, L. chalcedonicum prefers a dry, light soil;

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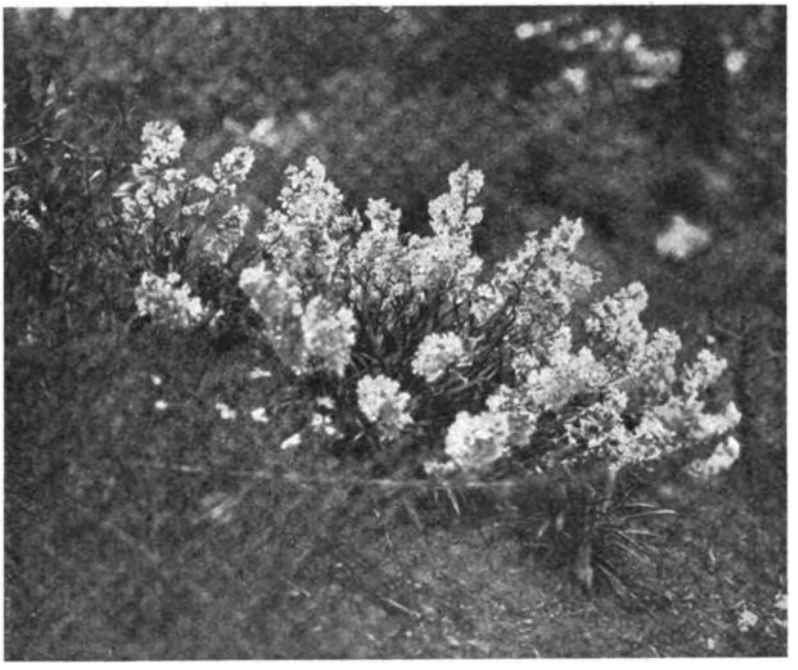
but in a very hot and rainless season it should be well supplied with water, or its leaves will turn brown half-way up the stems in a disfiguring manner. There is a white variety which is not particularly desirable, but the double scarlet is worth growing, although it is, perhaps, scarcely an improvement on the single type; and there is also a comparatively new pink variety, L. c. Salmonea, which has its attractions; it must, however, be kept well apart from the scarlets, or the result will be horribly discordant. Lychnis fulgens, with bright red flowers, is a front row plant, as it is only 1ft. high, against the 2½ft. of L. chalcedonicum. L. Haageana, a hybrid between L. fulgens and L. coronaria, is also dwarf and red; but the colours of the newer L. Arkwrightii, said to be the result of a further cross between L. Haageana and L. chalcedonicum, range from salmon to crimson scarlet, and it is 1½ft. in height. This is a most effective border plant, but it is considerably less robust than L. chalcedonicum, and some growers find it safest to treat both it and L. fulgens as half-hardy annuals. These hybrids are rather weak in the stem and need careful support.

The Rose Campion, Lychnis (otherwise Agrostemma) coronaria, is perfectly hardy, and its rich velvety crimson flowers and silver grey leaves are very charming. The white variety is not particularly interesting; but the hybrids, L. c. Walkerii, atrosanguinea and œli-rosæ, although seldom seen, are worth growing. The native lychnis divica is only suitable for the wild garden; but its double varieties, both white and crimson, are quite good enough to be permitted in the border; and the same may be said of the double form of the indigenous Ragged Robin, L. flos-cuculi fl. pl. The best known variety of this is a bright rosy pink; but there is a paler one, and also a white. These pretty flowers, which grow about 1½ft. high, bloom in June and July, and are admirable for cutting. Lychnis flos-govis, of much the same height, has a rather longer flowering season, and its colour may be fairly described, I think, as a light shade of crimson. It seeds itself freely. Both L. flos-cuculi and L. flos-govis are good near the front of the border; but L. viscaria splendens fl. pl., the fine rosy crimson flowers of which rise on 1ft. stems from neat tufts of foliage, is a better plant for the actual edging, on account of its compact habit. It blooms from the end of May until mid-July.—R. E. H.



THE DOUBLE FLOWERED FORM OF LYCHNIS VISCARIA WITH ITS ROSY BLOSSOMS AND NEAT TUFTED HABIT MAKES A FINE EDGING PLANT.

A Good Winter-Flowering Shrub.

Viburnum Carlesii.

IN V. Carlesii we have one of the choicest introductions of recent years, and it is a plant that should be represented by one or more specimens in every garden, even if it is planted in the ordinary or herbaceous border. Since that date it has gradually but surely found favour among all shrub lovers, and a noteworthy fact concerning this exquisite plant is, it does not require a vast amount of space to develop in, thus being most suitable for gardens of small dimensions. V. Carlesii, probably the best of the viburnum family, makes a shapely bush 3ft. to 4ft. high, and the flowers are produced in terminal clusters during the months of April and May. The buds open a pale flesh pink and gradually become white as the blooms develop; these are deliciously fragrant, and reminiscent of the best of the daphnes. At first this shrub seems rather slow in growth, but once established it makes headway, and proves to be a free-flowering plant. It appears to be perfectly hardy, and is quite at home in a variety of positions. Most of the plants are grafted on the wild or common viburnum, and for this reason the base of the plant must be watched for sucker growths. These often appear during the first season or two, and must be cut out directly they are seen, otherwise the real plant will be destroyed.

V. Carlesii gives the finest results in a well drained soil such as can be found in most gardens, and where the soil is of a heavy clayey nature a liberal dressing of loam and leaf mould would be an advantage.—B.

VIBURNUM CARLESII IN FULL FLOWER IN FEBRUARY IN THE ROCK GARDEN.

A NEW PRIMULA, P. REDOLENS, SIMILAR IN HABIT TO P. FORRESTII BUT WITH PALE PINK FLOWERS WITH A YELLOW EYE.

A New Primula.

Primula redolens.

THIS species was discovered by the writer as long ago as 1911, in the gorge of the Mekong, due west of Likiang, in the province of Yunnan, China. Apparently it has never been collected since. The writer found a clump of the plant in fruit, growing on the dry cliffs, and sent seed to England. No dried specimen was collected, and the species is not represented in the herbaria of Kew or Edinburgh, unless in the latter by a cultivated plant. P. redolens is now fairly well known in big gardens. It is one of the perennial "Suffruticosa" species, ultimately forming a tangled clump of thick woody stems, bearded with the remains of old leaves, from the ends of which spring the current year's leaves, in rosettes, and the flowering stems. The Suffruticosa primulas fall into two groups—those with very short stems, the flowers nestling among the leaves (*e. g.*, P. pulvinata, P. Dubernardiana), and those with long stems which, like P. redolens and P. Forrestii, hoist the flowers well above the foliage.

The two last-named are somewhat similar in appearance, except in colour. P. redolens has flowers of a pale purplish pink or lilac pink, fading to blush cream, with yellow eye. Both leaves and flowers are fragrant, the whole plant being covered with downy glandular hairs which impart a slightly sticky feeling. The leaves are stalked and the stalk is expanded at the base, the margin is irregularly toothed, and the upper surface is slightly rough, showing deep veining. The flowers, either twelve or more, are carried in a compact head on stems 6–9ins. high. It is an exceedingly decorative plant when well grown, with its pale pink blossoms.

Like all members of the section, P. redolens likes a bright sunny position and gritty soil with sharp drainage. Most of the species require lime, and are best grown on limestone rocks. At Bodnant (Lady Aberconway's garden), where the photograph was taken, P. redolens is also flourishing out of doors on a rock wall facing west.—F. K. W.

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WHY NOT GROW MORE PEARS?

A Selection of Some of the Best Sorts, with Hints on Planting and Treatment.

PEARS are not planted in the small garden to anything like the extent that apples are, and it is probably safe to say that in comparatively few gardens where they are grown do the trees behave in an entirely satisfactory manner. Possibly the complaint is that the trees grow rankly and show scarcely a blossom. Perhaps they flower freely enough but never "set" fruit, or the fruit that does "set" never "finishes" nicely; or the complaint may be that nearly every fruit is disfigured by the scab disease. Disappointments such as these seem fairly general—much more general than they should be!

It is certain that pears have pronounced "likes" and "dislikes" regarding soil and situation, and the planter setting out to grow good dessert fruit must proceed with due caution, for except in certain favoured districts pears seem the least accommodating of all hardy fruits. On the other hand, when the gardener is able to give the trees a suitable site and a soil they like, and is prepared to take pains over all cultural attentions, splendid crops of delicious pears are the rule rather than otherwise.

By some knowledgeable gardeners a warm wall or fence—facing south or west—is considered more or less essential for the growing of regular crops of well matured dessert pears. Without a doubt such shelter is a distinct advantage, greatly assisting, as it does, fruitfulness and improving the quality of the crop in a marked degree. In Northern and Midland gardens something of the sort may well be indispensable, though there is no shortage of good varieties, which, planted in the open, will ripen heavy crops of first-class pears in most reasonably sheltered gardens—especially in the warmer counties.

The fact that the trees may be easily draped with netting and protected from frost and cold winds during the blossoming period is a most telling point in favour of growing pears against the house wall or garden fence. In some gardens the blossom on trees in the open is spoiled year after year, so that the gardener despairs of ever getting good crops. In localities where this sort of thing is experienced wall trees are invaluable.

In the espalier and cordon forms of training —especially the latter—pears do remarkably well, and from these trees the finest pears will be gathered. The smallest space will take one or two of the single cordon type of tree, which trees, by the way, are best planted obliquely—at an angle of 45°—inclining preferably to the south. For the open garden pyramid and bush-shaped trees are the best choice, the big out-of-reach standards being suitable for the roomy orchard only.

When espaliers or cordons are being ordered from the nursery it is well to stress the point that trees on the dwarfing quince stock are required, the Angers quince being as suitable as any and better than most. This applies to compact bushes and pyramids also. Trees on the pear stock invariably grow rankly and are slow in coming into bearing, giving colour to the old adage that "he who plants pears, plants for his heirs," a saying which does not apply to trees on the quince stock.

For the guidance of the planter it may be mentioned that a warm, deep loam approaches the ideal for pears, and while it is a mistake to make the ground rich with manure at planting-time, unless established trees are "done" well, the quality of the fruit will suffer. If the garden soil is heavy or waterlogged, or, to go to the other extreme, if it is shallow and a mere sand, then some special preparation for the trees had best be made—certainly where trained trees are to go in. A liberal addition of turfy loam to the existing soil may suffice in the average garden, but in extreme cases the old soil should be removed to a depth of from 2ft. to 3ft. and (after laying drains, if required) replaced with an importation of fresh loam, with which is mixed mortar rubble, wood ashes and compost from the potting shed, etc. Also basic slag dug into the ground at the rate of about half a pound to the square yard cannot fail to better conditions.

Firm planting is essential whatever the nature of the ground, and the very common mistake of planting too deeply must be avoided. The depth to set the tree may often be gauged by the old soil mark on the stem, which shows the depth to plant now. But with trees on the quince stock see they are placed with the union of stock and scion just below the soil surface when planting is finished. As a rule, something like 4ins. of soil over the roots is ample.

There are numbers of good varieties, some much more "difficult" than others. This list includes just a few of the best all-round sorts likely to prove satisfactory in the average small garden:

Doyenne d'Été.—Small, yellow, with red flush; in season in July.

Laxton's Superb.—Large, yellow; August.

THE LARGE HANDSOME FRUITS OF DOYENNE DU COMICE, A PEAR OF UNEQUALLED FLAVOUR.

Souvenir de Congres.—Very large, with red cheek; September.

Dr. Jules Guyot.—Large, yellow, with red cheek; September.

Louise Bonne of Jersey.—Yellow, with a red flush; October.

Beurre Hardy.—Large, russety; October.

Conference.—*The* amateur's pear; long-necked, brownish russet; October-November.

Durondeau.—Large, long, russety; October-November.

Doyenne du Comice.—Of unequalled flavour; large, yellow; November.

Fondante de Thirriott.—Large, yellow with red flush; November-December.

Josephine de Malines.—The best "keeper"; small, yellow; January-May.

It seems seldom realised that most dessert pears cook splendidly if gathered hard, though if pears specially for stewing are required, then Bellisime d'Hiver (keeping until March) and Catillac (until April) are a good choice.

When selecting varieties to plant, it should be remembered that each variety is fit for eating over a very short season—some for a week or so only—and that several varieties must be grown to obtain a succession of dessert fruit. Rarely is a large quantity of dessert fruit required at one time—rather a few pears weekly—and to put in several trees of one sort often leads to waste. This is another argument in favour of cordon trees, which take up very little room and permit a number of varieties to be grown in a comparatively small space.

And the question of pollination must not be overlooked. Most pears are more or less self-sterile and crop disappointingly if facilities for cross-pollination are lacking. It is unwise in the extreme to plant a solitary pear in the garden—unless a close-by neighbour grows several sorts—and equally wrong is it to plant two or three trees of one variety only. Put in two or three varieties. The different sorts mostly flower at much about the same time as one another and any two or three are likely to go well together.

The pruning of pear trees once they are formed and shaped is almost a rule-of-thumb matter. Side shoots or laterals should all be cut back to two or three buds, and the leader or extension shoot at the end of each branch shortened by half or one-third, according to the vigour of the branch, the weaker the growth the harder should the leader be cut.

A mistake commonly made and one responsible for many disappointing trees of the type which, in spite of an abundance of blossom, rarely carry much fruit, lies in allowing the spurs along the branches to become too long and gnarled. If these spurs are cut back at the winter pruning to two or three plump buds, and the most crowded along the branch cut away to leave them a minimum distance of, say, 6ins. apart, almost certainly there will be much better fruit-setting and finer fruit altogether.

Fairly hard pruning—and regular pruning—is a means of checking the scab disease (which causes pears to "spot" and crack), since much diseased wood is removed; but in addition affected trees should be sprayed with Bordeaux mixture immediately before and shortly after blossoming in spring.

Finally, note that pears, especially the wall trees on quince stock, need to be well nourished. A mulch of decayed manure round each tree in late spring or early summer is extremely helpful, and this should be followed with liberal waterings with dilute liquid manure as the fruit increases in size.

A. N. R.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

REPORTS regarding the germination results of autumn-sown sweet peas are particularly good this season and indicate a high percentage in different parts of the country. At the close of my lecture at Mosspark the other night, a member of the audience related, with a pardonable degree of pride, that every one of his seeds had germinated; and later on, at Ayr Chrysanthemum Show, Mr. Currie of Barskimming Gardens, Mauchline, mentioned that he had obtained a 95 per cent. germination. Considering that the harvesting of the sweet pea seed in England was distinctly unfavourable this year, the testimony of these growers comes as a pleasant surprise, and it will be interesting to learn how other gardeners have fared.

Now that the rose trees are in process of defoliation, the leaves that have fallen from the plants should be gathered up and burned, especially when the foliage has given evidence of the presence of mildew or black spot. Although they are not visible to the naked eye, the resting spores of mildew and the eggs of the green fly may be wintering on the bushes, and it is much easier to encompass their destruction when the plants are in a dormant state than in summer, when they are clothed with foliage and flower. Bordeaux mixture, which can be safely used as a winter wash, is an effective agency if applied now, and again in February, but some growers prefer the following formula, recommended by the late Mr. Spencer Pickering as a combined fungicide and insecticide: Copper carbonate 1½oz., ammonia 16 liquid oz., and water to make up 10 gallons. After diluting the ammonia with 12 pints of water, add the copper carbonate, and when the latter substance is dissolved, make up the required quantity with water. While there is no certain known cure for black spot, this treatment of winter spraying promotes cleanliness, which is the chief factor in the prevention of disease.

The maintenance of colour for the decoration of the small greenhouse in late autumn and early winter is sometimes a puzzling problem to the amateur. Chrysanthemums, of course, are indispensable, as they are capable of providing bloom until Christmas, when the first of the daffodils, hyacinths and crocuses come into flower; but variety has its attractions and most gardeners endeavour to allocate their limited accommodation to meet the requirements of these favourite subjects in their respective seasons. To keep a greenhouse or conservatory gay during the dull days of autumn and early winter there are no more useful plants than the scarlet salvias, which, with good treatment, provide a brilliant display extending over a period of two or three months. All the varieties are easily propagated by seeds or cuttings. Plants raised from seed in February come into flower in summer, and to ensure a display in autumn the early blooms may require to be pinched in their young state. To produce stocks from cuttings cut back the old plants after flowering and keep them in a cold house or frame until spring, when they can be started into growth in the greenhouse with the object of encouraging the growth of young shoots. When these are 2ins. or 3ins. long the best should be selected and rooted in a sandy soil under moist conditions. As soon as the seedlings can be handled, transfer them to 3in. pots, and once they are established their subsequent culture involves no more attention than that usually given to chrysanthemums, provided they are never allowed to flag for want of moisture. Any of the splendens varieties lend themselves to greenhouse treatment, but Scarlet Queen is mostly favoured by reason of its tall spikes of scarlet flowers. Its popularity, however, is being challenged by a newer introduction named Harbinger, which at the time of writing is at the height of its bloom. The plants are of a dwarfer and more compact habit, and the darker foliage forms an effective setting to the vivid hue of the flowers, which are produced in profusion.

Those varieties of mid-season chrysanthemums which have finished flowering under glass may now have the foliage cut back and the pots placed in a frame or cool greenhouse to provide cuttings, by which method of propagation it is intended to provide a new stock of plants for next year's blooms. Choice varieties, such as Jean Pattison, Almirante, Dolores, La Pactale, Sanctity and the white and yellow Thorpe's and other favourite examples of the double type should all be perpetuated by that simple process, and those gardeners who are fortunate in possessing plants of the newer singles, of which Absolute, Phyllis Cooper, Susan, Raleigh and Mrs. Godfrey are typical, would be well advised to take all the cuttings they can obtain from these decorative sorts of the front rank. December is a good time to take cuttings of indoor chrysanthemums, but the work may be continued until the middle of January. Use a sandy compost in which to root the cuttings and afford protection in frosty weather.

Although the frost has gone for the time being, the weather is still unsuitable for outdoor operations in the garden. The wind has been from the east for about a week, and, as dry days are few and far between, the soil is too sodden to encourage the planting of roses, fruit trees or shrubs. Arrears of work are, consequently, accumulating, and if these are to be overtaken before the days are at their shortest, advantage must be taken to push on with the planting of any new specimens that have been received from the nursery, on every favourable opportunity. Many things are possible in the south which, if followed in our more severe climate, would be courting disaster, and for that reason it is safer to postpone the planting of roses and herbaceous subjects which cannot be overtaken before the end of the year until spring. Under the variable weather conditions that are characteristic of December the garden frame will require close attention, particularly in wet weather, as damping-off is the cause of losses among seedlings and young plants raised from cuttings. The admission of air is, therefore, essential, and this may be regulated by opening the sashes a little at the top and raising the lower end by propping it up with a piece of wood and by removing the lights completely on mild sunny days.

ST. MUNGO.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Payment for these hints, which should not exceed 150 words in length, is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the Contributors.

THE HALF GUINEA HINT.

Two Good Flower Effects.

I saw two uses of flowers in a west country town lately which I thought were well worth imitation.

The first was a nasturtium wall. The garden of a small house was bounded on one side by an unsightly bare wall quite 12ft. high. It had been wired all over and planted with nasturtiums, alternately scarlet and cream. The plants had covered the entire surface of the wall up to the coping. They were flowering in such profusion that they formed a dazzling mass which, when lighted up by the sunshine, almost defied description. There was an invariable exclamation of astonishment and admiration from passers-by on the road when they came suddenly within sight of its glory. As the nasturtium has a long flowering season it will be some time before the beauty of that wall is over.

The second was a clematis porch. It belonged to a large old house dating back to far away centuries and was built of grey stone. Clematis in four different colours had been planted on each side of the porch. The red, white, pale lavender and vivid purple had been allowed to mix freely. They were all in full blossom and the effect of the mixed colours against the cool grey background of the old house was charming.—H. G.

Seakale.

At this season of the year most gardeners will be attending to their seakale beds. One so often sees small heaps of cinder ashes which have not been removed at the proper time, and consequently the seakale has grown into long, straggling and weak crowns which, if left alone, would not produce a good crop next spring. The best method of treating these crowns is to remove all the ashes and cut off the seakale level with the ground, and give a good dressing of salt. Now cover with margarine boxes, size 13ins. by 13ins. by 14ins. deep. The lid having been removed, place bottom uppermost. These boxes may be procured from any stores at about 3d. or 4d. each. Cover the boxes with a liberal supply of leaves, and good seakale will be the result. If the boxes are given a dressing of wood preservative they will last for years.—W. H. F.

To Waterproof Working Boots.

With wet weather comes the danger of garden boots letting in the water. You may, however, prevent this by making and applying the following waterproof mixture: Put some beeswax in a jar, well cover with castor or neatsfoot oil, and stand in a warm place till the wax melts. Then stir the mixture thoroughly and allow it to cool, when it should be of the consistency of dubbin; but if too thick add more oil. To use, warm and apply while soft with a stiff brush. Then warm the boots gently and give a second coat, which will result in their being perfectly waterproof.—S. P.

A Time Saver.

Gardeners being busy people I would like to recommend a home-made screen for sifting soil, ashes, gravel, etc., which I have found effects a great saving of time. Cut some 6in. matchboard (or any piece of board about that width) into two lengths of 6ft. and three of 2ft. 6ins. Nail one short piece square on the end of the two long ones and the two others on the back to strengthen the whole, leaving the bottom end open. Then cover back with strong 1½in. wire netting, nailing a small piece of wood near the top against which to lean a prop when the screen is placed in a slanting position. The material to be sifted can then be shovelled to the top of the screen and, in falling down the netting, will be effectively and quickly dealt with.—E. G. D.

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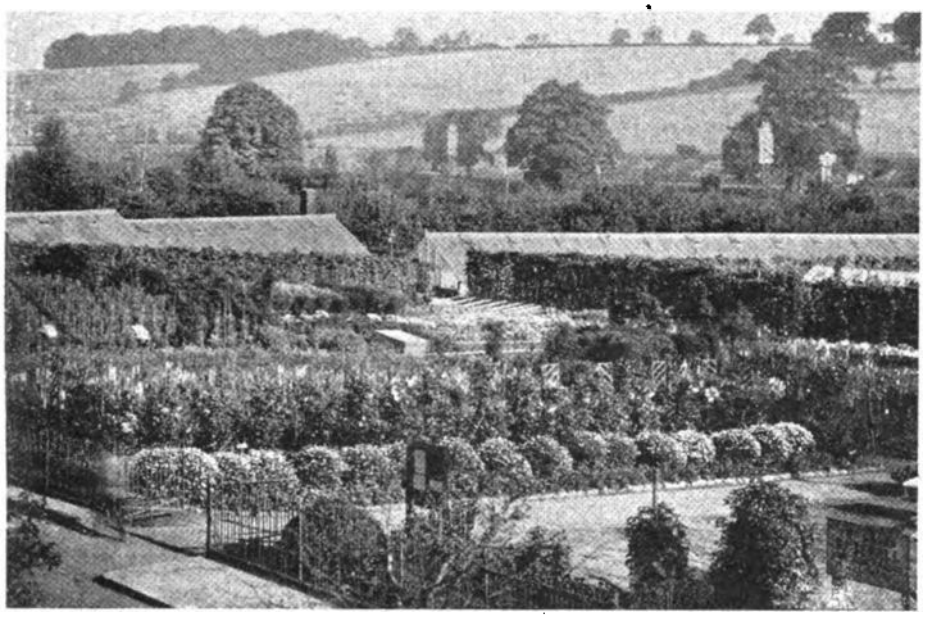
NURSERIES OF THE BRITISH ISLES.—XIII

MESSRS. LANE'S NURSERIES, LIMITED, BERKHAMSTED.

A FEW weeks ago we described under this heading a Scottish nursery firm that had over two hundred years to its credit, and it was mentioned that very few nurseries still in existence under their original name could point to such a long established record of service to the world of horticulture. Our recent visit to Messrs. Lane's, of Berkhamsted, however, has furnished us with yet another link with the past and even a stronger one. This firm had its origin away back late in the eighteenth century, when Henry Lane, the founder of the firm, set out from Uxbridge to establish a nursery business in the Duke of Bedford's country in the Chiltern Hills, which was at that time a famous gardening centre. Indeed, it may be said that that area was the birthplace of modern English horticulture, and not Surrey, as is so often claimed. Evidence points to the fact that gardeners migrated to Surrey to take advantage of the more kindly conditions, both in soil and climate, found in that county, and which, unfortunately, cannot be said of Hertfordshire and Bedfordshire. But that is by the way. The Lanes set up business at Berkhamsted and there they have remained during the last 130 years, gradually building up their business after varying vicissitudes, until it now bids fair to occupy the niche in the horticultural world that it held only some forty years after its establishment. During the early years the firm, under Henry Lane and his son, who later on became head of the business, specialised particularly in vines, roses and fruit trees and shrubs, among other things. Their old catalogues indicate the extent of their stock and the nature of their business at that time, and the old records show that they were considered to be the finest exhibitors of grapes not only in this country, but on the Continent. Their list of awards during last century is extensive and of a high standard, and is a record of which any firm might well be proud. In 1836 and 1837 the firm gained gold and silver medals for their grape exhibits at shows held under the auspices of the Royal Horticultural Society of London, while in later years, at exhibitions in London, Gand and elsewhere, they figured among the chief prize winners for their groups of vines, roses, fruit trees, rhododendrons, etc.

During last century the business passed through three generations, each seeing additions to the ground available for nursery purposes and to the stock of material. In the present century, owing to a number of causes, the firm has not figured so prominently at shows and elsewhere, but there is every sign now that under the able management of Colonel H. V. Lane, the present managing director, who only took over the business two years ago, and who, it may be said, represents the fourth generation, the firm will regain its former high position in British horticultural circles. It is interesting to mention here, also, that it is hoped that Colonel Lane's son will join the firm next year and so bring five generations into the business—a record which we think is unequalled in the annals of British horticulture.

So much for the history of the firm. It is more their present-day activities that concern us here. The real nursery at present consists of some twelve acres, situated in the town of Berkhamsted, where the offices of the firm are also situated. In this section are to be found the various glass houses, where the vines are grown and the extensive propagating frames for raising the stocks of trees, shrubs, conifers, vines, etc. At the time of our visit the majority of the glass houses were filled with chrysanthemums, in which a large cut flower trade is done,



A GENERAL VIEW OF ONE OF THE NURSERIES.

HARDENING OFF VINES READY FOR DESPATCH TO CUSTOMERS.

APPLE, LANE'S PRINCE ALBERT.
One of this firm's introductions.

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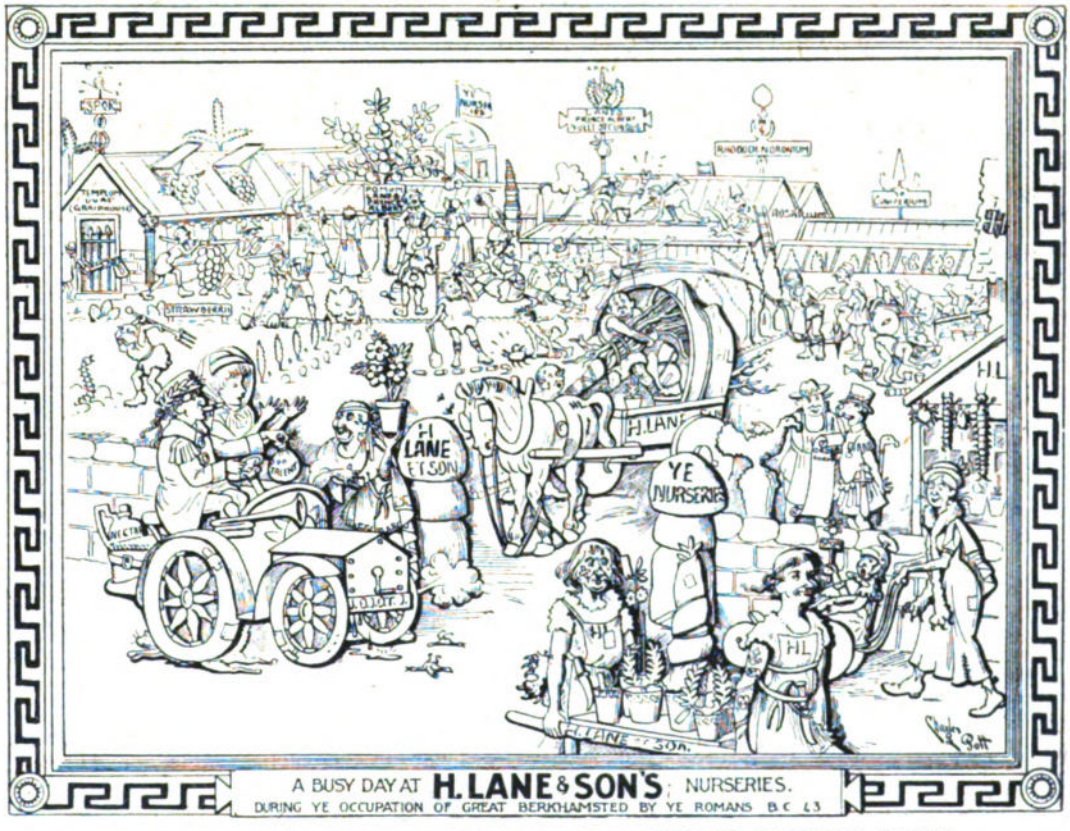
while the frames were occupied by many thousands of cuttings of conifers and different species of shrubs. The work of propagation is carried out in a systematic and methodical way. Full use is made of sand and fibre pits, in which the cuttings are rooted with a fair amount of bottom heat. Thousands of vine "eyes" are inserted annually, and from these a magnificent stock of vines, probably the finest in the country, is reared every year. The illustration of vines in pots shown on the previous page testifies to the high quality of the material sent out from the nursery. The firm is well acquainted with all the little tricks that make for success in the production of really high class vines, and the testimonies received from customers show an appreciation of their efforts. We are, indeed, pleased to note the interest that Messrs. Lane are taking in grape culture, as few firms specialise in this class of work to any extent and the tendency has been during recent years for grape culture to sink into inssignificance. Their stock of vines is large and we have every confidence in recommending those of our readers who have vineries to consult Messrs. Lane as to restocking, etc. In addition to vines, many figs are grown, and interesting experiments in propagation carried out during the last two years have resulted in the rapid increase of stock. Figs, undoubtedly, could be utilised much more freely in the majority of gardens than they are at present. In sheltered situations they are excellent plants for wall decoration and might be more employed for that purpose. Gooseberries, currants and raspberries are grown in this part of the nursery also, and judging by the fine quality of the bushes and canes the situation and soil seem to suit them to perfection. Rarely have we seen such sturdy raspberries and currants. All the leading varieties are represented and the stocks of each is large enough to supply almost any demand. Pot roses are to be found in variety, with a wide selection of herbaceous, bedding and rock plants, together with many varieties of choice flowering shrubs and trees. One of the specialities of the firm is in the growing of standard trees for street and roadside planting purposes. A wide selection of limes, poplars, maples, laburnums, thorns, etc., is offered, and we understand that the firm have entered into many large contracts for the supply of trees for planting along many of the new arterial roads that are at present being constructed.

Another part of the nursery, covering some sixty acres, is to be found at Potten End, known as The Balshaw Nurseries. These are some two miles from the town and are some 550ft. above sea level. This acreage is largely devoted to the cultivation of conifers, forest trees, rhododendrons, azaleas, hardy heaths, roses and shrubs and a variety of fruit crops, including apples, pears, plums, cherries, damsons, peaches, nectarines, etc. A feature of this nursery is the excellent health and quality of the stock, largely due to its situation and skill in cultivation. The crops are fully exposed, and consequently if they come through successfully, as they appear to do, they can be relied upon to do well in the majority of gardens from the standpoint of hardiness. For example, we noted a fine collection of standard roses grown on English briar stock which were in good condition. The reason for their success is probably the fact that the briars themselves grow in the hills around and thus take kindly to nursery conditions. The whole question of hardiness is one that is not sufficiently catered for by many nurserymen. There is little doubt that in this situation really hardy plants are produced. The soil is not over rich and the plants have little or no shelter on the exposed hillside, so that a hardy quality of material which is certain to thrive when transferred to a garden with more congenial surroundings is the result. Amateurs would be well advised to pay attention to this question of hardiness when planning additions to their gardens. It is important to make certain that plants purchased are really hardy —not only where they have come from, but where they are to be grown. It makes a difference to the ultimate success of the plant if it has been raised under somewhat inhospitable conditions in its younger stages.

A fine stock of rhododendrons, mostly hybrids, is carried, while spiræas, deutzias, philadelphus, ribes, olearias, escallonias, etc., are present in variety. In addition to these two nurseries, the firm have recently purchased another fifty acres at the lower end of the town, where next year's roses are already budded and a large quantity of mixed nursery and orchard stock has been planted up. Judging from the growth that has been made since planting, this seems certain to become a valuable piece of ground. All crops seem to thrive in it.

With fruit, the firm's name is well known. Lane's Prince Albert, of which they were the raisers, is still one of the best of our mid-late-season apples. It is interesting to mention another variety that originated a year or so after Prince Albert, but one that never became at all well known, save to those of Messrs. Lane's customers in the district who purchased it at that time. It is known as Lane's Oakland Seedling,



AN ILLUSTRATION REPRINTED FROM AN OLD CATALOGUE OF MESSRS. LANE'S.

The conifers are all of first-rate quality and the variety and stock of ornamental conifers must be one of the largest in the country. A speciality is made of those kinds that are suitable for hedging purposes, and in this connection we would direct readers' attention to the merits of such varieties as Thuja Lobbii and var. aurea, Cupressus Lawsoniana Stewartii, a fine golden coloured form, somewhat resembling Lawsoniana lutea but of a richer colour and with a more graceful habit; Lawsoniana stricta, less erect pyramidal form, with light green foliage; Lawsoniana alba spica, with white tips, and numerous others. We noticed one new variety which bids fair to become a really popular plant and one of which more will be heard about next year, when it is placed on the market. It is to be known by the name of C. Lawsoniana Lanei aurea. It has the habit of Stewartii, being upright, but brighter in colour. It should make a first-rate hedging plant.

and was first exhibited at the Temple Show on May 23rd, 1894, when it received an award of merit. About that time, however, a change took place in the management of the firm and the variety was allowed to sink into obscurity. Its merits have again been discovered. It is a fine late season dessert variety, keeping till May or even June. It is an abundant cropper and has a clean habit of growth. In size it is large, while there is a slight Cox flavour in the fruit.

Space forbids mentioning other activities of the firm. They have an active landscape garden side of the business and they have many fine gardens to their credit, while now they are engaged in developing the sundries side of the business, with great success. Messrs. Lane's is one of the old firms of nurserymen that have remodelled their house to meet the changing conditions of the times and there is every certainty that the changes which have been recently brought about will be more than justified.

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THE FRUIT AND KITCHEN GARDEN

Winter Washes for Fruit Trees.

WINTER washing of fruit trees is done for the following reasons: (1) to destroy hibernating insects; (2) to cleanse the trees of mosses, lichens, etc.; (3) to destroy insects' eggs, thus preventing them from hatching and doing damage as caterpillars in the spring.

There are several kinds of winter washes recommended for fruit trees, including: (1) Hot lime wash, (2) Caustic soda, (3) Woburn winter wash, (4) Lime sulphur, (5) Tar-distillate washes.

1.—Hot Lime Wash.

The quantities of material used are: 1cwt. best lime, unslaked; 100 gallons water.

The lime should be slaked, and while still hot water added to make it liquid enough to strain through coarse sacking into the remainder of the water. Stir well and as soon as possible, but the wash should be used within thirty-six to forty-eight hours. The spray should be put on with a power spray and should be done as late as possible, just before the buds are beginning to break. Where power sprays are not available, and where the trees are small, the wash may be applied with a brush, but this is a tedious operation, especially if there are many fruit trees to cover.

One spraying every alternate year should be quite sufficient. This spray has a beneficial effect by burning off lichens and mosses, covering insect eggs so that when the insects hatch out they cannot move and are thus suffocated. It is especially useful against leaf-curling aphis, and to a slight extent apple blossom weevil, while it destroys many other insects which are hibernating or have hatched out early.

2.—Caustic Soda.

The formula for this wash is: 2½lb. caustic soda (98 per cent.), 10 gallons water.

Dissolve the caustic soda in water and the spray is ready for use. It is useful against mussel scale and is an excellent cleanser for lichens and algæ. It has no effect on insect eggs. Apply when the trees are dormant.

3.—Woburn Winter Wash.

Formula: 1½lb. of copper sulphate, ½lb. quick lime, 5 pints paraffin (solar distillate), 2½lb. caustic soda, 9½ gallons water.

Dissolve the copper sulphate in a little water and then put this into a tub containing the quick lime, after slaking, and made up to about 8 gallons with water—and make up to 10 gallons with water. Add the paraffin and stir well, finally adding the caustic soda and again stirring. Apply when the trees are dormant. This wash will destroy lichens, mosses, etc., and will help to control scale insects and also fungus diseases.

4.—Lime Sulphur Wash

Is used against scale insects on gooseberries and apples. It has little cleansing properties and, with the exception of scale insects, upon which it exerts considerable control, it is not much use as a winter wash. Lime sulphur can be bought ready made from manufacturers.

5.—Tar-Distillate Washes.

During recent years there has appeared on the market a number of carbolineum sprays or tar-distillate washes, which have been considerably advertised as winter washes for fruit trees. Carbokrimp, Chafers No. 1, Ialine Tar Oil and Mortegg are a few names attached to these proprietary brands of tar distillate wash. They are of particular use against leaf curling plum aphis, rosy apple aphis, caterpillar eggs, apple sucker eggs, lichens and mosses. The sprays should be applied at a strength of from 6 per cent. to 10 per cent., and sprayed on as late as possible, but not later than ten days before the buds commence to swell, otherwise serious injury may result from the application. One application is sufficient and this should be given not later than the middle of January. It is desirable to use water that is not too hard, as it prevents a stable milky wash being formed readily.—H. D.

Black Currant Bushes.

THE big bud mite—or the gall mite, as it is sometimes called—does a great deal of damage to the black currant bushes in many gardens. In certain soils the trouble seems to be worse than in others. Cutting down bushes to the ground level is not a permanent remedy. The resultant new shoots will be affected at an early date. Where the "big bud" is very bad, both roots and branches of all bushes affected should be burnt. The holes made during the operation of lifting the bushes should be well dressed with quicklime before the soil is levelled. In the meantime, a new plantation should be formed in another part of the garden. The place selected should be in partial shade, for preference, a north aspect border being very suitable. A heavy, retentive soil is better than a light, sandy one; but sound drainage is essential. I prefer surface liming of the soil of the new plantation directly it is dug or trenched to liming later on. Also, the bushes should be dressed with lime sulphur at least once before the spring. If any bushes are only slightly affected, cut out the branches—do not be content with the mere removal of the big buds found. Dress the bushes with lime-sulphur twice before spring.—CHRISTCHURCH.

Strawberries in Pots.

PLANTS well established in pots for forcing should be carefully examined now as the first batch of plants must be placed under glass without undue delay. Hard forcing is not necessary nor desirable. If subjected to a gentle heat the roots begin to grow steadily, and it is necessary for them to do so, or the crown leaves will not be supported by sufficient nourishment when they are developing and the flower trusses. If the pots can be plunged to their rims in a warm bed of leaves for about ten days before they are placed on shelves in the plant house, new roots will grow rapidly. Attend to the drainage and water carefully always.—HANTS.

Parsley During the Winter.

FRESH parsley is always appreciated. Although the plants thrive splendidly in some soils, it will not do so in others. Where the latter is the case, plants that are not growing satisfactorily should be lifted and re-planted in a cold frame or in new soil in a sheltered border near a wall or fence. When this is done the parsley grows freely in many instances, especially if the roots are firmly planted in old potting soil such as that in which chrysanthemums have been grown. Furthermore, it is advisable to protect parsley during very adverse weather; although frost does not kill the roots it destroys the freshness of the leaves. A temporary protection will do much good.—G. G.

Clean the Winter Greens Now.

OUR climate is variable: one week the weather may be mild, the following week frosty, and again, a third week rainy or foggy. Winter vegetables, subjected to such weather conditions, soon lose a lot of their freshness; it may be that many belonging to the savoy and broccoli families decay badly, too.

Alternate spells of frost and fog cause much decay among savoy plants and even Brussels sprouts. Carefully examine all the greens, remove any leaves that are turning yellow, place them in a heap, sprinkle salt on them and, later on, some soil, adding more leaves as they become unfit to remain on the plants. Savoys and very plump Brussels sprouts often split and then decay sets in. If the decaying edges of the leaves are stripped off in good time whole heads may be saved from actual decay. Celery, too, will decay rapidly after a spell of frost. Examine the leaves and stalks at the soil level and cut off—do not pull or twist, as any bruising in this way means rapid decay again after the stalks are frozen—any leaves and stalks found rotting; then sprinkle a small quantity of dust-dry lime on the tops of the plants. Broccoli rarely decays to any great extent. The tops of parsnips should be examined, and blackening leaf-stems twisted off close to the crowns. If left on the crowns of the roots may rot.—K.

New Varieties of Potatoes Worth Growing.

THE best varieties of potatoes for exhibition are not always the heaviest croppers. Those varieties, as a rule, yield but a poor crop, handsome to look at on the exhibition table, but do not always yield a bumper crop, while the varieties that are chiefly grown for culinary purposes are those which produce a large quantity of ware potatoes fit for the table during the greater part of the year. For instance, the amateur gardener would never think of growing Mr. Bresse, Mauve Queen, Edgecot Purple, Crimson Beauty and Cardinal for utility; they are exhibition potatoes, grown to add colour in a collection. The quality is excellent in every case, but the yield is poor in comparison with some of the newer varieties recently introduced. The number of new varieties that now exist is enormous. This is very evident when we consult the seedsmen's catalogues. No vegetable has been hybridised more than the potato. The newer varieties are all more resistant to blight, produce heavy crops and are without exception immune from wart disease.

The following are a few of the recently introduced varieties which are well worth a trial next year. The name in parentheses is that of the raiser.

Claymore (McInnes).—Introduced last spring by Messrs. Croll, Limited, Dundee. A late maincrop variety which produces large tubers, pebble shaped with shallow eyes set very close together. Flesh and skin white. Sprouts pink. Excellent quality when cooked and keeps well in the pit. The plants are strong, upright in growth, with dark green foliage and a profusion of white flowers. Very resistant to blight, which should make this potato an outstanding variety for garden purposes.

Duke of Perth (Young).—Another of the late maincrop varieties producing beautiful oval shaped tubers with shallow eyes. Flesh and skin white; sprouts blue. A strong grower branching freely above ground. Also an enormous cropper and blight resister.

Glasgow Favourite (Sutton and Sons).—This is an early maincrop, but when boxed and sprouted before planting matures as a second early. The tubers are round to oval in shape with very shallow eyes. Flesh and skin white. Excellent quality when cooked crops and keeps well. Will without doubt become a very popular garden variety. It is not a very tall grower.

Incomer (C. Brown).—Introduced last year by Messrs. Dobbie and Co., Edinburgh. A tall, upright grower, strong, robust habit, with white flowers. Broad oval shaped tubers with shallow eyes. The skin and flesh is white. Excellent flavour when cooked.

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NEW SWEET PEAS (see page 791)

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THE

GARDEN

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THE GARDEN

VOL. XCI.—No. 2923. DECEMBER 10, 1927. PRICE TWOPENCE.

GARDENING—A GREAT FORCE

WE are being constantly reminded of the testimony which has been left on record for our edification, that gardening is the purest of human pleasures. With this we are in full accord, but we submit it is even more than this, it is one of the most health-giving and alluring of hobbies.

Its devotees are ubiquitous, and are to be found among men and women in all walks of life. It knows no politics, recognises few limitations, as wherever land is found that can be cultivated, there gardens arise that combine beauty and utility. It has a freemasonry of its own, yet unfettered by stringent laws, and those once initiated in its cult and becoming enamoured of it seldom desert the order, but remain faithful adherents. It is the *open-sesame* to many a conversation, and has relieved the tedium of more than one long railway journey that would otherwise have been monotonous. More than once it has been responsible for a casual acquaintance ripening into personal friendship because of a talk on some particular plant or flower, or the special culture of a vegetable in which both were deeply interested. Indeed, there is scarcely any popular flower which at one time or another has not drawn gardeners together in the common bond of comradeship. One has only to think of the old society of tulip growers in the north of England, the National Rose and Chrysanthemum Societies, as well as that devoted to dahlias, and of recent origin, comparatively, the Sweet Pea and Gladioli Associations. In all these the members of the fraternity foregather to exhibit their best productions and to chat about them. Gardening has become a great force in the lives of not a few, and every year one can see how the influence continues to spread.

And there is really no finality about gardening, as in some other pursuits that could be mentioned. It is ever urging those who have once joined its ranks and have come under its spell to attempt something greater than they have done before; perhaps to strike out on new lines in the raising of fresh varieties of flowers which have long attracted them. There always remains some task to be done. We cannot say, for instance, when we think we have concluded some bit of work to our liking, "There, that is finished and done with!" As a matter of fact, the work of one day is but the prelude to some other duty in the near future which will demand our attention. We can seldom, if ever, write *finis* to our gardening operations. The ground we clear and dig and manure in the winter waits our sowing and planting in spring, and afterwards the hoeing and weeding and tending each particular crop involves, or the plants we grow, need for their full development.

The ideal gardener must ever be looking towards the future in scheming and planning and attempting work that in its season shall bring its own reward. He it is who has been described "ere one flowery season fades and dies designs the blooming wonders of the next." He it is who attends to the wants of his plants and his garden in season and out of season, under leaden skies when work is not always congenial, as well as in summer sunshine. If he cannot, through lack of space or opportunity, grow all he would like to grow, he learns to limit himself and be content with the culture of some definite subjects rather than attempt many with little success. Spasmodic gardening has no place in his thoughts; he believes in thoroughness, and that there is a time for everything; that if plants are worth growing at all, they are worth growing well!

We all know that in the early years of the war how thousands, who had scarcely handled a spade before, responded to the appeal to grow vegetables, and though when the extreme need passed away many gave up what at first they looked upon as a pressing duty it has to be said that thousands have remained loyal to their plots. Not a few of the tyros of those days who knew little or nothing about vegetable culture have by practice and determination to excel become experts, and have exhibited their produce with success. It was only natural when opportunity came that the cultivation of flowers and fruit should claim their attention, and to-day in the growing army of amateur gardeners there are to be found numbers who specialise in one thing or another. If it could be ascertained why it is that gardening continues to be taken up by fresh enthusiasts every year, we should no doubt find out that there is an impelling force which draws and wooes all sorts and conditions of folk, and such a force is contagious. You see it is abundantly demonstrated in new districts where houses are being erected. To-day the garden, as well as the house, counts, and there is a desire to make it beautiful with flowering plants at the earliest opportunity. And the bulk of the work about these new gardens is not "put out," but is undertaken by the occupiers of the dwellings, one of the healthy signs of a personal interest which will continue to grow as the years pass.

This Week's Work

For Gardens in the South and Midlands.

Prune apples and pears.

Spray fruit trees with winter washes.

Take cuttings of perpetual flowering carnations.

Clear up herbaceous borders and lightly fork over the soil.

Protect delphiniums, pyrethrums and kniphofias with sifted ashes.

Carry out all garden renovations.

Clean and prune vines.

Water bedding plants in frames sparingly and protect them during frosty weather.

This Week's Work

For Garden in Scotland and the North.

Plant hybrid lupins in the flower border.

Top-dress lawns and greens.

Plant lilacs for forcing.

Sow cyclamen seed.

Grow gooseberries and currants from cuttings.

Plant suitable trees for screens or wind-breaks.

Fumigate glass houses infested by aphis.

Complete winter planting of rose trees before Christmas.

Continue propagating Japanese chrysanthemums.

Plant laburnum, rowan and double red or pink thorns.

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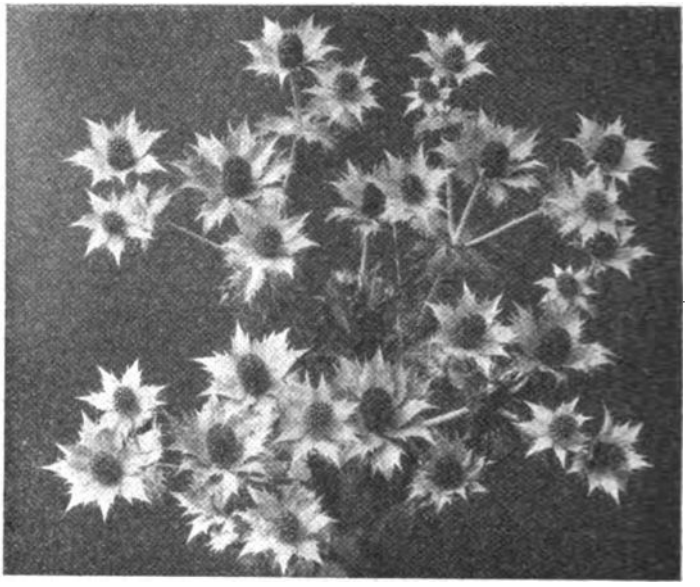
PERENNIAL PLANTS FOR DRY POSITIONS

PERHAPS the most disheartening of all borders is one in a hot, sunny part of the garden, where the soil is probably poor, baked hard in the summer and full of stones and builders' rubble. One often finds such a border at the foot of a house wall facing south, and despairs of ever growing anything satisfactorily under these conditions. It is obvious that the general run of plants will not survive; experiments will prove that the majority of perennial herbaceous plants make puny insignificant growth, and in a year or two fade away altogether. The same thing is true of most of the annuals, though it is true that some, the brilliant orange calendula, for instance, revel under such conditions.

What, then, is the proper treatment for such a border? The obvious answer is to find plants that will stand drought, and use these plants to the exclusion of all other sorts. Before talking about plants, however, it will be well to say a few words about soil preparation. Of course, it is desirable to provide as good a soil as possible, and to this end the ground should be deeply dug and afforded a generous—though not *too* rich—dressing of manure. Even more important in a stony soil is humus, the natural food of plants. This may be provided in the form of rotted leaves, which enrich the soil and at the same time hold moisture for the roots of the plants. Where tall plants are grown, it will be possible to provide a summer mulch of, say, lawn mowings, which will also conserve moisture, though one cannot advise this where small plants are grown, owing to the somewhat unsightly nature of the mulch. A common mistake is to pick out all the stones when digging the border. This is not necessary; the larger ones, of course, may be removed, but stones in themselves hold moisture, and also prevent the soil from becoming caked after copious waterings.

As regards plants to grow, there is no dearth of material; planting may be carried out at the present time, thus ensuring that they shall be well settled in by next summer. Taking the larger plants first, we have Delphinium nudicaule, one of the most striking of the perennial larkspurs. All preconceived notions of this family are upset in this plant, with spikes of clear scarlet blossoms. A deeply dug soil is specially appreciated by this native of California, and it will also respond to an extra dressing of well rotted manure.



THE IVORY THISTLE ERYNGIUM GIGANTEUM IS AN ADMIRABLE PLANT FOR A DRY BORDER.

Among the sea hollies (eryngium) are numbered many attractive plants, all having steely blue flower stems, surmounted by spiked thistle-like blossoms. Some of the most handsome species are alpinum, amethystinum, and giganteum (silver white), one of the finest of all. These flower during the summer months and retain their characteristic iridescent colours over a long period if cut and carefully dried.

It is surprising how neglected are the sun-roses, varieties of our native Helianthemum vulgare. These form low spreading bushes, studded throughout summer with brightly coloured blossoms, which are individually short lived, though produced with reckless prodigality. There are many named sorts to be had, both double and single; *e.g.*, (doubles) roseum multiplex, rose; venustum plenum, crimson; tigrinum plenum, salmon pink; Jubilee, yellow; and album plenum, white; singles are Fireball, red; Yellow Standard; Lemon Queen; oculatum, white; Flambeau, rich rose; and Garibaldi, pink.

Another neglected plant is the Californian fuchsia, Zauschneria californica splendens. Despite a thoroughly alarming name, this plant is of vivid beauty, with long downy leaves, ablaze in autumn with a mass of vivid scarlet trumpet-shaped flowers. Though reputedly of shrubby habit, the shoots usually die down to the ground in autumn, thus affording one a chance of applying to the crown of the plant a winter protection of sharp cinders or light litter.

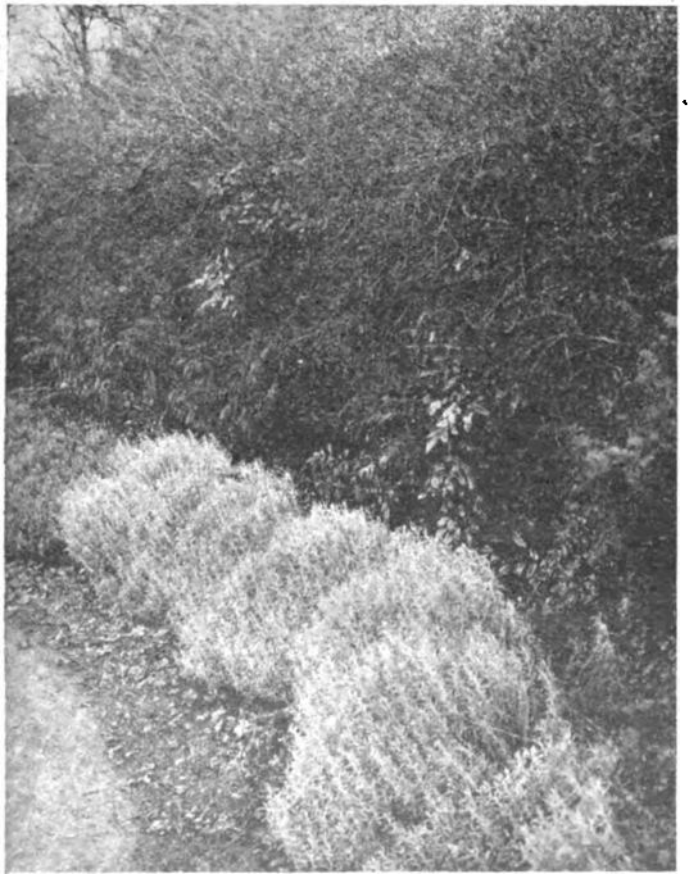
Among the daintiest of all garden flowers are the flaxes, revelling in a dry soil, with which may be admixed a liberal dressing of lime or rubbly mortar. Linum perenne is the commonest form, with a profusion of pale blue flowers throughout the summer months. Finer in every respect, however, is L. narbonense, with larger and richer coloured blossoms, and this should be grown in preference. A white flax is L. p. album, and in L. flavum we have a delightful yellow variety.

A native plant that deserves to be far more widely grown is Malva moschata. This forms a large, bushy plant, each shoot terminating in a cluster of glistening pink mallow flowers. Even more charming is its white variety, M. m. alba, with large clusters of satiny white flowers. It is difficult to understand from whence this plant derived its popular name of "musk mallow" the original species may have been fragrant, but like the modern musk, our garden musk mallow has little or no scent.

Many of the perennial campions will succeed on a dry border, three of the most suitable sorts for the purpose being Lychnis chalcedonica, with compact heads of bright scarlet blossoms during summer; L. viscaria splendens fl. pl., a fine double pink; and alba plena, bearing large double flowers, which are deliciously fragrant.

Though perhaps not particularly showy, the erodiums or heron's bills, are useful, as they flower continuously throughout the summer and have elegantly cut fern-like foliage. The two best for border cultivation are manescavi, purplish red, and macrodenum, pale violet, with darker markings, the latter species being quite dwarf (6ins.).

There is quite a number of evening primroses from which to choose, including some rare and strikingly beautiful sorts. The first of these is Œnothera cæspitosa (or eximia) with large white flowers during July and August. The blossoms are of exquisite fragrance, and produced very freely under favourable conditions. Œ. fruticosa major has deep yellow flowers; while Œ. Wm.



THE SHRUBBY SANTOLINA WITH ITS SILVERY FOLIAGE IS WELL WORTH GROWING AS AN EDGING.

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Cuthbertson is a semi-double variety of much charm. Œ. speciosa, with light sprays of fragrant satiny-white flowers, is a sort that should not be omitted; two trailing species for the front of the border are Œ. macrocarpa, citron yellow; and Œ. taraxacifolia, bearing huge white flowers, changing to a delicate shade of pink as they age.

A shrubby plant that might be included is the French lavender, Santolina incana, with aromatic silver-grey foliage, and small yellow flowers, though the latter are of little decorative value. This shrub may be kept in bounds by clipping it back to the desired height in spring; the closer it is clipped, the denser becomes the growth, and as a consequence the beauty of the plant is much enhanced.

Having disposed of the taller growing plants, there remains a number of dwarf, creeping species, which are useful for edging purposes, or for planting in a very narrow border. Alyssum saxatile compactum is a popular plant, with hoary grey foliage, and masses of bright yellow flowers during spring. A. saxatile fl. pl., double yellow; and A. s. citrinum, lemon yellow, are two pleasing varieties.

Another popular group of plants, the armerias or thrifts, form compact mats of deep green "grass," with tight heads of pink or white blossoms during summer. A collection of the best sorts would include A. cephalotes rubra, rich red; A. cæspitosa, soft rosy pink, extra fine; A. maritima, silvery pink, and its white variety, A. m. alba.

Almost all the pinks may be grown in the border, including the beautiful border pinks, of which the white Mrs. Sinkins may be taken as a typical example. Of true species, Dianthus deltoides, bright pink; D. fragrans, white; and D. cæsius, pale rose, can be recommended.

Allied to the pinks, Saponaria ocymoides splendens is a showy, creeping plant that will succeed well in a dry border. This plant it smothered in bright pink flowers throughout the summer, and is very close and compact in growth, if shingled over with the garden shears during autumn.

Other dwarf plants are Antennaria hyperborea, rosy pink blossoms and thick woolly foliage; arabis, of which the double white form is the finest; and Cerastium tomentosum, with masses of snow white flowers and pretty silvery foliage.

Another method of treating the dry border is to plant entirely with low-growing shrubs, of which may be specially recommended, lavender, santolina and rosemary. Borders planted thus cause the minimum of trouble, and look neat the whole year round, to say nothing of the fine winter foliage effects of the shrubs suggested. B. D. S.

NEW SWEET PEAS

A Selection of Novelties for Garden Decorations. Seeds can be Purchased Now and Sown in February Next Year.

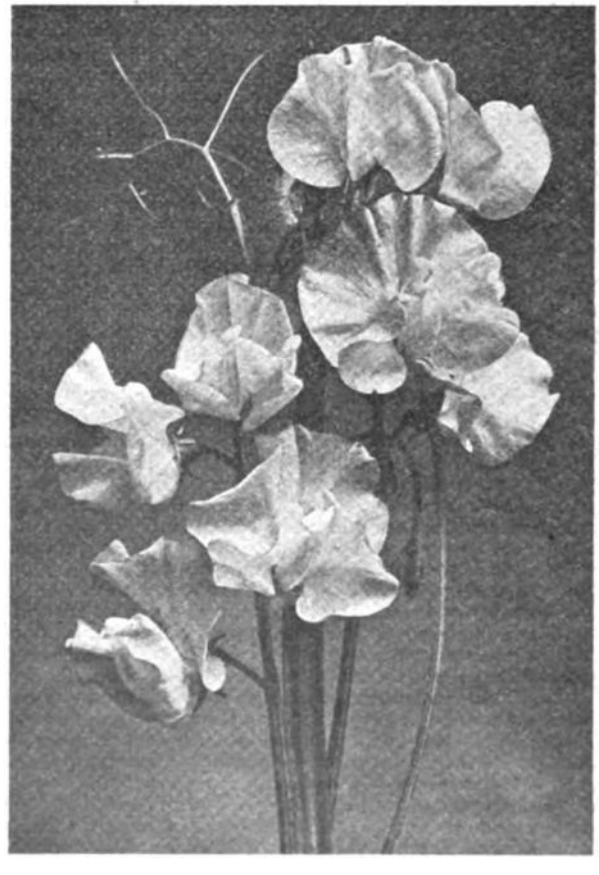
VERY probably greater public interest is taken in new sweet peas than in novelties of any other one flower. The question of cost may be partly responsible, for when one compares their price (usually 1d. or 1½d. per seed) with the cost of a new rose, gladiolus, carnation or dahlia, it is reasonable to surmise that sweet pea novelties are available to a much larger number of growers immediately they are introduced. Even so, initial outlay is not by any means the only reason; demand for novelties is simply an indication of the wonderful popularity of the flower.

Modern sweet peas have reached a high standard of perfection, judging them from the point of view of beauty and general usefulness, and their colour range is very wide indeed; yet we shall undoubtedly obtain more pleasing colour tones as well as many more new shades. Again, there is still ample scope for further improvement in other directions, such as vigour and form. As in every other popular flower, a percentage of novelties fails to become popular and quickly disappear from commerce; some of them may be quite distinct from any other variety, yet they fail to win general approval. On the other hand, among the twenty or thirty new sweet peas which are annually introduced, there are certain to be some which are destined to become popular and to remain favourites until, sooner or later, superseded by better ones.

Here is a list of most of the new sweet peas for 1928, arranged in alphabetical order for convenience. The name of the introducer is given in parenthesis in each instance:

Adorable (Messrs. Atlee Burpee and Co.).—This gives us a new and quite distinct shade in sweet peas. The colour is described by the raisers as a clear salmon cerise on a cream ground, with a suspicion of bronze around the edge of standard and a bronzy-suffused reverse. While neither the flower is as large nor the growth as vigorous as one might wish, the colour is charming and should alone make Adorable one of the most popular of all sweet peas for decorative purposes, both by day and by artificial light. I warmly recommend it as a perfectly distinct and pleasing novelty.

Boy Blue (Thomas Cullen and Sons–Alex. Dickson and Sons).—I saw this pea at the N.S.P.S. 1926 Trials at Twickenham, where it was the winner of the challenge cup for "the Sweet Pea exhibiting the greatest improvement in rich blue colouring until the gentian blue is attained." Nothing is lacking in size of flower, form or habit of growth, and the colour is certainly fine, a deep rich blue somewhat similar to Bluebird. Although I have not had the opportunity of comparing Boy Blue with other mid blues, I believe it will be found an improvement. Really first-class medium blues are few and for colour alone, Sapphire and Heavenly Blue are the best at present, but these have not the size or vigour of the two more popular and better known kinds, Mrs. Tom Jones and Bluebird. One hopes that Boy Blue may combine the best characteristics of the four.



THE BEST NOVELTY IN SWEET PEAS.
The rich cerise pink Mrs. A. Searles.

Brilliant Rose (Atlee Burpee and Co.).—This novelty obtained a certificate of merit at the 1926 Scottish N.S.P.S. Trials. As the name suggests, it is a bright and glowing rose self, distinct from any other variety of its colour. To a large extent, the popularity of this colour-class has diminished as that of the bright cerises and orange cerises has increased, but nevertheless, I feel sure that Brilliant Rose will find many admirers, both among exhibitors and ordinary growers. If it will only retain its brightness when cut, its popularity is assured.

Challenger (R. Bolton and Son).—For a "fancy" coloured variety, this is decidedly pleasing. As exhibited, it appeared to be a cream ground fancy, flushed with a distinct tone of rose, described by the raisers as "a new note of Rose du Barri of a lustrous and lively shade." The broad ivory margin to both standard and wings gives the bunch a very uncommon appearance. The flower is very large indeed, and although I have not seen it growing, I understand nothing is wanting in vigour.

Corona (Thomas Cullen and Son).—This gained a certificate of merit at the 1927 Scottish N.S.P.S. Trials. A very robust-growing pea, with large, perfectly formed flowers placed on long stems. The colour may not be every one's fancy, but for a carmine, Corona is really good and will probably head the carmine colour class. It should make a first-class exhibition variety. The colour is described as richest carmine rose on a glistening, pure white ground.

Dainty Lady (W. J. Unwin).—Of late, Messrs. Unwin have given marked attention to the striped and flaked colour class. They introduced Lady Gay a few years ago, which was a distinct "break" in stripes, and I understand several of their more recent introductions, including three this season, are the result of crosses made with Lady Gay. As the name would suggest, Dainty Lady is a pretty pea, uncommon and pleasing. The ground colour is deep cream, lightly marked and picoteed bright rosy pink. The picotee edge is not the same as one associates with the picotees, Youth, Jean Ireland, etc., but is as well defined as some border carnations. The pink markings do not fade as the flower ages. Dainty Lady makes a very attractive bunch.

Fire King (F. C. Woodcock).—This is a bright orange scarlet, somewhat

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after the same tone of colouring as the older variety Sensation. The raiser describes it as "a brilliant scarlet flame." While, like other varieties in the orange scarlet colour class, it is not sunproof, yet I understand it stands the sun wonderfully well; but for exhibition purposes one would advise growers to adopt the precaution of light shading.

Fluffy Ruffles (Atlee Burpee and Co.).—This is an American variety to which a very glowing description has been given. It is claimed to be the highest achievement yet attained in sweet peas, a new type, duplexed and frilled, in the raisers' words, "the first of the ruffled sweet peas." Apparently the extra frilly standards of the flowers are duplexed and triplexed to a degree not hitherto found in sweet peas. I must hesitate to pass a definite opinion until I have seen it growing. The colour is rich rose pink, slightly suffused salmon on a cream ground.

Freda (J. Stevenson).—A delicately tinted novelty somewhat after the colouring of Dainty Maid and another 1928 novelty, Greta. The colour is white, lightly tinted pink. It has size and vigour in its favour and should become a favourite with those who admire the delicate tones.

Glorious (J. Stevenson).—Another novelty which gained a certificate of merit at the 1927 Scottish N.S.P.S. Trials. Of recent years, an unusually large proportion of cerise shades has been introduced. For a long time the colour "cerise" in sweet peas had been associated with lack of vigour and smallness of flower; now many of the largest and most vigorous of all varieties are to be found in this colour section. Glorious has the same strong constitution as Charming, while its flowers are slightly larger and the colour is a good deal richer; it appeared to me to be even richer than Coralline. I have no hesitation in warmly recommending this pea as first-class for every purpose.

Greta (A. Ireland and Hitchcock).—Another blush pink on a white ground. It is a strong grower with long stems and large flowers, and gained an award of merit at the 1926 N.S.P.S. Trials.

Happiness (Atlee Burpee and Co.).—A charming shade of coral pink on a cream ground. The wings are slightly deeper than the standard, and there is a light suffusion of salmon to the whole. A very pretty decorative pea which one feels confident will meet with general approval; although it may not be found quite large enough in the flower for keen competition, the colouring is attractive.

Harlequin (W. J. Unwin).—Another of the Unwin stripes (see my remarks under *Dainty Lady*). The colouring immediately attracts attention, whether in the bunch or growing on the plant. It is deep cream, heavily marked and picoteed scarlet on the upper side of wings and back of standards, while the front of standards and under side of wings is almost pure cream, wire-edged scarlet. The whole colour effect is most unusual, yet decidedly attractive, and I recommend it to all who wish to grow something quite out of the ordinary run. In vigour and size of flower, Harlequin is well up to exhibition standard.

Hero (C. C. Morse and Co.).—Awarded a certificate of merit at the Scottish 1927 N.S.P.S. Trials. It is almost too near Glorious in colour for both to find a place in the same collection. The raisers claim that it is an entirely new shade of brilliant, clear cerise. Perhaps one can best convey it as a warmer-toned Daventry. It will be found excellent for exhibition purposes and for all decorative work, particularly under artificial light.

Huntsman (E. W. King and Co.).—A clear, vivid scarlet, perfectly sunproof, which was given an award of merit and reserved for the gold medal at the N.S.P.S. 1927 Trials. As seen growing at the Trials, it appeared to be somewhat similar in shade to that vivid-coloured variety 2 LO, introduced by Messrs. King a year or two ago. Most growers admire the bright, decided colours, particularly if they are sunproof, so that the popularity of Huntsman is already assured.

Jack Hobbs (E. W. King and Co.).—A novelty which excited a good deal of favourable comment as exhibited by the raisers this past season. The flowers are very large, exceptionally broad in the standard, frilly and frequently duplexed, while the colour is a charming shade of salmony shell pink on a cream ground. As seen in the bunch, it is very beautiful and quite distinct from any variety in commerce.

Jessie (R. Bolton and Son).—Received an award of merit at the 1926 N.S.P.S. Trials. On referring to my notes made there, I find that the colour impressed me favourably. It is a perfectly distinct shade of salmony china pink on a cream ground. It struck me, too, that the colouring might fade in bright sunshine, but on this point I may be incorrect. It should be given good culture for exhibition purposes.

Jessie Collingridge (W. J. Unwin).—A clear, warm, bright pink, probably best described as cherry pink. It reminds one somewhat of Messrs. Unwin's older variety, Mrs. Horace Wright; but the colour of this novelty is brighter, while it is a self and not flushed like Mrs. Horace Wright. One would place it as midway between the latter variety and Del Monte. Jessie Collingridge is vigorous, large-flowered and should become popular.

Marjorie Stevenson (J. Stevenson).—A rich, deep carmine of a tone not previously found in sweet peas. Like Corona, it will not appeal to all, but has the undoubted merit of distinctiveness, size and vigour. It will undoubtedly find many admirers.

Mrs. A. Searles (R. Bolton and Son).—In my opinion, Messrs. Bolton would be perfectly correct in describing this as the best novelty of the year. I have heard nothing but praise of it from all who have seen it growing or exhibited. It gained a first-class certificate at the N.S.P.S. 1926 trials, a silver medal at the Scottish N.S.P.S. 1926 Trials and the gold medal at the latter 1927 Trials. The colour, as one would expect, is superb, a rich, salmony cerise pink, lighter and much warmer than Charming and perfectly sunproof. It leaves nothing to be desired as far as vigour, size of flower, length of stem and placement are concerned, and will be found excellent for any purpose. It is equally effective when grown out of doors or under glass, and should not be omitted from any first-class collection of varieties.

Mrs. J. B. Hobbs (E. W. King and Co.).—In habit of growth, size and form of flower, this closely resembles Jack Hobbs, but the colouring is described as soft coral pink; it is lighter in tone than the description, perhaps, conveys. An excellent decorative pea.

C. H. A. S.

(To be continued.)

HOW TO PRUNE APPLES AND PEARS

Established trees should now receive their winter pruning.

THE majority of amateurs who grow fruit trees are apt to neglect the systematic pruning of the trees in summer and winter. Such neglect leads to poor crops. If good shapely trees are desired, bearing abundant crops every year, then pruning, both in the summer and in the winter, must be attended to with every care.

Both the apple and pear produce their fruit buds for the greater part on spurs, though some fruit buds are found as axillary buds on shoots of one year's growth, as terminal buds on short, whippy growths of the same age and as terminal buds on leading shoots. The tendency to produce fruit buds at the tips of whippy growths and as lateral buds on one year's growths is more marked in some varieties than in others, so that a knowledge of the habit of fruiting of a particular variety is very essential to the successful pruning of that variety.

In this article it is assumed that the tree to be pruned has attained its required size and shape and we are only concerned with the pruning of the established tree, for this process varies considerably from the pruning of a young tree, where the development of a well balanced framework for the subsequent bearing of fruit is of primary importance, whereas in the pruning of the established tree we are concerned only with the maintainance of growth and the production of fruiting spurs.

It is as well to point out here that the pruning given in winter will in no way affect the character of the buds present, *i.e.*, change leaf buds into fruit buds or *vice versa*, in the ensuing season. Fruit bud differentiation takes place in summer and therefore at winter pruning we cannot change the character of our bud. Winter pruning regulates the number of fruit buds on a tree, thus preventing overcrowding, acting as a preliminary thinning, enables long spurs to be shortened, and worn out spurs to be removed with the minimum amount of risk to the tree. It is to a large degree restrictive and must be carried out in relation to the differentiation of fruit buds the following summer. Thus, when one states the primary object of winter pruning is the production of fruit buds, one refers to fruit buds which will bear fruit eighteen to twenty-one months hence.

It is necessary to be able to distinguish between fruit buds and leaf buds when pruning. The former are round and plump, while the latter are usually narrow and pointed, with the exception of terminal leaf buds, which are often round, but can be distinguished from fruit buds by being more pointed at the apex, fruit buds being typically blunt.

As a preliminary procedure to all pruning proper, the first operation should be the removal of dead or decayed growths, crossing or rubbing branches and the thinning out of overcrowding growths. The pruning of established trees resolves itself into two classes of treatment (1) the treatment of one year old growths, (2) the treatment of spurs.

One year old growths may be again subdivided into (*a*) leaders, (*b*) lateral growths. Leading growths should be just tipped to cause the buds on the lower portions to break. If weak growing, they may be cut back one half. Laterals required for extension purposes should be treated as leaders. Other laterals should be cut back to two to five buds, according to the variety to induce the formation of spurs subsequently, or if they are very vigorous, removed entirely. Short, whippy growths bearing fruit buds at their tips may be left unpruned.

Spurs, generally speaking, require no pruning, but in the case of a spur which has grown too long, it may be cut back hard, leaving one twig bearing a bud to carry on development. When pruning leaders always cut to a bud pointing in the direction you wish the shoot to develop. Generally speaking, prune spreading varieties to an inside bud, upright growing varieties to an outside bud. The cut should be as near horizontal as possible and not long and slanting.

Apples.—Varieties producing fruit on one year old wood:—Lane's Prince Albert, Early Victoria, Stirling Castle, Grenadier, Gladstone and Worcester Pearmain. Varieties producing fruit at the end of twiggy lateral growths: Worcester Pearmain and Allington Pippin. Lane's Prince Albert and Stirling Castle are examples of trees with a spreading habit;

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prune to an inside bud. Worcester Pearmain has an upright habit.

Pears.—Vigorous growers: Beurre d'Amanlis, Clapp's Favourite, Marguerite Marillat. Medium growers: Dr. Jules Guyot, Louise Bonne de Jersey, Doyenne du Comice.

Weak growers: Emile d' Heyst, Marie Louise d' Uccle. Most pears will bear a few fruit buds on one year old growths. The fruit buds of the pear are even more readily distinguished by their shape and size than those of the apple. H. D.

PYRETHRUMS for the EARLY SUMMER BORDER

These are Among the Most Decorative of Our Early Summer Border Flowers.

THE pyrethrum is truly worthy of the many praises bestowed upon it, for it is without doubt Queen of the Border during the late spring months. Not only this, but it is also invaluable for cutting, possessing the three greatest merits for this purpose—long life, long stem and wide range of colouring. To these advantages may be added the wonderful grace of the flowers, the singles in particular, and the beautiful "feathering" of the flower-stems.

As regards the plant itself, it is perfectly hardy, a sure "doer," and one that will thrive in almost any soil. It has its preferences, of course, and one would advise, as a counsel of perfection, a rich well drained soil, a sunny, sheltered spot, and abundance of moisture during the summer months. Under these circumstances perfect results should be obtained, so these are the conditions to be aimed at as far as possible. At the same time, in ordinary soils, enriched, of course, with well rotted manure, very fine flowers are obtained, even in a slightly shady position. One thing, however, heavy clay soils are anathema to pyrethrums, and such should be lightened by the addition of vegetable matter, strawy manure, or even coarse cinders or gravel sand.

The question of obtaining stock resolves itself into this: Pyrethrums are easily raised from seed, but out of a large number of seedlings probably very few will prove themselves worthy of retention. On the other hand, named sorts, though comparatively expensive, are true pedigree flowers, and taking into consideration the time and labour spent upon seedlings, it is probably cheaper in the long run to start with named varieties. Pyrethrums are also increased by division of the roots in spring, and, of course, this is the manner by which all choice sorts are propagated. As a matter of fact, it is very desirable that all clumps be divided after three years' growth, even if no increase of stock be desired, for they soon form large stools, and produce such a wealth of blossom that quality is sacrificed for quantity. There is a practice among growers of this plant to cut down the old flower-stems immediately the blossoms have faded, and by feeding and constant watering to encourage a second crop of blossom in the autumn. Whether this is a good plan or no it is hard to say. The secondary crop I consider is rarely of any great decorative value, and also comes when there is a glut of flowers in most gardens, while such feeding must undoubtedly have a detrimental effect on the following season's display. There is one very important point in the cultivation of pyrethrums which I find I have omitted, namely, that of staking. Carelessness in this respect will lead to much disappointment, for the long-stemmed blossoms are sadly bent and draggled by wind or heavy rain, and in this state are more of an eyesore than a decoration in the garden. Three canes should be provided to each clump, bands of raffia tied round these affording the necessary support, and at the same time not destroying the natural grace and beauty of the subject under consideration.

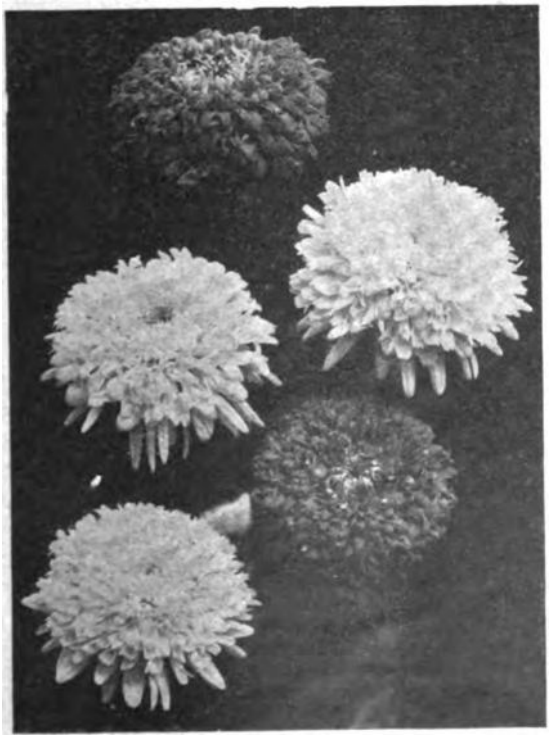
When planting pyrethrums for border decoration, they should be placed in clumps of three or five—unless the border be very narrow—allowing a space of 12 to 15ins. between the individual plants. Where they are grown in a plot for cut flowers, a proportionately greater space should be left between the rows to allow of hoeing and other general details of cultivation, as well as to give one space to get among the plants when cutting.

There are two types of pyrethrums, double and single, and it is purely a matter of personal taste as to which is considered the best. I prefer the singles as being of greater elegance, but it cannot be gainsaid that a really good double is a magnificent flower, and will last much longer in water than a single.

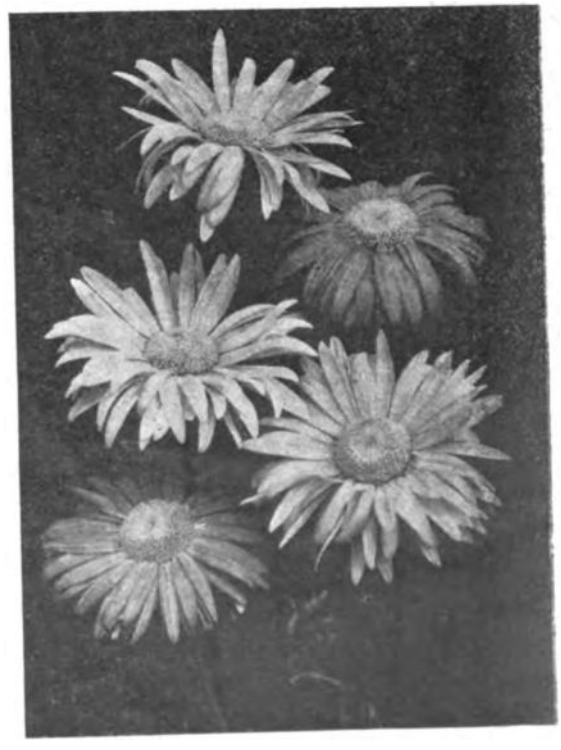
Among the single forms, the new Eileen May Robinson must take pride of place. It is indisputably the finest pink, bearing large flowers of a bright rich pink shade, and is, moreover, a vigorous-growing sort. Previous to this Agnes Mary Kelway was considered the best pink, and it is still a variety to be reckoned with. A real pure white is somewhat of a rarity among the singles, but in White Lady the want is satisfied, and Snow White and Starlight can also be recommended in this class. Perhaps the most gorgeous of all pyrethrums is James Kelway, with splendid scarlet crimson blossoms, the petals having a wonderful velvety texture. Two others of strikingly brilliant colouring are Langport Scarlet and General Gaselee, the latter being the more suitable for general planting. In varying shades of pink are Apollyon, a persistent bloomer; Lord Milner, Pinkie and Hamlet. One of the best late-flowering sorts is General French, with rich telling maroon-crimson flowers; while three exceptionally early varieties are Comet, bright carmine; Mrs. Bateman Brown, rich purple crimson; and Princess of Wales, of a lovely flesh pink colour.

Coming to the double varieties, Queen Mary is one of the leading sorts in this section, very free to flower and bearing salmon-pink flowers. Mont Blanc is another free-flowering sort, with white flowers, as also have Aphrodite and La Neige. The earliest of all whites is Carl Vogt, with extra large and pure white blossoms. With brightly coloured flowers, Capt. Nares, bright crimson; Lord Rosebery, scarlet; J. N. Twerdy, deep maroon; and Melton, deep crimson, are all sure to find favour, while others will be found in a good trade list.

Two singles which represent a distinct and very attractive break in their class are Kenneth Kelway, rose pink; and Mrs. James Kelway, bright pink, both having the curiously twisted "cactus" petals that have rendered so popular certain types of dahlia and cineraria. B.



A SELECTION OF DOUBLE-FLOWERED VARIETIES INCLUDING THE DEEP MAROON J. N. TWERDY.



THE SINGLE-FLOWERED VARIETIES WITH THEIR BRIGHT COLOURS ARE FULL OF GRACE AND CHARM.

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THE BUSY MAN'S PAGE

Ferns for Room Decoration.

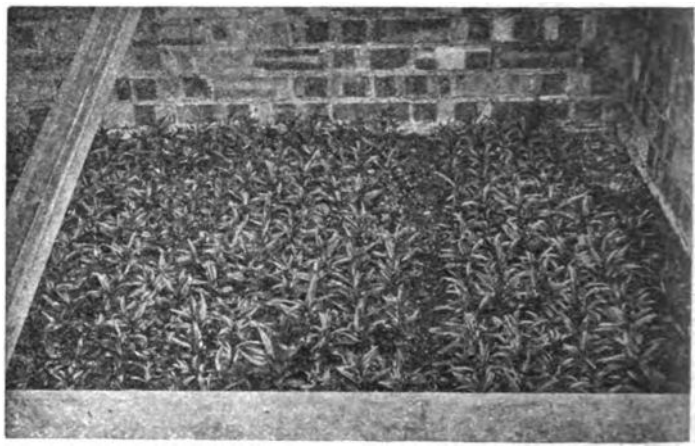
WELL grown ferns in pots are undoubtedly attractive and decorative, and people are tempted to adopt them for the embellishment of rooms and halls inside the house. Not all are a success, as every grower of ferns can guess, but many of the sturdy, robust kinds do exceedingly well under the trying circumstances. For example, the ribbon ferns or pteris kinds can be first-class table plants, and they do not deteriorate if treated on commonsense lines; the species cretica and some of its varieties, like Wimsetti, Childsii and so on are really fine, while the other species tremula and serrulata also do very well. The popular maidenhair ferns are not, as a rule, satisfactory, although Adiantum Mariesi has frequently been quite satisfactory. Asplenium bulbiferum and the hardy Cyrtomium Fortunei may be grown in pots or baskets inside, and even the robust Polypodium cristatum and P. aureum become really decorative inside a drawing room or entrance hall. In baskets Platycerium alcicorne, the stag's horn, and Davallia canariense, the hare's foot, prove interesting and attractive, and to complete the dozen we might add Asplenium Frizelli or one of the fine scolopendriums.

Overhauling the Garden Frame.

THE time of the year is close upon us when it will be necessary to consider utilising garden frames for winter; and in the meantime it is well to take stock of them, see what repairs (if any) are needed, and let the work have attention.

Exposed to all weather, frames ought to be overhauled at least once a year, and those not on a brick foundation receive a coat or two of paint at least every other year.

There is nothing lost in keeping frames well painted. Where glass has become broken, repairs will require to be made good and possibly puttying will be necessary to make water-tight other squares of glass. Too often one notices, where the box holding the lights is constructed of wood, that it is placed on the ground, and, unless kept well painted with good oil paint, rot soon sets in. One may lengthen the life of a frame considerably by placing the framework on a layer of bricks, or—if procurable — sleepers, the latter being given, every two years or so, a thorough dressing of carbolineum or similar mixture made from tar, which is a good preservative in which insect pests cannot live. If the frame is simply used for wintering plants in pots, all that will be needed after painting will be to renew the bed of ashes for them to stand on. If, on the other hand, it is intended to plant cuttings in a bed within the frame and the present soil has been there some time, it may be in that state commonly called "sour." In these circumstances it will be best to remove it and substitute fresh material as, for instance, loam and sand, with possibly leaf-mould added, according to what needs to be put in. The glass itself should be thoroughly cleansed from grime, so that it will not impede light. Work of this description undertaken now is better than deferring it to the last moment.



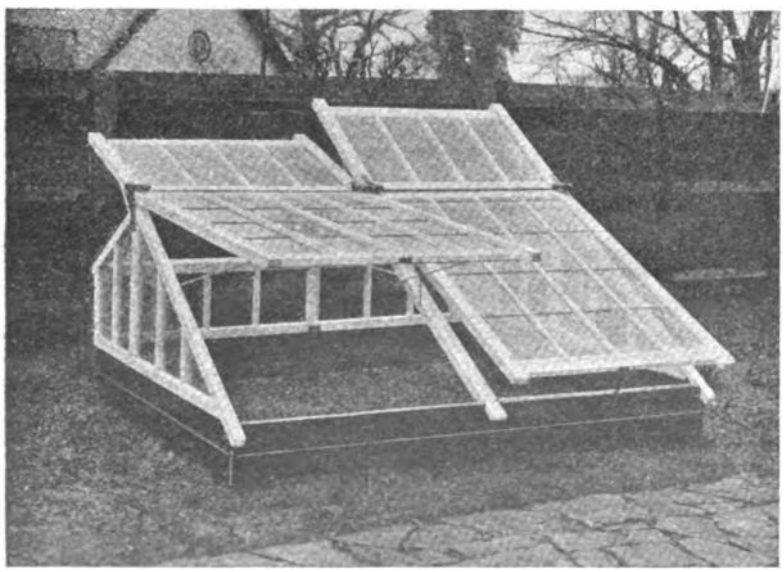
PROTECTION SHOULD BE GIVEN TO BEDDING PLANTS IN FRAMES.

A Useful Material for many Garden Purposes.

SAND is essential in the garden for lightening and draining soils. In pots or boxes sand keeps the soil in a compact state (a point of great importance where cuttings are concerned), and yet renders it porous enough for drainage. Another thing that sand does is to prevent the contact of cuttings or the roots of tender plants with fermenting material or strong manures in the soil. Sand always makes a heavy loam lighter and brings it into a better state for practically all kinds of plants. For pot-work silver or white sand is generally favoured, and this should be used in as coarse a condition as possible. Very fine sand is useful as a surface for cutting pots, but it is not good for mixing with the soil, as it tends to check free drainage. Clean road grit is a coarse quality of sand, and this is extremely useful for working into land that is on the heavy side. River and coast sand may also be used, though the latter should first of all be washed and exposed to the weather to get rid of the salt. Red sand contains too much iron to make it suitable for potting purposes, but by repeated washings it may be freed of the excess. When most of the red colouring has gone, the sand will prove as useful as any other kind.

Destroying Colt's Foot.

PROBABLY the most troublesome of all weeds to eradicate from a garden is the colt's foot (Tussilago Farfara). The rootstocks of this plant branch below the surface of the ground and extend to a considerable depth. It is practically impossible to uproot the colt's foot by ordinary digging and trenching, and to dig up the plants entirely would involve a prodigious amount of labour. By far the best plan is to keep on hoeing out the shoots of the plant whenever these appear. Quite the best time to do this is in the spring when the flowers are out and before they have actually started to set seed. In this way the trouble arising from the scattering of the seeds will be avoided and, if the hoeing is done with vigour, many of the leaf-buds on the rootstock just below the surface will be damaged, and possibly destroyed. Repeated hoeing down of the leaves, and not only in the spring but also in the latter part of the year, will so weaken the plants that they will eventually die out altogether.



A USEFUL FRAME FOR WINTERING TENDER PLANTS.

Petunias: Fine Window Plants.

ONE of the best window plants is the petunia, which makes a fine show in pot or box. The seed may be purchased next month and sown thinly on a nice even surface in a well drained, shallow box filled firmly with fine sandy soil in February or March. Cover the seeds lightly with sand. Water and place in a close frame near the glass, or place inside the window and cover with a sheet of glass or paper. Give air when the seedlings appear. When the third leaf has formed, the seedlings will be ready to prick into small pots. When the plants have filled the pots with roots they may be shifted into larger pots. They may be grown in a cold frame or window in a room, and hardened off as gradually as possible towards the end of May. They will be ready to plant into the outside window boxes in the opening week of June. Water as required to keep the plants in growth or bloom. The flowering period extends to about the end of September.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Rose Planting.

THE gardener's adage, "Plant when the sap is on the move," is a good guide for all hard-wooded plants. November and December are the ideal months for rose planting. The roots have then time to become established, and the pruning can be done at the correct season—the following spring.

How to Plant.

It pays to spend a little time in preparing the soil. Just to cut a hole in hard soil is to invite disaster. Roses must have plenty of root run. A hole should be made where the rose is to be planted. The under layer should then be well broken up, and lime and decayed manure (leaves or any decomposed organic substance will do) worked into the soil. This should be covered with a little fine soil, and the hole is then ready for the plant.

Place the rose in position, and carefully cut away any broken or bruised roots with a sharp knife. Spread out the roots well, and cover them with soil. The depth to plant can be seen by the previous soil mark.

Clay Soil Suitable.

I am often asked if clay soil is good for roses. It is quite good—that is if the land is well drained and the soil well dug before the planting is done. The finest roses I ever saw—at Latham Hall, in Lancashire—were growing in a stiff clay soil. The essential thing is that it should be well dug, for in this, as in many other things, it is the spade work that counts.

These hints on planting apply to all roses, but in the case of standard roses, a strong stake, standing the same height as the main stem, is necessary. The stake should be put in before the roots are covered, and a little extra treading to firm the soil after planting is advisable. Standard roses are excellent for small gardens, as they allow many other plants to be grown beneath them—for example, pansies, alyssum, etc.

Choice of Plants.

Varieties of roses become more and more numerous, and it is not easy to advise which to grow. There are actually more than a hundred different species, but only a few have entered into the parentage of our garden types. Even among those under cultivation, there is a world of difference between some that are good show types, and those suitable for the amateur's garden. You might choose one such as "Dainty Bess" on the show table, and perhaps you would find it had a "fit of sulks" in your own garden. It is far better to select only kinds that are fairly sure to succeed, especially if you have a town or suburban garden, and some which will give satisfaction, even under such conditions, are these:—

Climbing Roses.—Excelsa (red), Albéric Barbier (creamy white), Dorothy Perkins (pink), Gloire de Dijon (yellow salmon), American Pillar (pink), Blush Rambler (blush) and Hiawatha (crimson).

Bedding Roses.—General McArthur (crimson), Ophelia (flesh pink), Mme. Abel Chatenay (salmon), Sunburst (yellow), caroline Testout (pink), F. K. Druschki (white).

Fragrant Roses.—Mrs. J. Laing (rosy pink), La France (silvery rose), Hugh Dickson (crimson), George Dickson (crimson).

Winter Protection.

Tea and hybrid roses are sometimes injured by the frost, particularly in the north of England and Scotland. A few evergreen twigs, bracken, or strawy litter placed round the stems during severe weather will prevent this damage. No pruning should be done until spring.

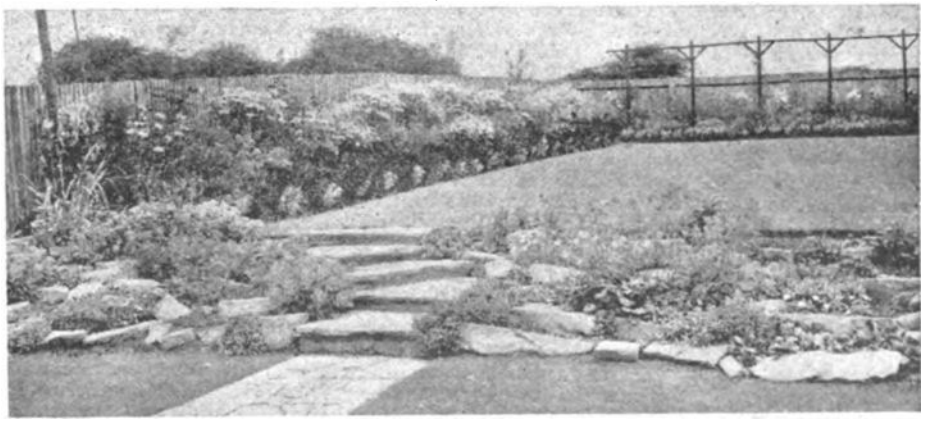
DECEMBER in the TOWN GARDEN.

WHAT TO DO THIS MONTH.

1.—*Clear tops from herbaceous borders, and fork over the soil.*
2.—*Roll lawns occasionally.*
3.—*Examine bulbs in store, such as begonias, gladioli and dahlias. Remove unsound specimens.*
4.—*Put a handful of fine ashes over the crowns of delphiniums.*
5.—*Pyrethrums to protect from slugs.*
6.—*Prune and nail wall trees.*
7.—*Spray fruit trees with caustic wash (caustic soda at the rate of 1lb. to 10 gallons of water).*
8.—*Burn any twigs or leaves attacked by fungoid diseases.*
9.—*Keep grease bands sticky.*
10.—*Draw a little soil around young cabbages.*
11.—*Complete earthing-up celery and leeks.*
12.—*Examine onions, potatoes, etc., in store.*
13.—*Lift parsnips and Jerusalem artichokes as required.*
14.—*Cut down asparagus tops, and top-dress beds with manure.*
15.—*Overhaul tools, and grease blades of lawn mower.*
16.—*Sharpen pea and bean sticks.*
17.—*Prepare labels for seed sowing in spring.*
18.—*Wash the glass of cold frames and greenhouses, using a disinfectant soap.*
19.—*All garden structural alterations should be completed.*
20.—*Order seed and plant catalogues. (Advertised goods are best.)*

Novel Steps.

THE treatment of a garden with different levels calls for much ingenuity on the part of the designer. Nothing is better suited for retaining a bank than this form of rockery. In the example illustrated, the steps are given a twist to the left, as a change from the usual. The feature is quite in keeping with a garden used solely for pleasure; but between, say, two large stretches of lawn, the straightforward type of steps would be more suitable. Now is the best time for effecting changes in the structure of the garden, and especially for constructing rockeries which need to settle down before being planted in spring.



A LOW ROCKERY RETAINING BANK USED TO ADVANTAGE TO BREAK THE LEVELS IN THE DIFFERENT PARTS OF THE GARDEN.
The steps, giving a twist to the left, are a pleasant feature of the bank.

Flower Pots, New and Old.

FLOWER pots vary in size from 2ins to 22ins. in diameter, and in depth from 2ins. to 18ins. Convenient sizes for the small greenhouse are 3½ins. in diameter, known as 60's in the trade; 5ins. in diameter, known as 48's; 7ins. in diameter, known as 28's; and 10ins. in diameter, known as 12's. Of course, there are sizes in between these. New pots should always be soaked in water and then allowed to dry before use; otherwise the roots cling to the sides and cause trouble when it is desired to knock the plant out of the pot.

Old pots can be used again and again, but they must be washed and dried each time before use. Broken pots should be kept in a box for use as drainage crocks. They are ideal for this purpose, because of their concave shape. Drainage is simple, effected by placing a large piece of crock, concave side downwards, over the hole, a number of smaller pieces being placed over this.

Home Grown Vegetables.

IN these days when vegetables form so large a part of our diet, it seems strange to reflect how modern their introduction is. Practically no branch of horticulture was known to the ancient Britons, but the Roman settlers began very soon to plant vineyards and orchards, and also corn of various kinds. But apart from fruits and herbs, little garden produce was available for food, even as late as Elizabethan times. Vegetables of all kinds are now grown to perfection in gardens, commercial and private, all over the country, and modern cooks would find it extremely difficult to devise a palatable meal without their aid.

It is still a fact, however, that many owners of small vegetable plots do not get the best from them. They grow a little, but it is often inferior in quality to that sold in shops, and in quantity it is by no means all that could be desired. This is due in many cases to hurried gardening. That is to say, the amateur gardener does not realise always that importance of autumn digging. He leaves the soil untouched until springtime, then forks it over and sows his seed. Soil so neglected is unfit to produce good crops. *Now* is the time to begin, and as soon as the present season's crops have been harvested, the plot should be well dug.

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NOTES ON THE FLOWER GARDEN

A Rock Plant for Indoors or Outside.

Saxifraga Cotyledon.

IN this silvery rockfoil we have a plant admirably suited for both the large and small rock garden, and also it is a splendid subject for pots in the cool greenhouse. It forms large rosettes of silvery-margined leaves, and these send up plume-like flower stems a foot or more in length, with numerous white flowers free from dots which move with the slightest breeze. There are several fine varieties of S. Cotyledon, the one best known being pyramidalis, which produces giant pyramids of branched stems and white flowers which are freely speckled with light crimson or nearly rose colour.

Icelandica is also a giant form, which bears large and handsome plumes. In nepalensis we have a variety with the flowers more densely spotted with red; and, although there are other forms, there is very little difference between them if judged from the garden standpoint.

THE GIANT FORM OF SAXIFRAGA COTYLEDON KNOWN AS ICELANDICA, A ROCK PLANT FOR INDOORS OR OUTSIDE.

S. Cotyledon and its varieties require a sunny position on the rock garden, and they seem to thrive best in a crevice or chink in the rocks; but there must be a deep root-run behind, otherwise the plants will fail to give the best results. The situation should be well drained, and if the plants are set out similarly to ramondias, water will readily fall away from the foliage, then they are less likely to damp off during a spell of wet weather. A suitable rooting medium consists of gritty loam to which is added a liberal sprinkling of sifted lime or old mortar rubble.

When planting care should be taken to well pack the soil around the roots, and where the fissures are narrow small offsets are chosen in preference to larger specimens. —B.

The Value of Leaf-Soil.

THE heavy and continued rain during late autumn brought many leaves down before their time. The gardener should take care of these to prepare leaf-mould, useful for many purposes. Those who possess a greenhouse of the most humble proportions cannot do without leaf-soil for the potting compost. In the garden it is useful for heavy soil, mulching and enriching the land in many ways. But we are concerned at present with making and preserving it. Its uses will be made apparent later. The gardener with plenty of space just makes a pile in some out-of-the-way corner and allows the leaves to decay. The amateur with little space must make other arrangements. A good plan is to put stakes in the ground—say in a square of 1 cub. yd. Round the posts fasten some fine mesh wire netting. The leaves are collected and piled in the square thus made. As they accumulate they are made firm by treading, and when the space is filled a covering of turf is put on the top. Leaves decay much quicker when kept wet. In order to keep the leaves moist it is a good plan to put a layer of good cow-manure on top of the leaves before the turf. Many gardeners, I know, are very suspicious of leaf-soil on account of the many pests to be found in the pile. To get over this, sprinkle lime between each layer of leaves, or use Sanitas powder.

Oak, beech, elm, hawthorn or any small leaves of hardwood trees make good leaf-mould. Chestnut and sycamore are good enough, but take a long time to convert into useful material, on account of the long stems. Holly, ivy, and laurel are too leathery, and some, together with the foliage of pine and yew, contain poisonous properties harmful to plants.

The mould will be of little use for potting soil until the following autumn, but may be used in spring in place of farmyard manure for many purposes.

For making potting composts the longer the leaves are kept the better the material will be. To be of real use it must be thoroughly rotted. To obtain supplies more quickly many place oak leaves in tubs making the mass quite firm, and on top of this slops from the house, manure water, etc., are poured from time to time. Before using, the soil is passed through a ½in. riddle, after removing rubbish, bits of stick, etc. It has been my experience to find many kinds (almost every kind) of pests in this substance and, after passing the leaf through the riddle I make several holes in the pile and pour boiling water into them. Alternative plans are to bake the soil in the oven, first placing it in a bucket, or to pour formalin solution over the pile in the manner already described. Whatever is done against pests, the amateur cannot afford to be without this material for his greenhouse. Whenever you read instructions for potting the ingredients always include leaf-mould; therefore, when the opportunity presents itself, collect all the fallen leaves you can accommodate and save them.—T. H. H.

The Prostrate Rosemary.

Rosmarinus prostratus.

THIS is one of the most precious of all rock garden shrubs. Its native home being the cliffs of the Isle of Capri, it is essentially a rock dweller, and few other shrubs denote their adaptability to conditions of the kind in such a charming and unmistakable manner as this little rosemary. That is to say, it hugs the rock with its prostrate branches, following the irregularities of the surface with the tenacity of ivy. Its foliage, which is a brighter green than that of the ordinary rosemary, is cheerful at all seasons; but when, in spring, it is almost hidden beneath the fragrant pale lavender blue blossoms, the effect is singularly lovely. Plants in warm, sheltered gardens will often be in partial bloom the winter through, thus accompanying their compatriot, Lithospermum rosmarinifolium, which also comes from Capri.

While there is no doubt that the prostrate rosemary is more tender than the common type, it will stand 20° of frost without serious injury; but it must have a free, stony soil and all the sun our skies can afford. There is this much to be said about the tenderness of this little rosemary: if it is more liable to get frost-bitten than the bigger bush, it is, obviously, more easily protected. All that is necessary when there is any risk of frost is a light covering, a bough of spruce, for example, and the shrub is of such a lowly growth that this only needs to be laid upon it. Wherefore, even though the prostrate rosemary may be a little tender many should be able to winter it successfully where hardier things suffer. But it must have a poor, gritty, dry root-run. This delightful shrub is a fast grower, small pot plants soon covering several square feet. It is easily propagated by short cuttings of the current year's wood. These should be taken in August, potted firmly in very sandy loam and struck in a closed frame.—J.

Unusual Ornamental Hedges.

WHERE a hedge has to serve the purpose of a fence, the choice of plants is largely restricted to those which will give a dense growth. In some parts of the garden a hedge is, to a large extent, more of an ornamental feature than anything else, and here one may select the subjects from a wider field. For instance, a couple of excellent plants for the informal hedge are Berberis stenophylla and B. Darwinii. These form pretty bushes and flower with the greatest freedom; in fact, when well established, it is a common thing to find flowers on these barberries almost throughout the year. Pruning should be carried out after the chief flowering time, which is in May, and should consist in the shortening of the over-vigorous shoots. In the south and west of England, and also on many coast positions, Escallonia macrantha forms a fine evergreen hedge which grows to a height of 5ft. or 6ft. and stands clipping well. Fuchsia Riccartoni is a species which has proved to be very hardy even in many parts of Scotland, and this plant forms a most attractive hedge. In fairly mild localities any of the following fuchsias might be tried, as all are extremely beautiful: F. coccinea, F. corallina, F. globosa and F. gracilis. The common tamarisk (Tamarix gallica) is a most beautiful subject for forming a hedge, especially in light, sandy soils. The idea that the tamarisk is only a success near the sea is not correct; one of the best tamarisk hedges which the writer ever saw was at a place situated at least fifty miles from the coast. T. parviflora and T. tetrandra are also good for the making of hedges. Tamarisk

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should always be planted when small so as to give the specimens a good chance of getting a roothold. Euonymus japonicus is often planted in coast localities where it will usually grow quite well even in exposed positions. If clipped, a fairly dense hedge can be secured. A very pretty and original hedge can be formed with the daisy bush (Olearia Haastii), a plant which grows to the height of 3ft. or 4ft. and flowers profusely in the summer. Then, for something out of the ordinary, one might try a rose hedge, those kinds which are particularly suitable being the rugosa and sweet briar groups. For quite low hedges of an informal nature lavender and rosemary can hardly be equalled, as the fragrance of their leaf and flower add much to their value. In the south and west, and also in coast localities elsewhere, Hydrangea hortensis and the vigorous shrubby veronicas will make excellent hedges.—L. B.

The Potato Tree for Wall Decoration.

Solanum crispum.

THIS is one of the prettiest of the smaller trees which deserves to be more widely grown. The Potato Tree, to give the plant its popular name, is the only ornamental solanum hardy enough for the open air. In the south and in any coast districts the tree may be grown without any protection at all, but in colder localities it is safest when given the shelter of a wall. When fully grown the potato tree will attain the height of 12ft. to 16ft. It does not seem to object to a position that is somewhat shaded by taller trees, and it is an excellent plant to introduce into a mixed shrubbery. In late summer the potato tree bears large clusters of fine purple blue flowers, and these are succeeded when the conditions are good by small whitish berries. When the potato tree is grown against a wall, a south—or, at any rate, a western—aspect should be chosen. In such positions rather a vigorous pruning in the autumn is to be recommended, especially in a cold district. The idea is to keep the growth of the tree as close to the wall as possible where the shoots will not be damaged by frost. When the potato tree is grown in the open, no pruning is needed, as it will develop as a graceful little standard specimen which is most attractive.

A Useful Erodium.

SO many of the erodiums are rather fastidious subjects where the winters are wet that it was good to meet one which is not only permanent under very trying conditions, but quite hardy and content with border treatment. This is E. pelargonifolium, and as it was given to me with the reputation of having thrived for years in a town garden of London clay, it was put without ceremony in a mixed border. There it has fully carried out all that was expected of it, and more, for it sows its own seed and thus supplies an annual crop of seedlings. E. pelargonifolium has rather pointed heart-shaped leaves with scalloped margins and these, like the rest of the plant, are covered with silvery hairs. It is one of the earliest subjects in the border to come into bloom, the large white flowers with rosy flecks and veins appearing in March and making a brave show until near midsummer. The plants are then cut back, and as often as not we get another more moderate show of flowers in autumn. Seed is freely ripened, and this affords the best means of increase. Although this erodium is undoubtedly an easy and good doer under most conditions, I should give it a free, gritty soil and full sun.—A. T. J.

AN ATTRACTIVE ERODIUM FOR THE ROCKERY, E. PELARGONIFOLIUM.

The Mediterranean Cress and its Propagation.

Morisia hypogæa.

THIS dainty alpine with its rosettes of carpet habit, deeply indented leaves and bright yellow flowers, is now ready for propagation. On lifting the plants, there will be found beneath the leaves the long seed pods tapering into the ground, but usually it is inadvisable to propagate from seed.

By far the best way is to increase by root cuttings. Carefully shake all the soil from the immense tap-roots and cut them off close to the plant, being sure to leave the smaller roots for the plant's future nourishment. Each root may then be divided into six or eight pieces, according to its length and inserted in silver sand, there to be thoroughly moist until rooted, *i.e.*, until the crowns shoot.

Most people insert the cuttings vertically when care is taken that the tops are uppermost. To obviate this chance of the cuttings being upside-down, I lay them horizontally and just cover with sand. A little more trouble in watering is necessary to make sure the sand never dries out. Usually something like 100 per cent. of these cuttings root. Pot up in a gritty loam.

The plant is one of the earliest of hardy rock plants to flower and blooms continuously from March until May.—W. S. M.

Chrysanthemum Pests and Diseases.

GREENFLY, which is often troublesome to chrysanthemum growers, may be treated with tobacco powder. The powder is simply scattered on the affected parts, as required. When the plants are under glass the best way of dealing with greenfly is to fumigate or vaporise the house on a quiet evening. Take care to open the ventilators early on the following morning. In the case of black fly use tobacco powder or tobacco juice, prepared according to the directions which are supplied with it. A good way is to dip the affected shoots right into the solution. Earwigs will, at times, do much damage to chrysanthemums, and the best method of fighting this pest is by trapping. Hollow

A DAINTY ROSETTE OF MORISIA HYPOGÆA.

bean stalks may be placed among the plants or anything in which the insects would be likely to lurk. Examine the traps often and remove and kill the earwigs. Large numbers of earwigs can often be caught by hand, especially just after sunset. Use a good lamp and go quietly from plant to plant. The leaf-mining grub is a bad pest at times. Here the only way is to examine the leaves and, where the grub is seen, to crush it between the fingers. As a prevention it is an excellent plan to spray the plants once a fortnight with a solution of paraffin at the rate of one wineglassful to a gallon of water. This will help to keep other pests in check as well. The little creatures known as "jumpers" should be caught by hand. These are very easily captured after they have made one jump. Caterpillars of any kind are also hand-picked, and the best time for the hunt is during the evening.

Rust, mildew and black spot on leaves are the most likely diseases to affect chrysanthemums. In the case of rust the best remedy is sulphide of potassium. Syringe all parts with a solution at the rate of half an ounce to a gallon of rainwater. With badly affected plants it is well to dip the shoots right into the solution as far as this is possible. Mildew is treated with flowers of sulphur, either in powder form or in solution with lime and soft soap. When the powder is used, this is simply scattered on the affected parts. The solution is prepared in this way. Put four ounces of soft soap in two quarts of water; boil for twenty minutes and then add two ounces of sulphur and two ounces of lime, boiling for ten minutes more. Use a wineglassful to one gallon of water, and with this solution syringe the plants. Remember that a common cause of mildew in chrysanthemums is a cold, damp atmosphere both before and after the plants are housed. Keep the air in the house dry, using a little fire heat, if possible, and, in any case, giving adequate ventilation. Black spot on the leaves of chrysanthemums is likely to appear when the plants have too much moisture at the roots: there is no doubt that the use of strong fertilisers also tends to aggravate this evil. Keep the soil on the dry side and, in a bad case, allow it to dry up altogether for a day or so until the plants are obviously beginning to suffer from want of water. As a rule this will check the development of black spot and in many cases the trouble vanishes completely.—B.

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SOME ATTRACTIVE ROSE SPECIES

This article is the last of the series on roses by Mr. G. M. Taylor. We feel sure they have been much appreciated by all readers, and we hope that they have combined interest with instruction and been serviceable to all.

ALTHOUGH a great many of the species of Rosa are only of botanical interest, there are many, on the other hand, which are particularly handsome, and they rank among the choicest of flowering shrubs. Several species flower early in the rose season, and some of these are notable for their attractive and beautiful blossoms. Some of them, again, are equally attractive in the autumn with their vivid fruits and the varying tints of their foliage. The modern rose garden is, perhaps, not the place for many of the species about to be dealt with, but they are very useful for all places where flowering shrubs find a place. What flowering shrub can rival a well grown plant of Rosa Moyesii? Few, indeed, are so showy in flower, fruit and foliage. This beautiful Chinese species can attain a height of 6ft. or more, and its flowers are a shade of deep, rich red that is exceedingly difficult to describe. Their boss of golden stamens in the centre of each blossom, and the powdery pollen diffused over each petal, is very lovely. And in the autumn, too, the distinctive fruits of this rose have a peculiar beauty. Their vivid colour and quaint shape compel attention. One must be careful, however, to make sure that they obtain R. Moyesii true. There are several spurious and worthless forms in cultivation. The variety of this species named Fargesii is a long way behind the type in the colour of its flowers, but its salvation is its fruiting beauty in the fall. As R. Moyesii is equally fine in that respect, I consider that nobody need waste time in growing R. Fargesii.

R. hispida, sometimes known as R. lutescens, is a very favourite species of mine. It flowers very early in the season, and the fairly large blossoms remind one of sulphur yellow anemones. It is one of the Pimpinellifoliæ section and has the characteristic foliage of that old-world type and, also, the black fruits in autumn. This fine species will make a bush 5ft. high and as many feet through. R. Hugonis, of much later introduction, is much better known and more popular than R. hispida. Hugonis is notable for its long arching branches laden with golden blossoms in June, and its foliage is very graceful. R. hispida comes into flower somewhat earlier and, I think, is by far the more beautiful of the two. There is room for both. R. xanthina is another yellow beauty which, like hispida and Hugonis, may be classified in the Pimpinellifoliæ, or spinosissima, section. The growth of R. xanthina resembles that of the Austrian briars, but it has been my experience that it flowers more freely than they do. The colour is a soft golden yellow, and the flowers are produced in long wreaths. It will make a bush 6ft. or more in height. A semi-double form of this species is in commerce, but it altogether lacks the grace and effectiveness of the type.

Before passing from the Pimpinellifoliæ roses, the type plant, R. spinosissima, is worthy of notice. Its large white flowers are very exquisite, but they are very ephemeral. Nevertheless, in a proper place, it is very pretty when in flower. It has the typical black fruits of the class in autumn, and under cultivation will make a bush 3ft. in height. On the sand dunes on the coast of East Lothian it only grows about a foot in height. There is a glorified form of this species known as R. altaica, or spinosissima maxima. It is a most delightful species, with its wreaths of white blossoms succeeded by the typical black fruits of the section in autumn.

R. alba, the single of the old and worthy double white Cottage Garden Rose, deserves notice for its density of blossom early in the rose year coupled with its fragrance. In autumn the bushes—I have them 8ft. high—are laden with scarlet fruits. R. moschata alba, sometimes offered under the names of R. nivea and R. villosa, makes a bush 8ft. to 9ft. high and as much through, and is also a fragrant white beauty. The flowers, about 3ins. across, are pure white tinted on the edges of the petals with delicate pink. R. lucida alba is a white form of R. lucida. The latter is quite a pretty species of moderate growth with distinctive glossy foliage, and the bright red flowers are succeeded by highly coloured fruits in due season. This is a striking rose in autumn, when the brilliant fruits contrast with the purple-like foliage of the bush.

R. sericea pteracantha is only of interest for its large translucent spines, which have a certain decorative value. The colour of these is very bright, but the flowers are poor things. There is a very large variation in the sericea type, and it may be that some good forms will be discovered among the selections recently sent home from China One of these which came to me under the name of R. Omiensis, has the characteristic spines of R. sericea pteracantha, but the flowers are yellow. The flowers of the true form of R. Omiensis are white. The foliage of both forms is very dainty. The last, but not the least beautiful, I shall mention among the white roses is R. macrantha. It has very pretty, large, pure white flowers with a bunch of yellow stamens in the centre of each. The flowers are carried on long trailing shoots. This species makes a very lovely standard.

R. macrophylla is well worthy of a trial by all who are interested in the rose species. It is distinct in foliage and in flower, and is a very strong grower when it finds a suitable environment. The colour is clear rose, and this is also a heavy fruiting rose in autumn. R. Virginiana var. Woodsii is worth growing for its deeply coloured rose flowers, and it takes on a strikingly ornamental colour upon its foliage in the autumn. R. rubiginosa, the sweet briar, deserves a place for its abundantly sweet foliage, but as this is generally raised from seed it varies exceedingly both in the fragrant foliage and the colour of the flowers. I have seen a form from the Continent named R. rubiginosa magnifica that has larger flowers than the type and the foliage is very sweet. R. Nuttaliana is one of the finest among the species, and it makes a large bush. The long shoots of this bush are smothered with pale rose-coloured flowers, and it is actually one of the sweetest of all roses. In autumn it is laden with bright coral hips.

R. Willmottiæ has become popular through its foliage being so much in evidence for decorative association with the flowers of such hybrid teas as Mme. Butterfly and others. The little pink flowers of this species have a beauty of their own, and so, too, have the orange red fruits in the autumn. During a visit to Wisley this summer I saw several species from China that struck me as very valuable from their foliage aspect. Many were extremely pretty and seemed to me to be far in advance of R. Willmottiæ.

Of dwarf-growing species I like R. foliolosa. This little gem has very dainty foliage and pretty rich rose flowers. It only attains a height of about a foot and is a nice species for the rock garden. I have grown R. indica very successfully in the rock garden. It is interesting as the parent of the tea roses, and it is owing to its influence that we now possess so many charming roses in our gardens to-day. The colour is crimson and I have found it to be quite hardy. I have had a similar experience with the rare little R. berberifolia var. Hardyi. Its quaint yellow flowers with their brownish blotch are very pretty and are an asset to the rock garden. Another charming little rose for the rock garden is R. spinosissima var. Brightness. It only attains a height of about 6ins. or so, and its flowers, fairly large for such a small plant, are a rich shade of rose. Another little beauty which I have on the rock garden is R. Burgundiaca, the old Burgundy rose. It has small, very double fragrant flowers of a

A DECORATIVE BUSH OF ROSA MOSCHATA. THIS BUSH IS TEN FEET ACROSS.

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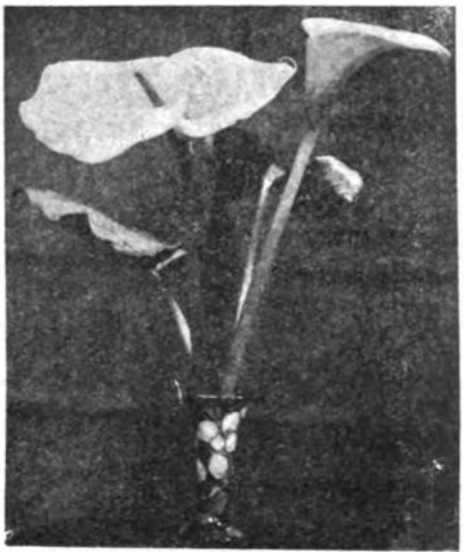
deep red colour. R. nitida is good for the rock garden or for growing as a dwarf bush in the garden proper. The flowers are a crimson rose in colour and they are followed by scarlet red fruits and brilliant red foliage in the autumn. The stems are attractive through their thick clothing of red spines. R. Rouletti is probably the dwarfest of all. It is a small growing species with pretty little pink blooms. A sheltered pocket in the rock garden is the proper position for it.



AN ARUM LILY OF UNUSUAL SIZE.

WHAT OUR READERS SAY

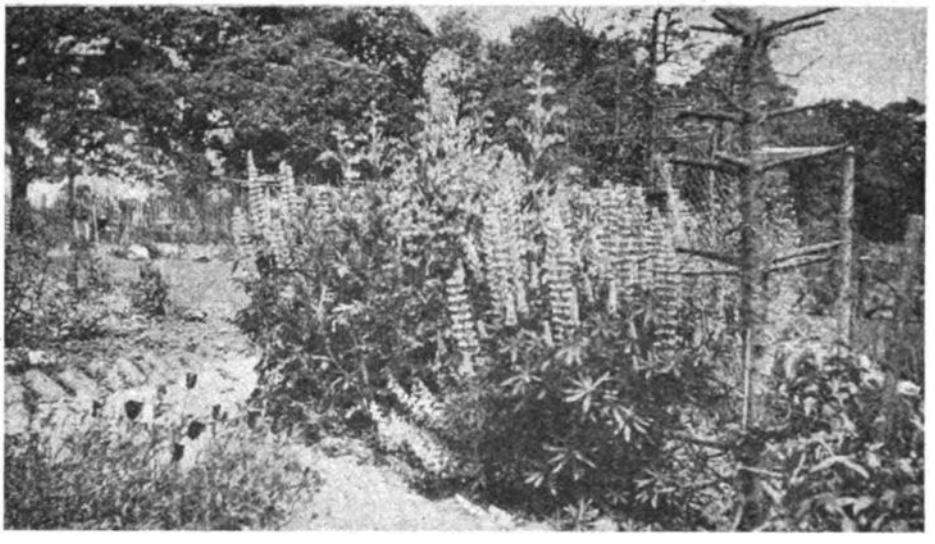
TWO EFFECTIVE BORDERS.

SIR,—I enclose herewith two illustrations of my garden, which I hope will be of interest to your readers.

The first shows a border running alongside the house, and this charming effect was obtained by mixing a 6d. packet of Shirley poppy seeds together with a 6d. packet of night-scented stock, while the bed in the foreground was sown with another 6d. packet of pink eschscholtzia.

The second depicts a clump of blue, pink and coffee-coloured lupins, catmint, Shirley poppy and Dropmore anchusa; and in respect of this picture I would mention that the lupins were quite a "surprise packet," as I emptied the soil from various seed boxes on this particular spot.

I find THE GARDEN of great assistance in my gardening duties. ALBERT H. SWINSCOE, *Cuffley*.



LUPINS AND SHIRLEY POPPIES CAN BE USED WITH GREAT EFFECT IN THE BORDER.

DIFFICULTIES WITH ROSES.

SIR,—Referring to "A. S.," Cheam, in your issue of November 19th, as I live in the neighbourhood and with the same soil and subsoil, would like to suggest that the reason of failure with him is overmanuring in preparing border. I planted fifty roses four years ago without any manure, and you could hardly wish for better plants, blooming right through the season, and even to-day (November 17) I have picked a handful of buds which I am sure will open in water. The bed also contains eight climbing roses, one of which (Mermaid) is in full flower now.—W. G. HART, *Ewell*.

A UNIQUE ARUM LILY.

SIR,—Enclosed is an illustration of an arum lily grown at "Luksland," near Ivybridge, which I hope will prove of interest to your readers. This is the *second* flower from the bulb or corm this season, and is about twice normal size, as can be seen when compared with the flower on the right in the illustration. The plants have all been grown on the cool system.—E. S. MOYSEY, *Devon*.

A BED OF ESCHSCHOLTZIAS.

SEFTON WONDER POTATO.

SIR,—I notice in a recent issue of THE GARDEN a record of the weights of the above, grown by four competitors in various parts of the country—presumably the prize-winners—a most satisfactory yield from single roots and, of course, special treatment.

Ordinarily grown, it possesses three essentials of a first-rate potato: a heavy cropper of clean, even tubers; an excellent cooker; and has a splendid flavour. I have no knowledge of its pedigree, but have an idea that there is some of the old Village Blacksmith as well as Golden Wonder blood in it, inheriting the rough, russetty skin from the former and its flavour from the latter. Be that as it may, it is a real good potato, well deserving of extended cultivation.—J. R., *Merioneth*.

FRUIT TREE PLANTING.

SIR,—As a regular reader of your valuable paper, it is a matter of constant surprise to me that in regard to the "Planting of Fruit Trees," directions for which appear frequently at this season, no reference is ever made to the remarkable work of Spencer Pickering and the Duke of Bedford in this connection. Their experiments in planting were, as you know, carried on for a number of years with very large numbers of a variety of fruit trees, including besides apples, pears and plums, also cherries, apricots, peaches, nectarines, damsons, gooseberries and raspberries and currants.

The particular aspect of their work which it appears to me ought to be emphasised, was that in regard to the beneficial effects of what they term careless or rough planting, and, more particularly still, the ramming of the trees into the ground, *i.e.*, planting in gatepost fashion, rather than the mere firm planting constantly advised. In the experiments in question the beneficial effects of this hard ramming were most marked, both in regard to growth and subsequent fruiting.

One great advantage this method offers in a climate like ours is that the condition of the soil at planting time need not be considered; indeed, as they say, it is preferable that it should be in a wet condition, rather than dry.

To all who would desire to pursue this matter further, I would recommend them to read Chapter IV of "Science and Fruit Growing," by the Duke of Bedford and Spencer Pickering.—A. A. MEGGITT, *Bridport*.

COOL GREENHOUSE PLANTS.

SIR,—To be on the safe side, the beginner is generally advised to buy plants that are really hardy and would do equally well outdoors in their season. For those who want to venture on something choicer, I venture to give a list of plants that are flourishing in a little glass-house, 10ft. by 10ft., a lean-to, glazed with Vita glass and heated by a Meet-All stove (no pipes): Bougainvillea Mrs. Butt, Brugmansias Knightii, stephanotis, Gardenia florida, Daphne indica rubra, oleanders, etc., in addition to the usual heliotrope, geranium, bulbs, etc. Temperature 60° Fahr., rising to 70° in sun and falling to 50° on frosty nights.—S. I. K., *Barnstable*.

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NURSERIES OF THE BRITISH ISLES.—XIV

MESSRS. DOBBIE AND COMPANY OF EDINBURGH.

HOW MESSRS. DOBBIE'S GROW SWEET PEAS AT THEIR GROUND IN ESSEX.

THE progress that has taken place in the world of horticulture in the past half century is reflected in a more or less degree in the history of the well known firm of Messrs. Dobbie and Co. From comparatively small beginnings the business has developed until it now occupies a prominent place in the front rank in the seed and nursery trades of the country, a position that testifies to the value of the personal element as an asset in such an enterprise. From the inception of the concern until the present day, it has been controlled by practical men, experienced in all the ramifications of the industry and who are prompted by the ambition to raise improved strains of flowers and vegetables and produce new varieties that show an advance on those already in commerce. The unsought evidence of customers at home and abroad; the catalogues published at various seasons of the year and the interest taken by the public in the impressive floral displays staged at the leading exhibitions, alike testify to the success which has been attained in that direction.

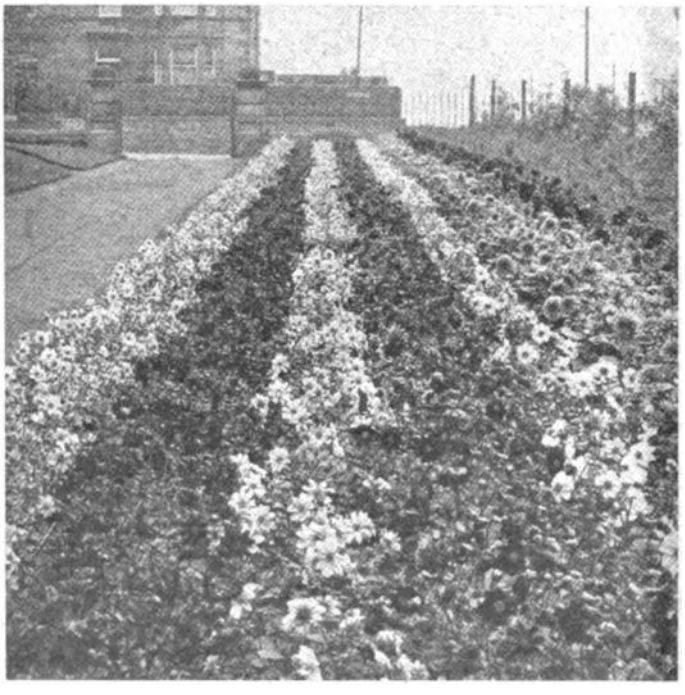
Dobbie's business was established over sixty years ago in the west of Scotland by the late Mr. James Dobbie, who had made a remarkable reputation as a successful amateur. In these early days he grew his own special seeds and that helped him to maintain his front rank position as a competitor. It was the inquiries for these seeds that prompted the idea of becoming a seed merchant. He was offered an appointment on the staff of one of the London houses as a selector, but preferred to continue in his own small way as a grower. Mr. Michael Cuthbertson was Mr. Dobbie's grower for a number of years before he started business on his own account. He was a clever cultivator of herbaceous and alpine plants and retired from business many years ago. It was while Mr. Michael Cuthbertson was in Mr. Dobbie's service that he introduced his cousin, Mr. William Cuthbertson to Mr. Dobbie. The latter went into Mr. Dobbie's employment in 1880 and served him for some years. In 1886 he arranged to take over the business and when in the following year the project materialised, Mr. Cuthbertson was joined by Mr. Robert Fife, and these two gentlemen have been at the head of the concern ever since.

For thirty years they had as a partner the late Mr. Archibald M. Burnie, whom Mr. Cuthbertson persuaded to give up banking to join Messrs. Dobbie and Co., and Mr. Cuthbertson says it was the best day's work he ever did, because "the firm never had five minutes worry over finance after a banker was called in to look after that side of the business." How different it would be in many a business to-day if the practical men could be relieved of the worry of finance. After Mr. Burnie's death in 1923, Mr. William Fife and Mr. David C. Cuthbertson joined the Board of Directors and they with the original partners, Mr. William Cuthbertson and Mr. Robert Fife, now form the directorate.

The progress of the company since coming to Edinburgh in 1910 is known to all British horticulturists. Marks Tey, where the seed farms are situated, has become a familiar name. For many years Mr. Andrew Ireland was manager, but was succeeded by Mr. Donald Allan in 1919, and since then progress has been accelerated. Mr. Allan has tackled many new subjects successfully and has fully maintained Dobbie's good reputation for sweet peas and other specialities. Mr. Allan has now nearly 200 acres under his control in Essex. He is well supported by an excellent staff and encouraged by Mr. Cuthbertson, senr., who makes fortnightly visits to the farm.

As everybody knows, Mr. Robert Fife is a great expert and authority on the culture of dahlias, roses and other florists' flowers, and the nurseries at Edinburgh are under his charge. Mr. William Fife is associated with Mr. James B. Macfie in the seed department, and Mr. David Cuthbertson is responsible for the seed potato department, which has made rapid development in recent years. He has an excellent manager in the person of Mr. Chas. Brown, who has made his mark as a raiser. The secretaries of the Company are Mr. Norman Macpherson, S.S.C., and Mr. John W. Fife, the former taking the responsibility of all Board meetings, etc., while Mr. Fife has no light task in controlling the large inside office staff. Mr. William Cuthbertson has an unbroken forty years record as Chairman of the Company.

The handsome warehouses and offices at Edinburgh, which are a landmark on the Portobello Road, occupy a series of buildings four floors in height, with a frontage of 240ft. The adjoining nurseries occupy an area of some 30 acres, but as buildings are rapidly encroaching on the site, fresh nursery land is being looked for. Like the offices and warehouses, the glasshouses occupy freehold land extending to 3 acres.



A BORDER OF DAHLIAS AT THE ENTRANCE TO THEIR NURSERIES IN EDINBURGH.

But what of the floral products—the dahlias, roses, pansies violas and other popular subjects with which the name of Dobbie is so closely associated. In the dahlia houses over 200,000 specimens are raised annually from cuttings, and in autumn 4 acres of plants in bloom provide a magnificent colour picture which fascinates the visitor. Every known type is represented in that glorious collection, and the old favourites mingle with the latest novelties and seedlings. The collarette class, with which the Company has been very closely identified, was prominent this year by reason of its vast numbers and the attractive character of the newer introductions. Trossacks distributed in the spring is an advance in the white section, and Pitlochry, also sent out this year, has a distinctive collar, which stands out from the petals more prominently than any other variety. Dunottar (1926), vermilion scarlet, is very bright and free flowering. Glorioso, orange scarlet, is probably unequalled for brilliance of colour, while Rona, white with bands of crimson, maintains its good name as an exhibition flower, and Blair Athol commands admiration.

A big break of the Coltness Gem types testifies to their popularity. It may not be

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A BATCH OF CINERARIAS IN ONE OF THEIR GREENHOUSES.

generally known that the original member of the dwarf bedding group was raised by the late Mr. William Hepburn, head gardener at Coltness, from a packet of seed supplied by Messrs. Dobbie and Co., and in recent years they have added several meritorious sorts, of which Dinkie, yellow; Peter Pan, cardinal red; and Moonbeam, sulphur flushed and edged pink, are typical examples. Other notable varieties grown at Edinburgh are Harburgh Gem, which might be described as an improved Paisley Gem, whose defect is variability of colour, and Lady Eileen, a lovely pink form with crimson disc, that is not only effective as a bedder, but makes a beautiful vase for room decoration.

Among the peony-flowered varieties, Dazzle was outstanding, the flowers of this brilliant scarlet are carried well above the foliage on long 18in. stems, while Lucina was conspicuous for its charming colour combination of apricot buff, suffused tangerine passing to reddish salmon. The decorative and pompon classes contained many choice examples and there was evidence that the old exhibition dahlia is coming into its own again.

Roses are grown in hundreds of thousands and that part of the nursery which overlooks the Firth of Forth is the mecca of rosarians from near and far in summer. The firm have a number of promising seedlings, and three new varieties, raised by the well known member of their staff, Mr. George M. Taylor: Duchess of Atholl, Elizabeth of York, Mrs. Fred H. Howard, Mrs. Wm. Fife and Trilby are in popular demand for garden decoration. The latter is a rival to Mme. Abel Chatenay, while Mrs. Howard is regarded as an improved Mme. Ravary.

It is however chiefly in the raising of sweet peas that Messrs. Dobbie have attained their present success and world-wide fame. Their unique record of thirty gold medals awarded by the Royal Horticultural Society, and twenty-eight similar awards by the National Sweet Pea Society, is unequalled by any other firm which specialises in the popular annual. Every seedsman's catalogue bears testimony to their enterprise during the past quarter of a century. From the days of Jessie Cuthbertson, first shown in 1902, Dobbie has been in the front rank as distributors of new sweet peas. Examples such as George Shawyer, Mrs. Tom Jones, Royal Scot, Majestic Cream, Mrs. Cuthbertson, Grenadier and many others are familiar to every grower.

Nearly 100,000 early-flowering chrysanthemums are sold every year and an acre of frames provides pansies, violas and other hardy bedding subjects. Then there are antirrhinums, marigolds and gladioli and the firm's special strains of vegetables, which are known throughout the world of horticulture, but these are only a few leading lines selected from the hundreds of items handled in an up-to-date seed and nursery business.

SHRUBS FOR FORCING FOR EARLY BLOOM

A LARGE number of shrubs can be used for greenhouse work in the winter and early spring, and they are splendid things to fill up gaps in the succession of flowers, for with a very moderate heat they can be brought into bloom in a few weeks. Forcing, using the term in the old-fashioned sense, is a thing that most shrubs resent, but they will answer well to a genial temperature of 50 to 55 degrees at night, rising about 10 degrees in the daytime, or still more with sunshine. The shrubs are equally useful when grown in a cool or cold greenhouse, but under such treatment they will be much longer coming into bloom.

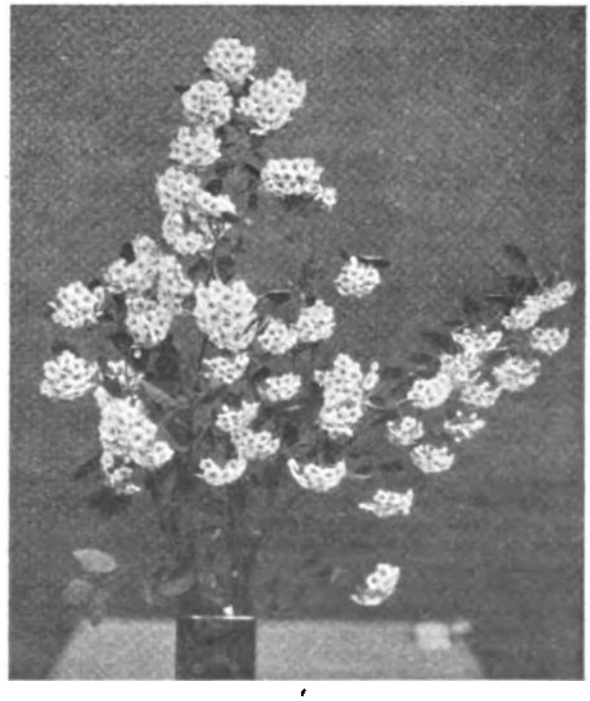
All shrubs used for this purpose should be specially prepared, but with good management and the requisite knowledge, it is easily possible to prepare them at home. This work consists of producing dwarf bushy plants well set with flower buds, and young enough to fit into comparatively small pots. When deciduous shrubs are being got ready for pot work, they should be cut back severely the previous winter or spring, and grown along strongly with plenty of light and room, so as to produce long, well ripened shoots that will flower well.

The majority of them can be planted out and almost take care of themselves during the summer, and not potted up until autumn or winter. Some few things, especially lilacs, are better prepared when grown in pots, for the growth is sturdier, ripens better, and the shrub can be brought into the greenhouse without any root disturbance. But when they are grown this way the pots should be plunged in the ground, reducing the need for watering to a minimum during the summer.

The shrubs should be taken into the greenhouse a few at a time, so as to keep up a long succession of bloom. It is desirable to reproduce as far as possible the spring conditions under which these things naturally come into bloom. Spraying with tepid water in the morning, or when closing the ventilators for the day, will make up for vernal showers that help the swelling buds so freely. They also need plenty of water at the root, but not enough to keep the soil in a sodden state. If pots are small and the soil is crowded with roots, moderate feeding is desirable, but it should not be commenced until the shrubs are making active growth.

When the shrubs are hurriedly forced, so as to be in time to fill up a gap, they should not be moved to a cool conservatory or to a living room straight away, but be given two or three days in an intermediate temperature. It is, in fact, far better for the plants if they are moved into a cooler house immediately the first buds begin to open.

Azaleas of the mollis, Ghent and japonica sections are among the most useful pot shrubs for indoor work, but they can only be produced at home under good experience and favourable conditions. Continental plants come into the market cheaply in early winter, and will bloom well the first season. After blooming and being duly hardened, it is best to plant them out, and they can be used again in pots when they



FLOWERING SPRAYS OF SPIRÆA CONFUSA.
A good shrub for forcing for early flower.

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prove to be well set with buds in the autumn. In gardens where azaleas naturally do well, it is an advantage to have a good stock in the open ground, and if there is space for them indoors, large bushes 3ft. or 4ft. high will bear forcing quite well.

Rhododendrons are somewhat a luxury for pot work, but a few will give very great pleasure and the plants can be used year after year if they are plunged in a cool, semi-shaded place outside during the summer. For this work it is best to use natural species, for they are dwarfer and more interesting than the large garden hybrids.

My own chief favourite for forcing is Spiræa confusa, sometimes known as S. media. This can easily be produced at home, for it grows freely from cuttings or can be layered. The little bushes should be run on until they are about 18ins. high, then pruned down to half their height in spring, and generously treated during the summer. The result by the next autumn will be a good bush from 2ft. to 3ft. in height, that will be like miniature hawthorns when in bloom. All the spring-flowering spiræas can be used for pot work, but none of them is so useful as the foregoing.

The ordinary white Deutzia gracilis and Genista fragrans, are such general favourites that they hardly need mention. The genista will often bloom for four or five months continuously, and though not so lasting in character the deutzia can be easily brought into bloom from January onwards.

When there is space to indulge in large subjects, anything belonging to the flowering cherry group (cerasus), the ornamental crabs (pyrus), and the flowering plums (prunus), can be used with delightful effect. When these can be gently brought into bloom in February or March they are well furnished with tender green, in addition to their flowers, and they give a delightful foretaste of spring under glass. Many of these grow rather tall, but others can be grown in neat bush form. One of the most pleasing is the double white plum, Prunus sinensis. This I have found quite easy to root from cuttings made out of young growths, and the plants flowered well when about 2ft. high in 6in. pots. The dainty shades of red, rose and pink to be found in these three families are very pleasing.

Another thing worthy of special attention is Choisya ternata, the Mexican orange flower. It is a very pleasing evergreen, even without its scented flowers, and it will bloom well while in quite a small state.

Other things worth growing, if space permits, are almond, andromeda, cytisus, clethra, kalmia, laurustinus, staphelia, viburnum, weigela, etc. In selecting varieties it is necessary to have those that naturally flower somewhat early in the year.

There need be no fear of loss or waste, because if the shrubs are slowly hardened after they have done flowering, they will be useful for putting in the shrubberies; and in most cases by planting them out in a nursery bed and resting them for one or two years, they will again become useful for flowering in pots. When the forcing is very slight, simply a forestalling of the natural spring, the shrubs can be used every year successively until they get too large for the purpose.

T. H. W.

FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

"O F a' the airts the wind can blaw" the north and the east are the most welcome in winter to owners of heavy garden soils which has continued more or less sodden after a wet spell of weather and interrupted seasonable outdoor work in many districts. Conditions, however, improved towards the end of November, and the drying influence of the cold winds has favoured the planting of fruit trees and bushes, roses and shrubs, and has enabled gardeners to overtake tidying-up operations in the herbaceous border. The bulb planting season is practically over and amateurs are now turning their attention to the many odd jobs which constitute the routine of the horticulturist's calendar during the rapidly shortening December days.

The absence of privacy and protection is a defect common to housing scheme gardens throughout the country, and the problem that is puzzling many occupants to-day is the provision of tall shrubs or quick-growing trees which will serve the purpose of screens or wind-breaks. The slender wooden paling or fence averaging about 4ft. high is neither useful nor ornamental, and, from a utility point of view, is a poor substitute for a wall. It affords no protection to plant life in stormy weather and renders difficult the control of marauding bipeds and quadrupeds. Such conditions are not encouraging to the cultivation of fruit and probably explain the absence of the popular apple tree and gooseberry bush in so many new gardens. Being beginners, a large proportion of housing scheme gardeners are inexperienced, and they naturally look for guidance in such matters. According to Mr. Littlemore, "a garden is not a garden unless it is walled," but that is an extreme view which, if admitted, would make it extremely difficult to define thousands and thousands of wall-less gardens in our midst Many a lovely country garden is enclosed by a hedge, and for present purposes there is no better method that I can think of that will form a suitable dividing line between adjoining housing scheme gardens, and the cost could be shared on the mutual wall principle. Hornbeam, beech and hawthorn are alike suitable subjects that are preferable to privet. A row of poplar, willow, sycamore, elm, birch or maple trees would form an effective screen or wind-break at the foot of a garden exposed to prevailing north-east winds, and as strong transplanted specimens 5ft. to 6ft. high are catalogued at 7s. 6d. each, the outlay would meet the resources of the average purse, and if personal taste favoured something more ornamental, the laburnum, rowan, gean or fruiting crab may be selected at a slightly increased initial cost.

Now that the grass has reached its last mowing for the season attention may be profitably directed towards the winter treatment of lawns and greens. The presence of weeds, moss and bare patches is generally caused by neglect and the impoverishment of the soil, and renovation should be directed towards the removal of these defects. As an initial procedure the surface needs to be thoroughly scarified by means of a sharp-toothed rake, which will serve as a substitute for the spiked roller used in public parks and private estates. This operation has for its object the removal of moss and the aeration of the roots, while at the same time preparing the surface for a top-dressing composed of fine leaf-soil, old manure or bone meal. But before applying these materials the problem of the weeds must be tackled. If these are not numerous and consist for the most part of surface-rooted types, hand weeding will best ensure their removal, and when necessary an old knife may be used in the process of extermination. Grass that is badly infested with weeds and daisies is a more serious proposition, and the remedy is usually found in the application of a layer of lawn sand, a specific containing chemical properties which have the twofold effect of destroying the weeds and improving the grass. Turf that is maintained in a fairly good condition should only require a light top-dressing consisting of old manure six parts, turfy loam six parts, leaf-mould three parts, wood ashes one part and sand one part, reducing these materials to a fine condition by putting them through a fine-meshed riddle. Supplement this treatment in spring a by further dressing of leaf-mould, soot and a dusting of lime. Bone meal and guano are safe fertilisers, and the following artificial manures are recommended: 1½ ozs. of basic slag and 1 oz. of kainit per square yard in winter, followed by a light dressing of sulphate of ammonia ½lb., superphosphate 1lb. and sulphate of potash ½lb. in the spring.

The various types of azaleas that are potted up now and introduced into gentle heat may be brought into bloom for the decoration of the greenhouse and conservatory in early spring. Being closely related to the rhododendron family they require a compost chiefly made up of fibrous peat and loam plus a little sand to ensure porosity and some charcoal to preserve sweetness. Firm potting and careful watering is essential, for if once the centre of the ball of earth becomes dry nothing short of immersion for several hours will remedy the evil. The most brilliant shades of azaleas are to be found in the mollis × sinensis section, of which Koster's Red, Koster's Orange, Hugo Koster (salmon red) and Dr. Reichenbach (rich salmon) are distinct and outstanding in that respect. There is also a charming dwarf-growing group of Japanese azaleas which attracted attention at Glasgow Spring Show. These cover a wide range of colour, which includes a novel and new introduction named Malvatica with delicate single mauve flowers. Of the hardy Ghent azaleas the following are representative of the best colour varieties: Gloria Mundi, vermilion; Nancy Waterer, yellow; Beauty de Flandre, red; Daviesii, white; Bouquet de Flore, salmon pink; and coccinea speciosa, orange red.

Probably no herbaceous plant has advanced so rapidly in public favour in recent years as the hybrid lupin. It is now being grown everywhere, and it was an exception during last summer to come across a garden where the tall spikes of flowers in lovely varied shades did not form part of the floral scheme in border or front plot. "I must have more lupins next year" was a remark that was frequently heard among amateurs, who were delighted at their easy culture and the grand display obtained in their first season. The representatives of this comparatively new race thrive in any well dug soil and seem to be quite at home in any situation near the coast in the country provided they are not unduly exposed to the summer gales that spring up suddenly from the south-west. Specimens that are planted from now until early spring will produce an abundant bloom in summer and autumn, while seeds sown in a cold frame early in March usually flower in the following autumn. Some of the novelties were expensive when introduced a year or two ago, but the examples comprising the following representative collection can now be purchased at a moderate cost: Sunshine, buttercup yellow; Tunic, shell pink and white; Chocolate Soldier, plum purple; Firefly, rosy red; May Princess, blue; Downer's Delight, deep red; Pink Peach, deep pink; Queen of the West, rosy mauve passing to yellow at the tips; and Drayton, creamy white.

ST MUNGO.

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THE FRUIT AND KITCHEN GARDEN

Winter Spraying.

IN winter the bark of fruit trees may be the hibernating place of many pests, including insects in the egg state, small caterpillars, fungus diseases and the like, particularly when that bark is rough or infested with lichen. Many of the pests may survive the winter; all are potential "trouble," and fruit growers have long realised that it pays to spray the tree at this time, or during the month of January. It will be found that strong washes can be used at this dormant period and that the tree, instead of suffering in any way, becomes rejuvenated and vigorous. The best washes are the old caustic winter washes, lime sulphur, or the newer tar distillate or carbolineum. These, for small gardens, are best purchased in concentrated form and diluted as directed. Spray the diluted fluid so that it coats the tree completely with a wet film of the wash; apply on a dry, calm day, and do not spill any on the face or hands. Limewash, an old-fashioned remedy, is not to be despised. Slake lime, stir some ½lb. into each gallon of water, add half a small handful of salt, stir, strain through cloth and apply. The secret of success lies in the thoroughness with which these "burning" washes are applied.

Pruning and Cleaning Vines.

AS soon as the vine foliage falls and the grapes are all removed, there need be no delay in pruning the vines. Note that the vine has carried one cane to each spur this last summer; to prune, this cane must be cut back in such a way that all of it is removed except two buds at the end close to the spur. Untie the vine rod and lower it to let the work be done easily; then, with the sharpest knife, cut the cane away a little above that second bud. Next spring, two shoots will spring out from these buds and the better will be retained. After the canes have all been cut back as above, run the hand over the vine and pull off loose bark. Now take a pail of slightly warmed water containing 2oz. or 3 oz. of soap per gallon, and scrub the vine from top to bottom, not too severely and always carefully leaving the little bit of cane with its two buds untouched. If mealy bug or other pests are present, use some Gishurst compound at this washing operation, according to directions supplied. When the vines are clean, then wash down the greenhouse, limewash the wall, and all is snug and ready for the next season's growth. —H. H. A.

The Present Treatment of Rhubarb.

IF the soft, decayed stalks have not yet been raked up, do so at once and add the pulpy mass to the compost heap. After that, cut in half any roots which have become too large and use the portion which is removed for forcing purposes or to increase stock; plant the roots in deeply dug, rich and recently manured soil at 1yd. intervals. After that dig between the crowns of the old plants, and be sure to dig at least a foot down, for rhubarb roots deeply; do not hesitate to cut the forking roots encountered. At the same time, dig in a very liberal dressing of good manure, fresh where early stalks are desired, but older stuff in other cases. Leave the ground rough, but not too rough, so that weather may reduce it to a fine tilth by summer. Early varieties will do better if mulched with a little light litter to a depth of some 6ins., because the stalks come up freely and early through this at the opening of spring. Amateurs who cannot get manure should dig in leaves and other rubbish just now and give a dressing of fertiliser at the end of February or in March, this to be forked in lightly.—LANARKSHIRE.

Sprouting Seed Potatoes.

NO one denies the advantages of sprouting seed potatoes nowadays, because experience proves that sprouted seed enables better planting to be carried out, secures earlier maturity and guarantees better crops. This is an excellent time to buy, select and box up seed for sprouting. Get shallow trays of wood about 2ins. deep, having pins in each corner some 4ins. high to enable the trays being piled one on top of the other. In these trays set the seed tubers on end, close together, and then pile them up in a shed where they get a fair amount of light at least; in time the skin of the tubers will become tough and green, small white sprouts will appear in the eyes, and by planting time each tuber will have sturdy, coloured shoots 1in. to 2ins. high. These merely need to stand outside for a day or two before they are planted. Always protect these boxed potatoes during frost by throwing bags, mats or old carpets over them.—H.

Onions.

MUCH of the success attained by those who grow onions for exhibition is due to careful preliminary treatment of the soil. This should always be seen to, early in winter. At some suitable time, dig the ground over to a depth of two spits at least and leave the surface rough to take advantage of the free play of weather. Should the soil be on the heavy side, incorporate much littery rubbish with the lower spit. On the other hand, if it tends to be gravelly, add some new turf there, after chopping it up moderately. To the upper spit add much manure—fresh cow or pig manure or, in the case of heavy land, horse manure; by planting-out time the fresh manure has become rich decayed humus which can be well mixed with the soil by a light forking over. Scatter some lime over the surface after digging. It will not be long, too, till seed should be sown, more particularly in the case of those who want two and three pounders for exhibition. Ailsa Craig, Excelsior, A 1 and a few others are still favourites for show purposes, but those readers who really want first-class kitchen crops should sow, too, in January. For home use good varieties are Rousham Park Hero, an improved Banbury, Bedford Champion, Up To Date, Walker's Exhibition, Dobbie's Red and, for long keeping, James' Keeping. Those named are specially fine for general use, keep well and, if sown soon, grow to a large size.—C.

Kales for Winter Use.

EXCEPTIONALLY fine in winter are the curled kales, including the varieties A1, Curled Scotch, Scotia and the like, the leaves of which are really improved by a touch of frost. The plants are perfectly hardy, hence may be regarded as a stand-by at all times in lieu of spinach and for cooked dishes. Thousand-headed kale, usually grown as cattle food, is by no means to be despised; in spring, the tender young shoots, when growth is beginning, are fine when cooked. Asparagus kales are different from any of the above, although planted about the same time, viz., the previous summer; by winter they become large and vigorous plants which, early in the year, send up dozens of soft flowering shoots. These shoots are picked when tender, just beginning to bud, and make an excellent substitute for asparagus. Drumhead kales are best in the depth of winter; the heart of the plant is treated like a savoy and the leaves cooked to take the place of spinach. Variegated and coloured kales, grown by some as a winter decoration and to brighten up the vegetable garden, are quite all right when cooked. As all true Scotsmen know, the merit of all the kales depends largely on the cook, who can turn out most attractive dishes from what some people are inclined to class as a coarse vegetable.—C. E.

Treatment of Soil Against Club-Root.

TRUE club-root, caused by sourness and a general unhealthiness of soil, is very similar to that state of the roots caused by gall weevil. The latter sometimes ruins the appearance of turnips. There are swellings on the roots, generally just below the soil level, and if these lumps are cut open a white grub will be found inside when they are caused by the cabbage or turnip gall weevil. Rotational cropping is very beneficial, but the cultivator must not rely solely upon this; he should, at this time, begin to sweeten and purify the soil. As a remedy against club-root generally, lime, applied in the autumn and agricultural salt, applied in the spring, will do a lot of good. The quarter on which cabbages, cauliflowers and winter greens are to be grown should be specially treated. Trench the soil deeply and apply the lime to the surface after the trenching is completed. The reason for taking this course is that the exposure of the lime to the weather will cause it to crumble and eventually mix evenly with the soil. When lime is buried, a lot of it, when turned up a few months later, is in a sticky condition, and lumpy too. One peck of agricultural salt per square rod will be very beneficial if it is applied in the early part of the spring. At the present time a note should be made of this.—G. G.

Preparing for Tomatoes.

SEVERAL weeks before the tomato seed is sown—and that time is getting near at hand—a quantity of suitable compost for the seedlings should be collected and sterilised. In addition to that, too, it may be necessary to renew the border soil of the greenhouse and to clean the house. For the seedling compost, take a nice friable loam or turf which has been stored for the better part of a year. Mix this with sand sufficient to keep it porous, add about one-fifth of sifted leaf-mould and pile the whole up inside. Now procure a few pints of formalin, pour each quarter-pint in a gallon of water and, as the heap is turned over, wet it with the liquid. Lay a mat or two on top afterwards, leave for a week, turn it over once or twice, and this sterilised compost is ready for use. About this time make up the borders for tomatoes; again, a good loam or rotted turf is the basis, and let me warn readers to avoid, this year, taking soil from a potato patch. Wheel out the old soil and put the new in position, adding to it a little burnt earth or gritty sand if it requires it, a small fraction of sifted leaf-mould and a fairly liberal dressing of old mortar or well weathered lime, say 2lb. of the former or ½lb. of the latter per square yard. As soon as this is done, or even before, clean down the woodwork with creasol disinfectant, ¾ pint in 2 gallons of water, whitewash walls and clean the glass with hot soapy water. It is scarcely possible to emphasise too clearly how important it is to make certain that the preliminary precautions are efficient before starting to grow this important crop; they are invariably to be thorough where disease of any kind worked havoc last season.—CLYDESDALE.

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Moss and its Uses.

DURING the winter, opportunities often occur to secure moss in considerable quantities, and the gardener should collect some of this valuable material. Moss grows all over the country on hedgebanks, in woods, and often among damp patches of grass. When the moss is collected it is best to spread it out in a layer on the floor of a shed or some similar position to dry. Where the moss is needed in a damp state it is easy to moisten it to the extent required. A little dry moss is most useful for placing over the crocks in seed pans or when potting a plant that requires a very free drainage. For this purpose moss is much better than old manure or decayed leaves. If large panes of glass are not at hand for the purpose of covering newly sown seed, a little moss placed on the surface makes a very good substitute. Naturally, the moss should be removed as soon as the seedlings appear. For lining flower baskets moss answers better than anything else, while when made moist and green it much improves the appearance of bulbs in pots. When geraniums have to be kept in boxes until the time for bedding-out arrives it is an excellent plan to wrap the roots of each plant in moss containing a little soil, keeping the whole together with raffia. Plants treated in this way may be put back into the boxes much more closely and lifted with a mass of roots attached. Any kinds of plants which cannot be immediately settled into their quarters should have their roots enclosed in damp moss, and very little harm will result, even though they are out of the soil for some time.—L. B.

Sterilising Leaf-Mould.

LEAF-MOULD, although such a highly valuable substance, is sometimes a source of danger to plants. This is because it will at times harbour active or dormant pests (insect or otherwise), which may do a great deal of damage when the opportunity arises. To get rid of these pests is most important, and the leaf-mould should be treated some time in advance of its use. The winter affords an excellent opportunity for the sterilisation of the heap of rotting leaves, for if once the mass is rendered thoroughly clean re-infection is not likely for some months. One plan is to pour boiling water over the heap until it becomes too hot for the hand; keep on turning the material about while pouring on the water. Another way is to work a little soot in with the mass or, if the leaf-mould is not likely to be wanted for rhododendrons, azaleas, etc., a certain amount of lime is effective. More complete methods of sterilisation can be carried out by the use of chemical or other substances, but these are only suitable when there is no chance that the mould will be required for some weeks. Make a fairly strong solution of household ammonia and water and pour this on to the heap, covering the whole with sacking. Another method is to use a solution formed by adding a gill of formalin to two or three gallons of water. Petrol or carbon disulphide may be poured into the centre of the mass, but in all such cases it is wise to cover the heap with some material to keep in the fumes. Leaf-mould which has been treated in this way should not be employed for any purpose until it has been turned several times and well exposed to the air.—B.

Swede Turnips.

THE garden varieties of the swede turnip form an excellent winter vegetable and should be grown in every garden. They must not be confused with the ordinary field swede, which is in every way much inferior and coarser. The crop is particularly suited to heavy land and also succeeds well on poor land, although of course it well repays deeply worked ground and an open, sunny position.

One great advantage the swede turnip possesses is that it will thrive where ordinary turnips fail or only produce very poor crops.

When preparing ground for this crop, avoid rank manures; indeed, it does best on land which has been well manured for a previous crop and has not had any manure added prior to sowing.

Sow in May or June according to locality, the latter month being more suitable for the southern counties, while in more northern districts the earlier date is advisable. A distance of 15ins. will be sufficient between the rows, and thin the plants to allow ample growing room. At the approach of winter draw some soil over the routs, as this prevents the larger ones from splitting. If preferred the roots can be lifted and clamped in the same manner as potatoes.—T. H. E.

The Gall Weevil of Cabbages.

THIS is one of the worst pests that attack members of the cabbage tribe. The outward signs of the trouble are the appearance of swellings on the roots and underground parts of the stem of the plant. The damage is due to the attacks of a small beetle, Ceutorhyncus sulsicollis, which pierces the stem of the plant usually below the ground level and deposits one egg in each hole. These hatch out into maggots, which commence gnawing, the irritation causing the development of the swelling or galls. Cut one of these galls open and inside will be found a grub of the beetle. When the grubs are fully fed they eat their way out and pass into the soil, where they change into a chrysalis state. The gall weevil is extremely difficult to exterminate. Ground that is known to be infected should not be planted with any member of the cabbage family for two or three years. In such cases it is a very excellent plan to dress the land with gas-lime at the rate of 2lb. to the square yard. This should lie on the surface for about three weeks before being worked into the ground. Land treated in this way must not be cropped for quite six weeks after the application of the gas-lime. Seedlings of cabbage, cauliflower, etc., should be examined for signs of the gall weevil. When galls are found these may be cut off and, if the roots of the plants are drawn through a puddle of soot and lime, growth will then be quite normal.—S. L.

GREENHOUSE NOTES

How to Grow Ornamental Asparagus.

ONE of the difficulties which presents itself to those who have greenhouses is that of being able to grow plants valued for their foliage that, for a time, will stand being brought into the home without ill effects following.

To those who take in hand the ornamental asparagus, however, this difficulty, to a large extent, may be overcome, especially if one is prepared to grow sufficient plants to admit of their being changed from time to time. As is known, the delicate-looking fronds of some of them are used in a cut state as adjuncts to cut flowers, and have taken the place formerly occupied by the fragile maidenhair ferns.

It may be said of the asparaguses that they thrive best when they can be maintained in a temperature slightly in excess of that found in the ordinary greenhouse, and revel in shade, moisture and genial conditions to be found in a cucumber house. During winter it will be sufficient if they can be kept in a house which does not fall much below 55° Fahr., increasing this as spring advances and the plants begin to make new growth. Given such an environment, they grow rapidly, and one is seldom at a loss to find foliage where a few established plants are kept. They can be cultivated in pots; in hanging baskets—especially in the case of A. Sprengeri—or trained up rafters. In the latter capacity, it should be pointed out that, if grown under a roof, it will be necessary to shade the roof from the direct rays of the sun, otherwise the fronds speedily scorch. If planted out in a border within the house and trained up supports, they grow rapidly if supplied with suitable compost and encouraged in a warm, humid atmosphere, with frequent syringings. Under the half light of cucumbers or other roof creepers, it will be found that asparaguses will thrive and make a deal of headway, keeping one well supplied with foliage which may be used with good effect for table decoration, etc.

Compost.

A suitable compost is that made up of leaf-mould and peat in equal parts, with an addition of old loam and a liberal supply of sharp silver sand, the whole being thoroughly incorporated. Pots should be clean and well crocked. For basket work, interiors should be well lined with green moss, and the compost pressed firmly in, one or two young plants—according to the size of the basket—being planted.

Propagation.

A favourite way of increasing a stock of asparagus is by way of cuttings. These can be taken about March or April, and inserted either in small pots or a shallow pan of the aforementioned compost. A little bottom heat will help them, but this is not essential, as, if placed on a shelf near the glass and shaded from bright sun, the cuttings will not be very long in rooting in a humid atmosphere.

Plants in 3in. or 5in. pots will be found convenient for occasional table decoration.

Varieties.

A. plumosus, a very popular sort with pale green, fan-like fronds, should be grown.

A. plumosus nanus is a dwarfer and more compact form of the above.

A. myriocladus has erect and somewhat feathery fronds.

A. tenuissimus has frail-looking foliage and is suitable for training up a small trellis or for pots.

A. Sprengeri has been mentioned as the best for baskets or for positions where it can trail.—L.

Early December Work in the Greenhouse.

SO as to have Spiræa (Astilbe) japonica in bloom at Easter, the clumps should now be lifted up from the ground where they were resting and potted up in 5in. or 6in. pots, according to requirements, in a compost of two parts loam, one part leaf-mould and a little sand. Pot very firmly and they can be placed in heat, as they are potted. Even if grown in a cool greenhouse, they make a nice display in April or May and are extremely useful for house decoration.

For those wishing to purchase new varieties the following make a good choice:—Spiræa japonica alba, Anthony Waterer; and such hybrids as Peach Blossom and Silver Sheaf all make excellent pot plants. The secret of successful forcing of spiræas lies in the watering. They require an abundance of water when in full growth.

Prick out seedling stocks singly into 3in. pots; this should be done as soon as the plants are large enough as they resent overcrowding and at all times should have as much air

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around them as possible. Keep them in a cool frame, close to the glass. Seed sown in August will now require to be potted into their final pots, a good sized plant requiring a 7in. pot. Do not remove them to greenhouse staging until danger of frost is imminent. Grow them as slowly as possible throughout the winter in a cool temperature and do not water much until February. Stocks are gross feeders and the compost for the final potting should be loam, cow manure, lime rubble and wood ash. Give very firm potting and when they are established and the pots well filled with roots, if given a little stimulant such as nitrate of soda or sulphate of ammonia, they respond to it in their growth.

There are few flowers that give greater delight to the amateur than lilies grown in pots in either a heated or unheated greenhouse. They can either be grown singly in 5in. pots or three in an 8in. pot, and the compost can either be a sandy peat or loam, leaf-mould and sand. Crock the pots well putting a little of the compost on top of the crocks. Place the bulbs low in the pot. A good way to measure depth to plant is to allow 1in. at top of pot for watering, placing the bulb twice its depth in the compost in pot. Firm well. Most lilies emit roots from the stem, and are therefore placed low in the pots for this reason. Water lavishly during the growing period.

The First Gloxinias.

THE gloxinia is a fine flowering plant in every way and not only would I like to see it much more popular than it at present is, but I urge others to start the tubers earlier than they usually do; this month, and the earlier the better. Shake out the tubers from their old pots and pack them, just buried, in a box of compost, in exactly the same way as the begonias are started later. Water with tepid water, place the box in a warm corner and let them come away nicely. Spray occasionally to assist the shoots and make certain at all times that the compost underneath does not get dust dry. The compost should consist of soil and sifted leaf-mould in about equal parts, with a little sand, if necessary. Pot the corms up later on, when good shoots have been formed and a good root system produced, into 3in. and 4in. pots. For the first potting use a similar compost, with, if possible, a little peat and a fair sprinkling of charcoal.—F.

The Culture of Hippeastrums.

Handsome Bulbous Plants.

HIPPEASTRUMS may readily be raised from seed which is collected and sown as soon as ripe or obtained at this time from reliable seedsmen, but as the seedlings do not flower, as a rule, within three years, then most growers are content to procure flowering-size bulbs and to grow these on. It is well to note, however, that good flowers are only obtainable from well matured bulbs, which have become established in their pots, so that it is not always wise to allow bought-in bulbs to flower the first season. Established bulbs require repotting every third year, occasionally in the second year, and this has to be done when the plants are dormant. Use 6in. pots and fill up with a nice compost, consisting of good fibrous or turfy loam, a little sifted leaf-mould, some sand and a fair admixture of old mortar rubble; old bulbs must be shaken free of spent soil before they are potted up, but take care not to injure the fleshy roots. Pot firmly, ram the soil round the bulbs and see that half the bulb is exposed. After potting plunge the pots to their rims in a box of fibre, moss or leaf-soil. When starting, water the pots thoroughly, keep close and preserve a temperature of 60 degrees; keep the air moist, but give very little water until growth is vigorous.—H. H. A.

Some Good Cyclamen for the Greenhouse.

BY the time this is in print greenhouse cyclamen will be coming into bloom, and readers who have taken the trouble to raise these plants from seed will begin to reap the reward of all their labour. It is overlooked by many, unfortunately, that they can easily be raised in this way; of course, it is easier, if more expensive, to grow from the corms and in these days this is a strong recommendation. The new Giant White Wonder is a fine variety, robust and free, which produces very fine flowers of large size and good substance. Equally as fine in every way, but bearing salmon pink blossom, is Bath Beauty, a distinct and delightful variety. A third which I am deeply enamoured of is the Giant Hydrangea Pink, a clear and striking tint which is new to this flower. Most useful of all, where decorative qualities must be considered, are the deep colours of red and of these we wish to name three—Scarlet King, which has the flaring tint of the Oriental poppy; The Sultan, a rich, telling crimson and St. George, a more striking crimson still. These three can scarcely be surpassed for table decoration at the festive season and well grown plants are a real delight at that time.

The Care of Dwarf Heaths in Pots.

HEATHS are sent over to this country in huge quantities during winter and are eagerly bought up for decorative purposes, especially those dainty kinds, hyemalis, gracilis, persoluta and caffra. These are grown from cuttings taken in spring, potted firmly in sandy peat and kept close over a bottom heat until rooted; the small ones sold are thus nine months old, the larger are not allowed to bloom the first year, but are pinched and grown on into larger bushes, to flower the second winter. With care these plants remain for a long time in bloom, but they must always be kept back from gas fumes, never put in a draught and, though not over watered, not allowed to become dust dry. They are best watered by being stood in a basin of tepid water for five minutes; afterwards lift, drain and replace where desired; do not let the pots stand in a saucer of water. After flowering ceases, put the plants in a greenhouse, pinch back and feed with manure water.—LANARKSHIRE.

Watering and Ventilating in the Greenhouse.

THROUGHOUT the winter months the greatest care must be exercised in watering greenhouse plants and in ventilating the houses they occupy. Whenever possible—and more especially if there is little or no artificial heat in the house—the watering should be done in the forenoon, but not too early in the morning. It is well to wait until the comparative warmth of the day has commenced to raise the greenhouse temperature a little, and as a general rule from 8.30 a.m. to 10.30 a.m. proves a most suitable time. If delayed until too late in the day, the superfluous moisture has not time to dry up before nightfall, and this is detrimental to good cultivation.

Plants must be watered now with much greater discrimination than is essential in the summer months, and water should only be applied when really required. It is impossible to lay down hard and fast rules how often various plants should be watered—so much depends on such factors as climatic conditions, health of the plant, whether pot-bound or not, etc.—therefore intelligent observation must guide the use of the watering can. The sound resulting from sharply rapping the side of the pot is a good indication whether or not the soil is moist; a clear, hollow sound indicates dryness of the ball of soil, which, if sufficiently moist, makes its

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condition known by giving forth a dull, heavy sound on tapping the pot. If any doubt exists it is a good plan to pick up the pot by the rim and judge by its weight whether the soil is dry or moist. If it is noticed that any particular plant remains in a wet condition for several days, the drainage should be examined immediately, for faulty drainage is a prolific cause of plant mortality during the winter.

Water at the same temperature as the house should always be used, and on damp days and in cool houses care must be taken not to splash a lot of water on the foliage, floors, or stages, for it must be remembered that all plants will withstand considerably lower temperatures if the atmosphere and roots are fairly dry than if the reverse is the case. On the other hand, in houses where there is much fire heat it is essential to keep the paths, walls, stages between the plants, and all surfaces well damped, especially first thing in the morning and late in the afternoon. This greatly aids in preventing the spread of insect pests encouraged by the warm conditions.

A little ventilation should be afforded cool houses on every possible occasion. This promotes a circulation of fresh air, which is very beneficial providing cold draughts are avoided. To attain this end the direction of the wind must be observed, and only the ventilators on the sheltered side of the house opened. It is surprising what a difference it makes if only an inch or two of ventilation is given along a top ventilator, and, even if it is only for one or two hours during the warmer part of the day, the good effect will be clearly visible in the well being of the greenhouse occupants.

The above remarks apply also to the care of a cold frame. Indeed, as they usually afford protection to plants which are almost hardy, attention to ventilation is of even greater importance, and on fine days it will be beneficial to throw the lights right off for a few hours in the majority of cases.—T. H. E.

THE CHRYSANTHEMUM SHOW

ALTHOUGH the chrysanthemum season, from the ordinary grower's point of view, is fast declining, there was no lack of novelties at the meeting of the Floral Committee of the National Chrysanthemum Society on November 28th last. The single-flowered varieties predominated, but only two of them were of certificate standard, though all possessed certain decorative value. Gaiety shown by Mr. H. Shoesmith, jun., is a gorgeous crimson-chestnut flower, rather over medium size and of round shape. The ray florets are substantial, so that the cut flowers would last well, and the brilliant colour is enhanced by a golden zone. The "eye" of the flower is small. Mrs. E. Page, the other single to receive a first-class certificate, is of more delicate appearance. In point of size it is a good companion flower and it also has several rows of florets. It is of golden yellow colour heavily stippled with terra-cotta red towards the tips. Mr. H. Woolman was the exhibitor.

Two Japanese varieties of exhibition size and quality also received first-class certificates. The best was a magnificent variety named Tom Abbott. The blooms measured over 8ins. each way and possessed plenty of graceful florets. The colour is a glowing light yellow, and a few of the older florets are shaded with pale peach. This magnificent variety was shown by Mr. H. J. Jones. The other variety, John Hall, was equally broad but not nearly so deep. It was a substantial flower of light purple colour, with a paler reverse which is seen occasionally. The variety was shown by Mr. G. Carpenter, West Hall Gardens, Byfleet. Although it did not receive an award—because it was not shown in sufficient quantity—Shoreham Spray, shown by P. E. Halse, is a very useful pure white variety. The committee expressed a desire to see this variety again, and also Hugh Mitchell. The latter is a very solid exhibition Japanese variety of good size, but the curling and reflexing of the lower florets give the blooms the appearance of a smooth, brilliant crimson flower superimposed on a rugged dull gold flower. Hugh Mitchell was shown by Mr. H. Woolman.

NEW CHRYSANTHEMUMS AND CARNATIONS AT THE R.H.S.

THE awards of merit recommended by the Floral Committee of the Royal Horticultural Society on November 28th last were equally divided between carnations and chrysanthemums. Two of the carnations were shown by Messrs. Allwood Brothers. These were Canadian Pink, a medium-sized bloom of good form which has fringed petals of soft glowing pink colour, and Wivelsfield Claret Improved. The latter, as its name suggests, is a better form of the old variety. The flowers are larger, fuller and of brighter colour. Carnation Melchet Beauty has been shown by Messrs. Stuart Low frequently. It is an attractive fancy variety in which the ground colour of dull heliotrope shade is relieved by lines of deep vermilion.

The three chrysanthemums which received awards of merit were Tom Abbott, the magnificent yellow Japanese variety shown by Mr. H. J. Jones; Gaiety; and Mrs. E. Page; the two good singles which each received the first-class certificate of the National Chrysanthemum Society on the previous day. Although there was no question of awards of merit concerned, the seedling chrysanthemums shown by Messrs. Sutton and Sons in such generous quantity were well worthy of notice. These many plants were raised from seed sown during February of this year. The plants were sturdy and carried quantities of single flowers in many delightful shades of colour. It is an easy method of raising chrysanthemums of considerable decorative value.

CATALOGUES RECEIVED.

Messrs. Frank Cant and Co., Braiswick Rose Gardens, Colchester.—A comprehensive rose catalogue of the best of old and modern varieties. Careful colour descriptions are given.

Messrs. Dobbie and Co., Edinburgh.—A catalogue of bulbs, roses and sweet peas. The roses listed are all hardy Scotch-grown roses—roses which will succeed in all situations.

Messrs. R. Wallace and Co., The Old Gardens, Tunbridge Wells.—A particularly well classified list of irises of every group.

Messrs. Bees, Limited, 175, Mill Street, Liverpool.—Two most useful and handy garden manuals which should appeal to all amateurs. In one manual helpful information of the culture of bulbs in bowls and in the garden is given, and the numerous illustrations, both coloured and half-tone, are all good. Sundries of every description are included. In the other are long lists of roses and flowering shrubs.

Messrs. Barr and Son, 11–13, King Street, Covent Garden, London, W.C.2.—Bulbs and tubers for autumn planting. Many fine novelties are included, and in each case cultural notes are given.

Messrs. W. H. Collin and Son, Scraptoft, Leicester.—A new catalogue of roses.

The Forest and Orchard Nurseries, Limited, Milbury Heath, Falfield, Glos.—List of fruit trees, roses, ornamental trees and shrubs, etc. Hints on planting, together with the distances apart fruit trees should be planted, are given.

Messrs. R. H. Bath, The Floral Farms, Wisbech.—A descriptive catalogue of choice bulbs, roses, peonies, carnations and fruit trees for autumn planting.

Messrs. Sutton and Sons, The Royal Seed Establishment, Reading.—Those who have not already obtained a copy of "Sutton's Bulbs" should make a point of doing so at once. It is an excellent publication, and can be used as a work of reference, and contains classified and descriptive lists, supplemented by cultural hints. Many fine Darwin and May-flowering tulips are listed.

Messrs. Little and Ballantyne, Carlisle.—Bulbs, roses and fruit trees.

Messrs. T. Rivers and Son, Limited, Sawbridgeworth.—An interesting descriptive catalogue of fruit trees and roses. Notes on fruit trees in pots and sketches of the various forms of fruit trees which this catalogue contains should prove of great service to the amateur fruit grower.

Messrs. W. E. Th. Ingwersen, Sharpthorne, East Grinstead, Sussex.—An advance list of seeds of hardy and alpine plants harvested this year. Seed is offered of many uncommon plants.

Messrs. D. Prior and Son, The Nurseries, Colchester.—Roses of every class are given in this catalogue, old varieties and many of the best of the recent introductions are listed. Careful colour descriptions are given.

Messrs. J. Carter and Co., Raynes Park, London, S.W.20.—List of sweet peas for autumn and spring sowing. A number of novelties are included.

Messrs. H. Merryweather and Son, Southwell, Notts.—Roses, fruit trees, shrubs, ornamental trees and climbing plants.

Mr. Amos Perry, Hardy Plant Farm, Enfield, Middlesex.—A special collection of new and rare bulbs and plants. Many interesting subjects will be found in this list, as well as a miscellaneous selection of bulbs and tubers for autumn planting.

Messrs. Benjamin R. Cant and Sons, The Old Rose Gardens, Colchester.—A catalogue of roses worked on English briar stock. A number of good rose collections suitable for small gardens are given.

Messrs. Austin and McAslan, Glasgow.—A good list of roses for all purposes.

Messrs. Seymour and Anderson, Fernleaf Nurseries, Nazeing, Essex.—A selected list of hardy border carnations.

Messrs. G. Reuthe, Foxhill Hardy Plant Nursery, Keston, Kent.—An interesting catalogue of hardy rhododendrons and other shrubs. Many uncommon and beautiful flowering shrubs are included.

Messrs. Oliver and Hunter, Moniaive, Dumfriesshire.—Alpine and herbaceous plants. An excellent list of new primulas from Tibet is included.

Messrs. Hewitt, Solihull, Warwickshire.—A list of this firm's famous Wrexham delphiniums. Several novelties are listed.

Messrs. Lowe and Gibson, Crawley Down, Sussex.—A descriptive list of hardy border carnations and bearded irises. Novelties for 1928 are included.

Messrs. W. E. Clark, Sunnymede, Sharon, Massachusetts.—A list of gladioli.

Bulb catalogues have been received from many firms, including Messrs. Stewart and Co., 13, South St. Andrew Street, Edinburgh; Messrs. E. P. Dixon and Sons, The Yorkshire Seed Establishment, Hull; Messrs. Austin and McAslan, 89–95, Mitchell Street, Glasgow; Messrs. Wm. Power and Co., Waterford; Messrs. H. N. Ellison, 5, Bull Street, West Bromwich, Staffs; Messrs. Chaplin Brothers, Royal Nurseries, Waltham Cross, Herts; Mr. H. Hanchet, Nutfield Nurseries, South Nutfield, Surrey; Messrs. William Cutbush and Son, Barnet, Herts; Messrs. Dicksons, Limited, Chester; and The Welsh Bulb Fields, St. Asaph, Flintshire, North Wales.

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DEC 28 1927

THE
GARDEN
THE IDEAL GARDENING PAPER

Vol. XCI.—No. 2924 Saturday, December 17th, 1927 Price TWOPENCE

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VOL. XCI.—No. 2924. DECEMBER 17, 1927. PRICE TWOPENCE.

VALE—ATQUE AVE!

IT is always a matter for personal regret on the part of those who produce a journal with a character of its own that it should become necessary in any way to change that character. The regret is felt no less, as all serious journalists realise, by those many readers who have gradually come to regard their favourite publication as something which belongs quite as much to its readers as to its producers. So far as THE GARDEN is concerned, our readers will, therefore, understand that it is only with considerable reluctance that it has been decided to incorporate THE GARDEN from this date in *Homes and Gardens*. *Homes and Gardens* is a periodical which most of our readers have already learnt to value even though they may have felt that its appeal was broader and less specialised than that of THE GARDEN, which they have known so long and which has had so much of their approval in the past.

The first thing to make clear is that the incorporation of THE GARDEN in *Homes and Gardens* means no change of policy as far as its Directors are concerned. Ever since it was founded by Mr. William Robinson in 1871, THE GARDEN has in every way upheld the highest traditions of the gardening art. Its articles have carried the hall-mark of authority, and their lesson has been reinforced with illustrations which we have no hesitation in declaring the best to be found in any journal devoted solely to garden interests.

Only a very short time ago we enlarged the scope of THE GARDEN in such a way as to appeal to an even wider section of the public than that which had supported us in the past. We greatly increased the number of our readers by changing our appeal so as to embrace all those many amateurs who, during the years that have followed the war, have joined the gardening ranks. Indeed, this increase greatly exceeded our most sanguine expectations. The incorporation of THE GARDEN in *Homes and Gardens* does not mean for a moment that these ideals are forgotten. The Editor of THE GARDEN will continue to be responsible for the large gardening section of *Homes and Gardens*, and in the pages of that publication there will be even greater scope for suitable illustration than there was in the old GARDEN when it appeared as a weekly periodical.

We have always felt that the garden, at any rate in this country, loses its entire significance when it is divorced from the home. For many years past *Homes and Gardens* has supplied its many thousands of readers who are building new homes in all parts of the country or modifying old homes to suit modern conditions with exactly the information and the artistic stimulus which they desire. The garden side of the English home has not been neglected, but those who have known and benefited by the pages of THE GARDEN in the past will realise how much this side of *Homes and Gardens* will be strengthened by the proposed amalgamation. So far as we are editorially concerned, therefore, we are saying no farewell to our readers. They will realise that these two problems of the home and the garden are in reality one, and that they will now be able to obtain all they require within the covers of a single publication. They will, in fact, we feel sure, transfer their allegiance to *Homes and Gardens*. This will mean, so far as we are concerned, complete proof that our work in the past has borne the fruit which we have always wished, that with the advice and inspiration of such master-gardeners as Mr. Robinson and Miss Gertrude Jekyll, we have been able to build up a generation devoted to the cult of those homes and gardens which can only properly be built in England's green and pleasant land.

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PLANTING FOR SUCCESSION IN A SMALL GARDEN

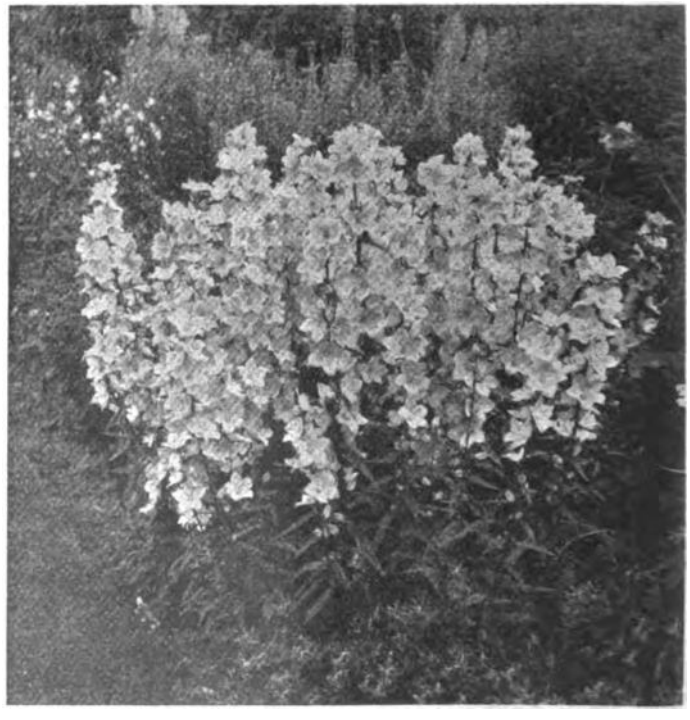
TO ensure a continuance of blossom over the greater part of the year a well thought out scheme of planting is essential, especially if the garden is a small one, such as the strip so often found at the back of the average suburban house. In this the space available for such planting is a border—or, perhaps, a pair of borders divided by a lawn—and if, by good fortune, this is backed by a wall or fence against it may be trained, for early flowering, Jasminum nudiflorum, Cydonia japonica, forsythia, Ribes sanguineum and Kerria japonica (single and double), alternating with roses in variety; clematis of different kinds (including the late-blooming C. Flammula and C. orientalis), and Jasminum officinale and J. revolutum. If, on the other hand, the border has a hedge at the back, this should be, if possible, of some flowering shrub such as Berberises Darwinii, stenophylla or buxifolia; Escallonia exoniensis, or the commoner E. macrantha, Veronica Traversii or V. salicifolia. In front of this hedge, if space will allow, may be grown, on poles, roses, clematis of the large-flowered types, honeysuckles, Lathyrus latifolius (pink and white) and the rose red L. rotundifolius.

PHLOXES ARE A HOST IN THEMSELVES DURING AUGUST.

The flowering season of the border itself may be said to begin, although only in a small way, in April, with Doronicum plantagineum Harper Crewe, Megasea purpurea, wallflowers and polyanthus primroses—the Spetchley strain of these is very fine—combined with narcissi and tulips. Early in May will come Solomon's Seal; a little later the old double European peonies, crimson and pink, and the less well known single European types, of which P. corallina is the first to bloom. At the end of the month the hybrid lupins in all their many lovely shades will begin to open, and about the same time the earliest of the erigerons, the dwarf violet blue Merstham Glory; Anchusa myosotidiflora; Trollius Orange Globe and the new Trollius Empire Day, remarkable for its scarlet stamens. These last, however, are best omitted if the border is very dry.

Plants from the middle of June until well into July are so numerous that it is hard to make a choice from them. First and foremost, of course, come the delphiniums, of which as many varieties should be grown as possible (if combined with white foxgloves or Lilium candidum, so much better will be the effect). Then there are the Chinese peonies, single and double; Anchusa italica Dropmore variety; Allwoodii pinks; Thermopsis montana; Oriental poppies; pyrethrums; and aquilegias, both the long-spurred kind and the pretty, short-spurred Munstead White. Only a limited number of irises can

AN ATTRACTIVE CLUMP OF IRIS SIBIRICA.



CAMPANULAS ARE WORTH A PLACE IN EVERY BORDER.

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be managed in a small garden, but the violet purple I. sibirica and both the paler Bleu Celeste and the reticulated form, Lady Godiva, should be grown and, possibly, Iris longipetala. If room can be found for two or three clumps of flag irises, the most suitable is I. dalmatica Princess Beatrice, by reason of the decorative value of its great blue-green sword-like leaves when out of flower.

To follow on in late July and early August there should be planted the violet blue Salvia virgata; Geums Mrs. Bradshaw and Lady Stratheden; Campanulas persicifolia Telham Beauty, Fairy Queen and Fleur de Neige; Lychnis chalcedonica; Sidalceas Rosy Gem and the paler pink Sussex Beauty; Erigeron speciosus; the dwarf Helenium Crimson Beauty; Pentstemon Newbury Gem, white, cerise and crimson; and the yellow ox-eye, Buphthalmum salicifolium.

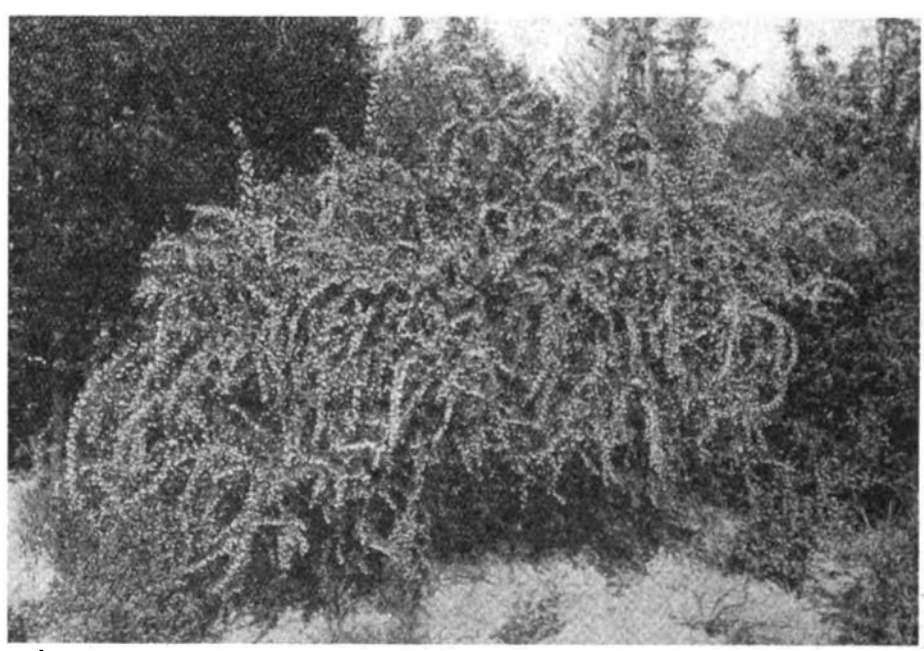
Phloxes are a host in themselves in August, and they should be grown in as many of their delightful shades of colour as possible. Other desirable plants flowering during this month are Physostegia speciosa, the delicately pretty pink shell-flower; Campanula lactiflora; gaillardias in variety; Chrysanthemum maximum; Liatris graminifolia; and, towards the end of August, Helenium Riverton Gem, Rudbeckia Golden Glow—these two last continuing in bloom until well into September—Galtonia candicans and the scarlet Gladiolus brenchleyensis, which should be grouped together. In September we get Rudbeckia laciniata (of which R. Golden Glow is the double form); the dwarf R. speciosa (Black-eyed Susan); the solidagos, the tritomas and the star-like Boltonia decurrens; while in the early days of the month begins the great pageant of the Michaelmas daisies which lasts until the coming of the November frosts.

It would be possible, of course, to extend the foregoing list almost indefinitely, but it will be found, I think, that from it may be selected enough plants to provide a good succession of flowers in the little garden. They should be grown in small groups—large masses are not possible in a very limited space, but spottiness must be avoided—early, mid-season and late-flowering plants being arranged in series down the length of the border. It is desirable, moreover, to leave spaces at intervals which can be filled with showy annuals such as lavatera, eschscholtzias, clarkia, godetia, coreopsis and cornflowers, these being pulled up when their beauty begins to wane at the end of the summer and replaced by chrysanthemums in pots which are removed in due course to make room for the planting of narcissi, tulips and wallflowers. The flowering season in the border may be extended into the winter by some of the hellebores (Christmas roses), the winter-blooming heaths (Erica carnea and E. mediterranea,) and the beautiful, if capricious Iris stylosa (unguicularis). R. E. H.

A SHRUB BORDER FOR AUTUMN EFFECT

WHEN late autumn arrives there is always little unavoidable regret that the flowering season for the garden is over once more. The last roses of summer, checked by the cold nights, are then doing their best to burst their buds, and the dahlias and Michaelmas daisies are almost over. It is at this season that the proud possessor of an autumn shrub border is still able to find a live interest in his garden, for such a border, even if it is quite a small one, can be made one of the most attractive features in the whole garden display; moreover, it shortens the winter months in the garden and is a joy to all who see it in the shortening days when the flowers are past.

I know of quite a small garden where part of the rockery is devoted to small shrubs for autumn effect, and anyone who saw it during late autumn could not but admit that these shrubs, though but few in number, were quite one of the most beautiful features of the garden in the whole of the year. The shrubs are seen at their best, since they get the advantage of being planted where the rock garden slopes upwards away from the lawn. In this way the shrubs at the back are seen at the top of the slope, so that it is quite unnecessary to use shrubs of larger dimensions, which would take a large amount of space in the limited area.



AVALUABLE GARDEN SHRUB FOR SPRING AND AUTUMN EFFECT, BERBERIS STENOPHYLLA.

One of the shrubs in front is the Irish heath, Menziesia (Dabœcia) polifolia. beautiful dark purple and the white varieties are used close together, and their intermingled flowers contrast beautifully with the dark foliage of the plants which bear them and with the lighter green foliage and coral red berries of Berberis Wilsoni in close proximity. (I know of no autumn feature in the garden more attractive than heaths contrasting with the fruiting barberries, and evidently the Wisley staff were appreciative of this when they recently planned and planted that part of the gardens known as "Seven Acres" at the Royal Horticultural Society's Gardens, Wisley.)

A few years back in this small shrub border, Berberis Thunbergii was used, and its scarlet leaves in autumn made a very brilliant display and gave the border an added brightness. This, however, was moved to make room for some good specimens of Rhododendron præcox, because the owner of the garden wanted a display of the delicate mauve flowers in February and March to rival the display given by the crocuses. The dark green leaves of these newcomers are not lost, however, in giving the Irish heath a good background. Berberis subcaulialata another species of the fruiting barberries which is semi-evergreen and produces coral pink berries, grows beside Erica lusitanica, the Portuguese heath, which bears masses of whitish flowers from December until March. Both these subjects are, perhaps, rather tall-growing for their position, and dwarfer species would have given similar results; however, they are kept within bounds, and I have no doubt that one day they will be replaced as they get too large with, perhaps, Erica mediterranea hybrida and one of the hybrid seedlings of Berberis Wilsoni, of which there are a number in the garden. At one end in the front the prostrate juniper is used with good effect.

This is only one small example of what may be done on any ordinary garden soil; but the range of shrubs which may be used is still wider, and, if the owner decides to sacrifice plants as they become too large, there is yet a wider range. The fruiting barberries, especially hybrid seedlings of Berberis Wilsoni, are almost indispensable. B. brevipaniculata is a bushy species with attractive rosy purple berries of the same coral appearance as those of Berberis Wilsoni. B. polyantha bears clusters of bright coral red berries and is one of the finest, though both these latter are of taller growth and should be kept within bounds.

Among the heaths and heathers, Erica mediterranea hybrida, sometimes known as E. darleyensis, is quite one of the most valuable. Of medium habit, it commences to flower toward the end of October or the beginning of November, and brightens any garden which is fortunate enough to possess it. It comes into flower just as the Irish heath, Menziesia (Dabœcia) polifolia, is over. Erica vagans, with its small pink flowers, which have protruding purplish anthers, is an excellent subject to flower well into the autumn; while varieties of the common ling or heath, Calluna vulgaris, are also attractive. Erica carnea makes a good dwarf edging plant for the present season to be covered in flower early in the New Year.

Senecio Grayi should not be overlooked among the brighter subjects, for here is a plant which will provide that beautiful grey-green foliage which softens the more brilliant colours, such as those given by the leaves of Berberis Thunbergii or a well coloured azalea plant. I have seen azaleas this autumn a brilliant red all over, and it is pleasant to think when planting these that they give

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two displays in the year—flowers in spring and tints in autumn.

The coroneasters present a few berried species which are quite prostrate in habit and which do not assume an upright position unless made to clamber over a rock or trained against a wall. The berries are of a bright crimson and are held by the plants long into the winter. Two of the best of these are C. horizontalis, with rigid growth, and C. humifusa, which lends itself to training more than the former. Both are valuable additions to a dwarf shrub border for autumn tints.

The acers and their various forms become more numerous every year and are a race of highly decorative plants. If used in the small shrub border, however, they must be discarded as they become too large, or planted elsewhere. A. palmatum is the parent of most of the beautiful forms, some having almost fiery red leaves in autumn; others, less highly coloured but none the less attractive, bearing finely divided leaves of green, bronze and almost purple. Many of them present a different colour almost every week as the autumn advances.

Pernettya mucronata and P. speciosa, with their hybrid forms, are almost indispensable to the dwarf autumn shrub border, for, besides being of compact habit, they decorate the border with berries of all the hues found among the heaths and heathers. They love a peaty soil as do the heathers.

All the plants mentioned above are likely to succeed in any ordinary garden soil where there is not too much lime present. Usually the best results are on light soils, and the unsuitable soils are the heavy clays.

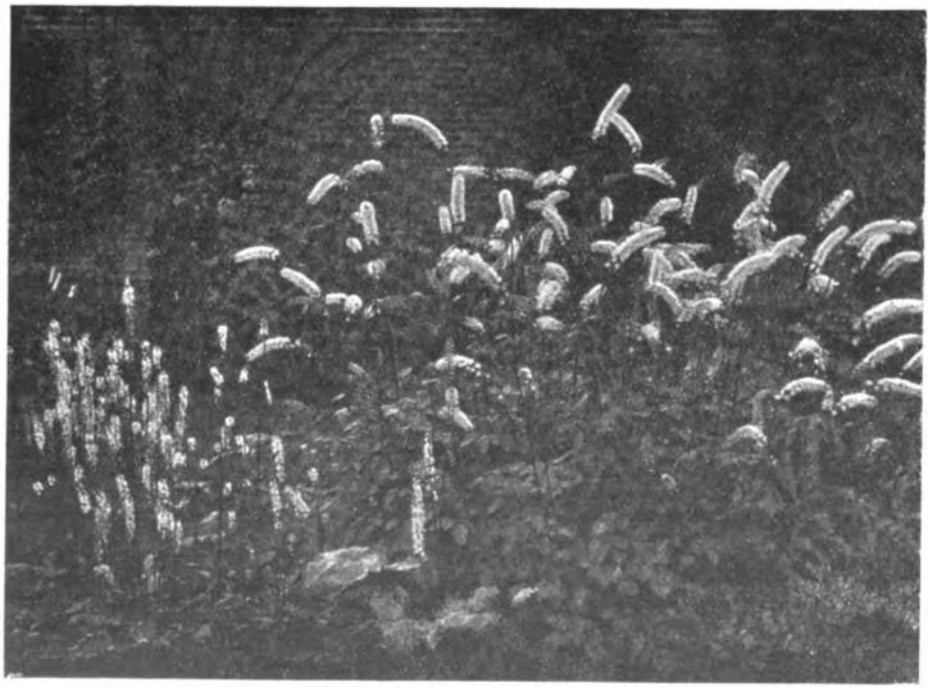
A. D. B.

NOTES ON THE FLOWER GARDEN

Perennials for a Shady Border.

IN planting a border which is shady or, at any rate, partially shaded, the following perennial subjects can be strongly recommended: *Aconitum* (monkshood). — A. Napellus, blue, and its varieties alba (white) and bicolor (blue and white) are the best. Monkshood grow to the height of 4ft. to 5ft. *Anemone.*—A. japonica is one of the best subjects for the shaded border; named varieties give shades ranging through rose, pink and white. The pasque flower (A. Pulsatilla), with purple blooms in summer, also grows well in shaded situations; alba is a white variety worth planting. Another pretty anemone is the snowdrop windflower (A. sylvestris), which has pure white drooping flowers and grows to the height of about 12ins. *Aquilegia.*—Columbines naturally like rather a shaded situation. Some of the best species to grow are A. chrysantha, A. Skinneri and A. vulgaris; in addition the long-spurred hybrids are very handsome. *Campanula.*—One might do worse than plant a shaded border with some of the many kinds of blue and white campanula. Here are a few of the best. C. glomerata, purple with a white variety, 1½ft. high, flowering from May to July; C. latifolia, blue, and varieties macrantha (purple) and alba (white), 3ft. to 5ft., flowering from June to August; C. persicifolia (blue) and varieties alba (white), alba plena (semi-double white), maxima (pale blue), and cærulea flore pleno (semi double, blue), height 2ft. to 2½ft., flowering in June and July; C. rapunculoides, purplish blue, 2½ft. to 3ft., flowering in July. *Cimicifuga.*—A pretty plant with feathery white blossoms and graceful foliage. The height is from 3ft. to 4ft. The species are C. cordifolia, flowers from August to October; C. racemosa, July to September; C. simplex, September. *Digitalis* (foxglove).—These are thoroughly at home in shaded positions. A packet of mixed seed will furnish a variety of shades. *Doronicum.*—D. plantagineum and the variety Harpur Crewe will grow in very unfavourable situations. The long-stemmed yellow flowers are produced in early summer. *Epilobium.*—The rose bay (E. angustifolium) and its white variety alba, flower all the summer. *Funkia.*—The plaintain lily in one or other of the available species is quite happy on a shaded border. Here the lavender flower spikes rise to the height of from 1ft. to 2ft. and the broad leaves are handsome. *Helleborus.*—In addition to the well known Christmas rose (H. niger) the Lenten rose (H. orientalis), should be planted in shaded positions. This plant bears its flowers in the early spring and the colours vary through rose, purple and white, many of the blossoms being handsomely spotted. *Myosotis.*—Forget-me-not plants might be freely used in groups about the shady border and these will flower well. *Pæonia.*—Peonies grow quite well in partial shade and there are, of course, an immense number of fine varieties. *Papaver.*—Iceland poppies may be employed and even where there is not a great deal of direct sun, they can be relied upon to produce a fine show of blossom over a long season. The Oriental poppy (P. orientalis) will also do quite wel lin partial shade.. *Polygonatum.*—P. multiflorum (Solomon's Seal) will grow almost anywhere. *Primula.*—Several members of the primula family are quite happy in shade, providing there is a fair amount of moisture in the soil. The coloured primroses, polyanthus, Japanese primrose (P. japonica) and the Himalayan primrose (P. denticulata) are the easiest to manage. *Saxifraga.*—London Pride (S. umbrosa) is a splendid little plant for shaded situations. S. peltata white, 2ft. high, is also worth growing. *Violas* will do quite well on a moist border that is not too heavily shaded.—L. B.

LUPINS AND ORIENTAL POPPIES SUCCEED EQUALLY WELL IN SUN OR SHADE.



THE CIMICIFUGAS ARE ADMIRABLE PLANTS FOR A SHADY POSITION. THEY ARE MOST ATTRACTIVE WITH THEIR FEATHERY HEADS OF BLOSSOM.

A Handsome Border Plant

Thermopsis montana.

THE flowering season of this useful herbaceous subject is given in many catalogues as June and July, but here at Chepstow it is often in bloom in April and this year it was in full blossom by the middle of May. It is a fine plant, attaining a height of 2ft., the spikes of golden yellow flowers being clothed with laburnum-like foliage. The general habit of the plant resembles the well

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known lupins, and the pea-shaped blooms, continue to open as the spike elongates, so that a display is kept up for several weeks. Owing to its early flowering qualities it is worthy of a place in the herbaceous border, and although when well established it will spread rather freely, no difficulty will be found in keeping it within bounds. It succeeds in any light well cultivated soil, and may be increased by division and seeds. The latter is the most reliable method, because divided plants do not always thrive, although I have found a large percentage will become established if planted in February. T. montana is a native of North America, from whence it was introduced in 1818. It is quite hardy and will afford a bright display in the border at a time when tall plants are rather scarce.—T. W. B.

The Spanish Broom.

DURING June and July this showy broom, Spartium junceum, is a wonderful sight, and flowers will continue to appear until the end of the summer. It is a shrub with a good constitution, quite hardy and will thrive where many other plants would only exist. It attains a height of 5ft. to 8ft., produces few leaves, and the large, rich yellow flowers, which are pea-shaped, are borne in terminal racemes over a foot in length on the new growths. When planted in large groups, it is most effective and wherever possible a sunny, open situation should be chosen. It is an ideal shrub for hot and dry banks and a bed in the semi-wild garden would be a noteworthy feature at a period when most shrubs have passed the flowering stage. In a border or bed chiefly devoted to shrubs it would be quite at home, and may be kept within reasonable proportions by judicious pruning in the early spring before growth begins. S. junceum is readily raised from seeds, and these may be sown about July or August, in pans of light soil. They must be potted off singly at an early date, and the following spring or summer transferred to their final quarters, because this type of plant does not appreciate root disturbance when the plants are well advanced. A firm root run is advised, otherwise it will make rapid growth and soon become leggy at the base. S. junceum is a native of southern Europe and at one time was valuable from an economic point, the fibre obtained from the branchlets having been used in the manufacture of sheets, table linen, etc., the industry being carried on in Italy and the south of France. Owing, however, to cheaper materials, such as cotton and flax, this industry has become almost if not quite extinct. There is also a double flowered form of S. junceum, but it is of no merit, if judged from a garden or decorative standpoint.—B.

THE DECORATIVE SPANISH BROOM, SPARTIUM JUNCEUM.

Hardy Nemophilas.

THE nemophilas are a race of hardy annuals which have fallen from popularity owing to the ever extending use of other border bedding plants; they are undoubtedly worthy of more attention than they get in most parts of the country. Seeds are generally sown in the open where the plants are to grow in April or early May, according to district. When the seedlings are sizeable, they are then thinned out to 6ins. and thereafter kept active by the use of the hoe round them at intervals. All the common species and varieties are at their best in a fairly rich garden soil not too dry; indeed, those whose borders are porous and fiery generally mulch peat litter or short manure round the plants in July, this at one time feeding the plants and keeping the soil moist. The alternative to the mulch is a free use of the watering can. By either method, or without artificial help where the soil is naturally retentive or the weather not too droughty, the nemophilas are delightfully free-flowering, and among the most satisfactory border plants. This and the ease of culture should help to bring them again into popular favour. A good catalogue reveals the best kinds. N. insignis grandiflora is a true delight, the blue open bell flowers being pretty and so plentiful. The white insignis alba is also choice, in districts where the air is clean and soot-free. Holborn Blue Bell I grew for the first time last summer, also very fine. Among the others, the following can be recommended as undoubtedly first class: maculata grandiflora, Princess (large-flowered, clear mauve), atrocærulea, discoidalis (purple) and atomaria (white spotted with black dots).—H. A.

AN ANNUAL TO INCLUDE IN YOUR FORTHCOMING SEED ORDER. THE BLUE-FLOWERED NEMOPHILA INSIGNIS IS EXCELLENT FOR EDGINGS.

Two Unusual Hedge Subjects.

IN north-eastern America I have seen two plants used for low hedges which I believe are not usually made use of for that purpose in British gardens. I refer to Ilex crenata and Stephanandra flexuosa, yet both are admirably adapted for the purpose mentioned and possess the merit of distinctiveness in addition to the fact that they bear shearing well and are absolutely hardy. The former seldom grows more than 5ft. to 7ft. in height and the stephanandra does not generally exceed that height.

Ilex crenata is an evergreen of very dense, rigid and compact growth, furnished with glossy, stiff green leaves about half an inch long and from one-eighth to a quarter of an inch wide. It is a native of Japan and several forms are obtainable. It is readily propagated from cuttings inserted in a sandy soil in a cold frame in the autumn. I understand that this plant is used for topiary work in its native country, but it is as a hedge, from 2ft. to 4ft. high that it appears to me to be most useful. Stephanandra flexuosa is also a native of Japan and Korea. It is a deciduous shrub of graceful habit, forming a good specimen plant in addition to its usefulness as a hedge plant. The leaves are roughly triangular in shape, handsomely lobed, so that they somewhat resemble a large hawthorn leaf, and the plant is also rendered attractive by reason of its naked brown stems in winter. As a change from the usual hedging subjects, Stephanandra flexuosa has much to recommend it. Propagation is readily effected by means of cuttings, as recommended for the ilex, or it may be increased by division or from root cuttings inserted in heat in March.

Both Ilex crenata and Stephanandra flexuosa thrive best in a moist, loamy soil, but even extreme mediums can be modified to suit their requirements.—GREYSTONE.

Flaxes for the Rock Garden.

THERE are two of the perennial linums of outstanding merit which can be used with good effect either in the flower border or in a big pocket near the top of the rock garden, and they are L. monogynum and L. narbonense. The former is a native of New Zealand and, proving quite content with our climate, attains a height of rather more than 12ins. Throughout June and July there is a bountiful supply of the purest white flowers, each an inch or more across. L. narbonense, from the south of Europe, may be regarded as one of the very best linums. It grows about 2ft. high and for a period of several weeks, usually commencing in early June, flower follows flower in such rapid succession that were it not for the tell-tale petals upon the ground one would never suppose a change to have taken place. Before the petals unfold there is a suggestion of violet in the colouring of the outside of them, but when open the colour of the inside of the petals is of the richest blue. Used in mass this is decidedly a good subject for providing a bold sweep of colour. To get the best results with linums a sunny though not exposed position should be selected and a soil which is light and porous. Seeds of these may be sown in boxes under glass early in the year, or in the open in April, transferring the seedlings as soon as they are large enough to handle to nursery lines or to their final positions. Seeds may also be sown where the plants are to flower.—W. H.

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GARDENING IN TOWN AND SUBURB

BY R. SUDELL, *Organising Secretary of the London Gardens Guild.*

Decorative Almond Blossom.

THE dainty pink flowers of the almond (amygdalus) are beloved because of the early season at which they flower, as well as for their special beauty. Almond trees flourish even in smoky town districts, and their brave display in early March is one of the most cheering of sights that a town garden can produce. There is a fatal tendency in some districts, however, to over-do the almond as a specimen tree, and this is particularly deplorable where red brick is the order of the day. Almond blossoms do not show well against red brick, and although from inside the house the flowers may be charming, their appearance on a background of new brickwork detracts from the beauty of many a roadway in suburbs where almond trees have been planted with monotonous regularity in each garden. As an alternative to the pink almond, I would suggest a double white cherry (Prunus Avium fl. pl.) for the garden where red brick forms the background.

A SMALL WATER LILY POND MAY BE INTRODUCED WITH EFFECT IN A LAWN IN A SMALL GARDEN.

Treatment of Sweet Violets.

SWEET violets that were lifted for forcing in September and put into gritty soil in frames, should be looking well now. To keep them healthy it is essential that air should be given on all possible occasions. When the weather is fine and sunny, the frame light should be removed entirely during the day. Fogs are the worst of winter troubles for all members of this family, causing the leaves to damp off and the flower buds to wither. The best varieties for growing in frames are Marie Louise, Comte Brazza, and the Parma violets, but almost any variety will succeed well. Flowers should be obtainable for cutting at Christmas time or immediately after.

Weeds on Rockeries.

A WEEDY rock garden is almost a hopeless proposition. That is to say, it cannot be cured except by the drastic method of reconstruction. But if the rock garden has, through unavoidable neglect, been allowed to become weed-ridden, now is the time to renovate it. Except when there are frosts about, it does the plants little harm to be lifted. Weeds can then be pulled carefully from among the plants, the soil can be stirred and the stones rebuilt where necessary. Fresh gritty soil put into the pockets will help the plants to re-establish themselves rapidly, and when spring comes the rockery will show little sign of disturbance, except for the vanished weeds. In smoky districts the actual division of rock plants is best deferred until March. But to lift a plant with a good ball of soil round the roots will do no damage.

A Tiny Water Garden.

WATER gardening is fascinating. Plants usually grow in the soil and behave in a different manner from those which inhabit ponds and streams. Leaves of the water plants are filled with large air spaces like a sponge, by which they float. Special surface varnish is used to protect the tissues from decay. In some aquatic plants the seed pods are withdrawn beneath the water to ripen—an ingenious device to escape the plundering feathered folk. Just now water lilies are going to rest. They are like many of the ordinary border plants, such as Michaelmas daisies, and although perennial the tops die down each year. No special attention need be given them until spring.

Making Pathways.

FOR those who have new gardens, where not even the paths are constructed, a few hints on this important part of garden making will be specially helpful just now. The direction of paths in the garden depends entirely upon the general design, but the material of which the pathways are made is usually dictated by the cost. Gravel is often the cheapest material obtainable, particularly so if it can be dug from the subsoil. In this case, too, there will generally be no need to make special arrangements for drainage, as the subsoil will be naturally one through which surplus water will pass freely away. If there should be any doubt regarding this point, the site for the path should be prepared as follows:

Take out the soil to a depth of a foot, making the trench so dug a little deeper in the middle than at the edges. A pipe can, if desired, be put down the centre, and a soak-away dug every twenty yards or so to take the surplus water. But this is seldom necessary in a small garden. What is of importance is that the bottom layer thrown into the trench should be of brickbats, flints or some such loose material. Over this would come a layer 3ins. or 4ins. thick of clinkers, with the finer siftings from these put over the top of the coarse pieces. It must be rolled with a heavy roller at this stage, and again after a final layer of gravel has been added. Two to four inches of gravel are needed. The centre of the path should, when laid, be higher than the sides, to encourage the draining away of the water.

Spraying with liquid tar after the gravel is laid makes a fine smooth surface to a gravel path, and in addition to keeping it dry and clean, it prevents the growth of weeds, and the working up of loose stones. If the black colour of the tar is disliked, a liberal sprinkling of ashes over the surface before the tar is dry will tone down the dark appearance.

Winter Digging.

ONE successful gardener of my acquaintance makes a practice of turning over his soil at least four times during the winter. He says it helps in several ways. For one thing, the insects are brought to the surface and eaten by birds. For another, the rough digging allows the frost to penetrate, thus breaking up the large lumps, so that at seed sowing time it is easy to manipulate. Actually, turning over the soil does more than this. The fresh air helps the development in the soil of those bacteria which are most helpful to the gardener. The soil, therefore, becomes richer the more it is worked during the winter months. But it should not be forgotten that because the air is so beneficial to the soil, the top layer is always the most fertile. Therefore, as you dig, make sure that the top soil remains on the surface. Break up the subsoil to improve the drainage, but leave it where it is. And, of course, bury all organic matter you can so that it will decay and form manure in the soil. In this way you will be making certain of success in your 1928 vegetable garden.

Birds as Assistants.

GARDENERS do not always realise how helpful birds can be in ridding the soil of pests. As soon as the crops are harvested, the wise gardener will dig his ground, leaving the surface as rough as possible. If he can get this done before the hibernating insects have sought shelter at a great depth, a large number of them will be brought to the surface and will fall a prey to the birds. The more the surface spit of soil is turned over during the winter months, the cleaner it will be next spring. Those pests which do not get eaten by birds will probably succumb to frosts as the weather gets colder.

One other point in connection with pests should be noted. Weeds are attacked just as frequently as are garden plants, and if weeds are allowed to remain in the ground, they may be feeding and encouraging the pests. Even during the winter months, therefore, weeds should be kept in check. Either bury them very deeply, or put them into a compost pit with lime, where they will gradually decay into good garden manure.

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NURSERIES OF THE BRITISH ISLES.—XV

MESSRS. W. J. UNWIN AND SONS, OF HISTON, CAMBS.

WITH the extended development of any industry, due to the increasing popularity of its wares with the public, comes the need for specialisation in various branches of that industry. Little progress can result unless such specialisation occurs, and it remains for enthusiasts engaged in the industry in question to determine in what way they can render the most efficient service. In recent years, specialisation has been most marked in horticulture. The subject has become so vast and the field covered so wide, that it has been necessary, except in the case of large firms, for members of the trade to specialise in certain sections for which they may consider themselves well fitted to serve the interests of the gardening public. Some have specialised in certain sections of gardening; others have devoted themselves to the culture of only a few garden plants in an endeavour to develop and improve them and so win for them a permanent place in every garden. It is to the work of these firms that we owe the fame of British horticulture abroad. Their patient labours, study and research, associated with the evolution of improved types and varieties of garden plants, may have resulted in a certain amount of well deserved material success to the firms themselves, but they also have certainly led to a wider and fuller appreciation of plants and gardens, not only in this country but also abroad. It is to these specialist firms that all gardeners owe the finest creations in varieties and strains of plants that grow in gardens to-day. As a token of our appreciation of their services, we take one example to illustrate the case of the many. Others have already been dealt with in this series.

HOW MESSRS UNWIN'S GROW THEIR PRIMULINUS GLADIOLI.
A field in August.

The name of Messrs. W. J. Unwin of Histon, Cambs., is sufficiently well known to readers of THE GARDEN to make a brief description of their work almost seem superfluous; but it may not be without interest to many to learn of the gradual rise and progress of the firm and how during the past and at the present time they are striving to serve the interests of the ever-increasing army of amateur gardeners by creating and moulding public taste along certain well defined lines.

The business was originally started in 1905 as a separate unit, although two or three years previously had seen the germ of it by the production of one or two varieties of sweet peas. Up until 1905 the business was largely a florist's one and trade was only done with cut flowers and, to a certain extent, fruit growing. Mr. Unwin's interest, however, centred in the sweet pea, and he determined to set up business as a nurseryman, specialising in the raising of sweet peas. For the first three years it proved an uphill fight, and the new venture was run at a loss, but gradually, as the firm and their products became known, success resulted. The business has continued to grow and flourish since that date, except for the intervening period of the war, until the present time, when they are now recognised as one of our leading growers of sweet peas and, of more recent date, gladioli. That the business has enlarged is endorsed by the fact that two of Mr. Unwin's sons have been taken into partnership. Both take an active interest in the business and are well known in the trade and probably to many of our readers. Mr. Charles Unwin, the eldest son, has been in charge of the sweet pea branch of the business for the last six or seven years, while Mr. Frank Unwin is responsible for the exhibits of the firm at the different horticultural shows throughout the year. Mr. Charles Unwin is one of our acknowledged authorities on the sweet pea and is known to most sweet pea enthusiasts by his writings and his wireless talks. It is largely through his enterprise that the firm publish every year a small handbook on the sweet pea, giving cultural hints and also a critical review of individual varieties from all sources. This supplementary report on new varieties is valuable, since it is based on many years' experience and an intimate knowledge of the subject and should prove of considerable service to all who are interested in the growing of this decorative annual.

SOME OF THE FIRM'S NOVELTIES IN DAHLIAS.
Note the robust and sturdy habit of the plants and their profusion of flower.

Among the first sweet peas to be raised were Gladys Unwin, which appeared as a sport in Prima Donna. A stock of this variety was worked up and the variety was remarkable for coming so true to type. Very few rogues appeared in it. Work in the raising of new varieties has continued on strict Mendelian lines from that date until now and the world of sweet peas has been enriched to the extent of fifty to sixty fine varieties, a few of which may be mentioned in Sybil Henshaw, Mrs. Chas. W. J. Unwin, W. J. Unwin, Mrs. Horace Wright, Mauve Beauty and Queen of Roumania. It is interesting to note that Messrs. Unwin carry out reliable trials every year for the purpose of comparing the newer varieties

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with the older sorts, in order to see for themselves the points of distinction and similarity between each and so to guide their customers. It is well known nowadays that many of the newer sweet pea varieties that make their appearance, show but little advance on those of a year or two ago and the public to be safeguarded must be guided by the opinions of competent growers and we were pleased to discover that Messrs. Unwin undertake this important work. Every variety of sweet pea is grown in one of their nurseries at Histon and grown, too, both on the exhibition system and under garden conditions, so that a reliable estimate of the merits of the variety can be obtained first hand. The marketing and distribution of the seed forms an important side of the sweet pea industry. A considerable amount of trouble is taken to see that all seed sent out is true to name, although it may sometimes happen that rogues appear. It may be mentioned that Messrs. Unwin's guarantee the germination of their seeds, so that every one can be relied on. This is an important point that the amateur would do well to consider.

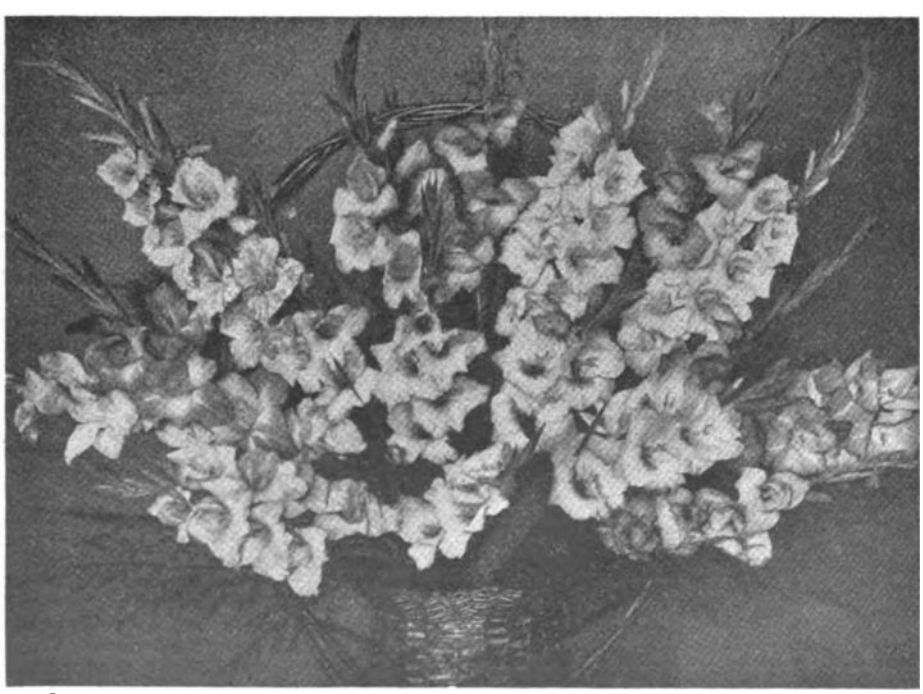
Some few years ago, not content with a prominent place in the sweet pea world, the firm, scenting a rapid increase in the popularity of the gladiolus as a garden plant, in which recent events have shown them to be correct, decided to take up its culture. All leading varieties were collected from growers all over the world and a period of intensive cultivation was embarked upon, with successful results. In addition to obtaining all the leading varieties, a small collection of species, embracing some twelve to fifteen at present, has been made and at the time of our visit we saw many of these in flower for the first time. They have all been introduced from South Africa and although not plants of any intrinsic garden merit as they stand, compared with our present cultivated varieties, they will prove of far reaching value in the hands of competent raisers like Messrs. Unwin, who will use them for crossing purposes in the creation of new varieties. It is certain that in a few years' time we can look forward to a rapid development and great improvement on even the best of our existing varieties of this singularly beautiful garden plant. A bed of new seedling gladioli which we saw this year contained many fine things, among which was an especially fine seedling of a dainty habit, carrying delicate pale pink bell-like blossoms. Once a stock of this variety is obtained, we feel sure Messrs. Unwin will have a winner. It is of even a more comely habit than any of the present-day primulinus varieties, though smaller in stature and with slightly smaller flowers. It will prove extremely popular for interior decoration as well as for the garden. This is only one example from the many fine things that are in store for all gladioli lovers. Messrs. Unwin were one of the first firms to exhibit gladioli at flower shows and in the last two or three years they have done much to popularise the flower and bring it within reach of every amateur.

But they have not confined their attention solely to the sweet pea and the gladiolus. The dahlia, for some six years past, has interested them. The work was first commenced by crossing the charm dahlia and Coltness Gem. Many charming plants have been obtained and seven varieties have already been placed on the market. There are numerous others to follow, all with a character and beauty of their own. The varieties are roughly of a height of 18ins. to 2ft. The maximum height for a dwarf dahlia is regarded by the raisers as 2oins., and in that they are correct. Growers are sometimes apt to forget the height of their plants in their eagerness to obtain colour and form. Messrs. Unwin aim at producing a plant that does not require staking, and is stocky and robust, free flowering and with good foliage. Their plants, as we saw them, carry all these admirable qualities. The seedling dahlias which we noted were remarkably true to colour and it is Messrs. Unwin's intention to produce seeds of varieties to come true to habit (the Coltness habit with the charm flower), but not constant in colour. The colour of the flower is a second consideration.

NEW DAHLIAS WITH THE HABIT OF COLTNESS GEM AND THE CHARM FLOWERS.

A few years ago a speciality was made of sweet williams and a fine strain has been evolved by crossing Scarlet Beauty with the auricula-eyed form. This year they put a new poppy on the market, known as Coonara Poppy, a cross between the Iceland and the Shirley and showing many pink shades. The beauty of this poppy, which originated in Australia, through the activities of an Australian lady, was well illustrated on the front cover of THE GARDEN in July last.

These are but a few of the firm's interests. Large numbers of other plants are grown, including many antirrhinums. Over thirty acres, scattered over the county, are devoted to the culture of gladioli, dahlias and sweet peas, and that the plants succeed in this district is self evident. Seldom have we seen such vigorous seedling gladioli; many were showing flower the first year from seed. The health and cleanliness of the plants in question are above reproach. Many awards have been won by the firm at shows and in competitive classes and in the vegetable side of the business, which is an important one also, many awards have been granted by the R.H.S., a fact which speaks well for the quality of their produce. The success that has attended the initiative and enterprise of Messrs. Unwin only serves as a further illustration of the old adage that "skill and pains, bring fruitful gains."



A DECORATIVE BASKET OF LARGE-FLOWERED GLADIOLI GROWN BY MESSRS. UNWIN.

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FOR SCOTTISH GARDENS

Notes Practical and Critical for Amateurs, by a Scottish Expert.

WE have now reached the slackest period of the gardener's calendar, and from mid-December until the end of February little or no outside work is done by Scottish amateurs, whose enthusiasm in matters horticultural generally reaches its lowest level. The fact is that inducement is not offered, neither is pleasure to be obtained during that period.

In theory, perhaps, it is all very well to advocate various operations which are suited to favoured localities in the south, but in practice the advice given by English writers is not practicable under average winter conditions in Scotland. And even were the weather open and the soil workable, the ordinary amateur has no opportunity to spend a profitable hour in the garden when the days are short, since there are few employers or employed in the ranks of the ever-increasing army of amateur gardeners who are in a position to leave their daily occupation before darkness sets in, and only on an odd occasion is there an hour available on a Saturday afternoon. Folks who are not in the possession of a greenhouse may, however, find compensation by devoting part of their spare time to the study of the new seed catalogues and planning new, or altering old, arrangements for the future. Such circumstances must not be interpreted as justifying neglect, and if beds and borders have not received their winter cleaning, tidying-up operations should be overtaken without further delay, for a garden which is littered with decaying vegetable matter and the remnants of the past season's crops is unsightly, and in certain cases offensive. Tidiness and order are a primary duty, the observance of which neither requires knowledge nor experience.

The owner of a small greenhouse is in a more fortunate position, as there are lots of little odd jobs that require attention, and under suitable management there need be no difficulty in providing a succession of bloom from midwinter to summer. Late chrysanthemums are almost past for the present season, but the primulas, Beauty stocks, winter-flowering begonias, etc., maintain an effective colour display, while the early planted hyacinths, tulips and other bulbs are coming into flower and should ensure decoration until the coming of the roses, clarkias and schizanthus in April and May. Pot roses may be taken inside and pruned. Such subjects as fuchsias, geraniums and border carnations that are wintered under glass should be kept to the dry side; indeed, water must be given sparingly if it is required at all. Avoid overcrowding, and when weather conditions permit see that air is circulated freely, because plants can only be kept in a healthy condition if the atmosphere is fairly dry and cool. If red spider or aphis is troublesome, fumigate the house occasionally with Autoshreds, which are safe and effective when used according to the directions given on the packet.

In the winter management of frames dampness is the principal danger to plant life. Fresh air is the remedy. When the temperature is moderate ventilate freely by keeping the sashes open in daytime and closing them at night. A safe rule to follow is to keep the lights closed during wet and frosty weather. The little watering that is necessary should be done in the morning and care taken that the foliage is not wet. As a further precaution pick off all decayed leaves, loosen the surface soil, wipe off any green slime that may have accumulated on the outside of the pots and dry the staging on which they stand. Birds, mice and slugs are troublesome, and sometimes cause injury to sweet pea seedlings, carnations and violas raised from cuttings. Protection from the first-named enemy can be provided by stretching fine-meshed wire-netting across the top of the frame when the sashes are open. Mice and slugs may be controlled by trapping, but the latter are less persistent in their efforts when the pots are plunged to the rim in ashes.

Nurserymen report a good demand for roses, and planting may be continued while the soil remains workable, but if operations cannot be overtaken before Christmas, transplanting is better to be postponed until March. Shot Silk and Betty Uprichard share the honours as the most popular varieties, and while Etoile de Holland takes the leading place among the crimsons, Earl Haig has come rapidly into favour as a bedding sort, as the result of its good record during the past unfavourable season.

If the work of heeling over broccoli as method of protection in winter has been overlooked in November, an endeavour should be made to carry out this desirable operation before the end of this month. Assuming that the rows have been planted east and west, the heads should be bent over towards the north by taking out the soil to the depth of a spade on the north side and depositing it so that it forms a ridge sloping towards the bottom of the trench formed. When the plants are heeled over take out the soil from the second row and use it as a covering for the roots and lower parts of the stems belonging to the plants already heeled over. This keeps the heads down in a position that affords a certain measure of protection from the northerly and easterly winds. In the event of the rows running north and south, heel the plants over in a westerly direction. About a month later give the broccoli a light top-dressing of nitrate of soda and continue the treatment at fortnightly intervals during February.

Whenever possible, the ground that is to be occupied next season by deep-rooted vegetables should be deeply dug or trenched, for it is only by this treatment of the soil that crops of carrot, beet and parsnip of the best quality can be raised. The onion bed will also repay early preparation. If not already done, select a good piece of ground and trench it three spades deep. Place a layer of manure between each spit, and when the trench is completed allow it to lie with a rough surface until February, when a liberal dressing of soot and artificial manure should be well raked in, and the operation repeated about the end of March. For exhibition purposes the seed is usually sown in shallow boxes early in January in a temperature of about 50° Fahr., and after watering thoroughly no additional moisture is required until germination has taken place. The seedlings must be carefully watered during succeeding stages of growth, otherwise they are liable to damp off at that dull season of the year.

Other seasonable work consists of lightly pruning fruit trees on walls and securing the shortened branches by nailing them up to the mortar spaces between the stones or bricks. All fruit trees and bushes benefit by a liberal top dressing of manure in the dormant season and an occasional syringing with a winter wash is helpful in the destruction of disease germs and insect pests. The sweet pea trench that has remained open for a few weeks may now be filled in. As already directed, animal manure in generous quantity should be restricted to, and thoroughly mixed with, the bottom spits, while the top spit should consist of the finer selected soil, to which bone-meal and soot have been added. As the earth generally subsides by planting time, leave the soil a few inches above the ordinary surface level and dust it lightly with lime.

ST. MUNGO.

NOVELTIES IN SWEET PEAS

(*Concluded from page* 792.)

Nina (J. Stevenson).—Awarded a certificate of merit at the Scottish N.S.P.S. Trials. I cannot criticise or praise this variety, as I have not yet seen it. The colour is a solid shade of deep rose pink described by the raiser as unique. It is large and vigorous.

Pinkie (C. C. Morse and Co.).—Silver medal, Scottish N.S.P.S. 1927 Trials. A deep, bright rose pink best described as a deeper, brighter Hebe, large and very vigorous, the colour keeping very consistent in all weathers. I should not be at all surprised if this variety heads the rose pink colour section, it is so dependable, useful alike for exhibition and decorative purposes; it is certain to become popular.

Pink Tip (W. J. Unwin).—One might best convey the characteristics of Pink Tip by terming it a Dainty Lady (see p. 791) on a white, instead of cream, ground. Like that variety, it gives many duplex standards and is very frilly.

Prince of Orange (C. C. Morse and Co.).—I had the opportunity of seeing this pea growing under glass at Messrs. Dobbie's Marks Tey Seed Farm, and of comparing it with other first-class orange varieties, such as Royal Sovereign. It is deeper and richer in tone than any other orange previously introduced, and while its vigour and size are such that it needs good culture to produce first-class exhibition blooms, yet if it can be grown well and shaded out of doors—or, better still, grown under glass—it is certain to give satisfaction. Like all other orange varieties, it is not sunproof.

Princess (A. Ireland and Hitchcock).—I do not remember having seen this pea, so must give the raisers' description only, and refrain from further comment. "A most delicate shade of pink overlaid with a charming shade of rose, with a suggestion of orange shading, which lessens towards the edge of petals. When bunched it is very charming and never fails to attract attention. The flowers are borne on long, stout stems and are of large size, while many are produced with double standards."

Snow Queen (A. Dickson and Sons).—From the description, this would appear to be not unlike Avalanche, but whether it is better than this variety (which I consider to be the best white-seeded white sweet pea) I must leave until I have seen them growing side by side. Messrs. Dickson say that "from several seedlings, we have, after comparative trials, selected Snow Queen as the best long-stemmed, pure white and all of absolutely true Spencer form." For many years Edna May reigned supreme as the best white-seeded white sweet pea; then came Avalanche, a welcome improvement. If Snow Queen is better still, it is indeed a fine variety.

Sunkist (C. C. Morse and Co.).—After careful comparisons made last season, I

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have no hesitation in saying that this is the best cream ground picotee. It is almost a cream ground Youth—not, perhaps, quite so large-flowered as that variety, but nevertheless, large enough for the keenest exhibition purposes and an improvement on older picotees which will be appreciated by all—and there are many—with whom such varieties as Jean Ireland, Mrs. Breadmore etc., have long been favoutites. It is very vigorous and long-stemmed, while the edging is broad and nicely defined.

Susan (R. Bolton and Son).—Cream pinks of any shade always find hosts of admirers; Susan is not likely to be an exception. It is difficult to know just what variety with which to compare it, but it appeared to me—as exhibited—to be a much softer-toned Picture, very dainty and attractive.

The Prince (A. Ireland and Hitchcock). This new crimson was given an award of merit at the 1927 N.S.P.S. Trials. It is very large, vigorous and a deep shade of blood crimson somewhat similar to Sybil Henshaw and Red Gauntlet. It should prove to be an excellent exhibition variety, but I would not go so far as to say it is a decided improvement on the two peas named above until I have grown them side by side.

Victoria (Bland-W. J. Unwin).—Certificate of merit, 1927 Scottish N.S.P.S. Trials. At first glance, this novelty appeared to be identical with Powerscourt, but after comparison I found it to be not only purer and lighter in tone, but slightly larger and more wavy in the flower, while it is just as vigorous and long stemmed. Powerscourt is one of the most popular of all sweet peas, so it seems almost certain that this Canadian-raised novelty has an assured future. The colour is a soft tone of pure lavender lilac with no trace of any harsh rosy shading. C.H.A.S.

FRUIT AND KITCHEN GARDEN

A Garden of Herbs.

IT is usual to find some of the many aromatic and edible herbs in nearly every garden, but a garden of herbs is probably much less common. They are not altogether easy subjects to place in a garden scheme.

Some are purely useful, while others rely for their popularity on the fragrance of their foliage.

It is now time to consider setting aside a special place for a herb garden and for this purpose the borders of a fruit or kitchen garden are particularly suitable.

In general, herbs are hardy and extremely easy to propagate and the yield in flowers and leaves for drying, flavouring and other purposes gives a good return for the space occupied.

The accompanying sketch gives some indication of such a garden and shows a method of planting.

Cuttings of lavender, rosemary, rue, tarragon (old man) and sage, taken in the summer, can now be planted and, if placed well back from the path, sufficient space will be left for dwarf herbs. They all grow very quickly and will form miniature hedges during next summer. Common sweet lavender will be suitable, but there are dwarf kinds which will make more compact hedges if the area is limited.

Rosemary cuttings, if well rooted, will soon grow into fine shapely bushes and an occasional cutting back will keep them in good form. They show to advantage if planted formally, or in a circle, as shown in the sketch, and finish off the general appearance of a central feature, such as a sundial or fruit tree.

There are various kinds of thyme worth growing, which can now be planted. The lemon thymes (aureus and citriodorus argenteus) are suitable for borders, while coccineus, Serpyllum album and lanuginosus will make a pretty show on a small rockery.

Seeds of sweet basil, chervil and other annual herbs can be sown in March, with calendula, to give a show of bloom in the border throughout the summer.

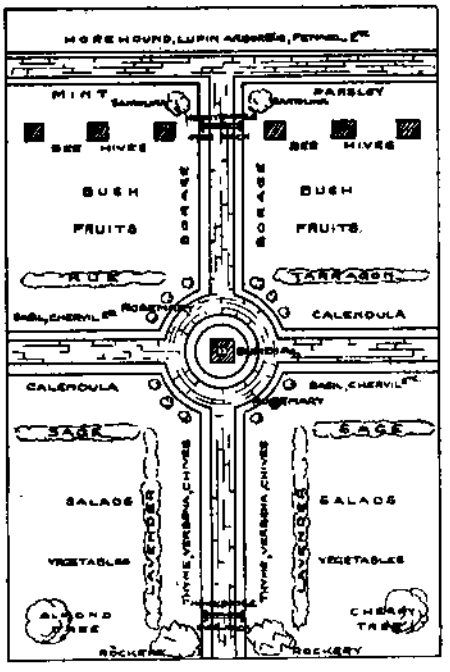
Bees are extremely fond of herbs and the flowers of lavender, chives and common borage provide a happy hunting ground for these busy insects. Common borage (officinalis) can be easily grown from seed sown in the spring. In succeeding years its self-sown seeds will germinate almost without attention. Both common and perennial borage (laxiflora) are worth growing, for their flowers make a fine show if massed.

Santolina (lavender cotton) makes a suitable miniature bush to mark a corner and its small yellow flowers and grey foliage give it a pleasing appearance.

If more colour is required a number of dwarf-growing herbaceous plants can be included in the border, such as Alyssum saxatile compactum (gold dust), sweet williams or even border carnations and pinks. Catmint makes a good edging if it is desired to give the bees a real paradise, and it can be planted alone or alternated with the alyssum.

Mint and parsley will, of course, find their usual unobtrusive place in the borders.

The fragrance of a garden of the above subjects can be well imagined, particularly on a hot summer's evening, and the appearance of the garden for vegetables or fruit,



for which there is ample space in the centres of the beds, will be considerably enhanced. The herbalist will also find great interest in a collection with such well known medicinal properties.—L. G. B.

Sage and its Uses.

SAGE is an easily grown and very useful herb. The seed may be sown in spring on fine soil, and the seedlings transplanted into rows about 12ins. apart each way; or cuttings may be put in towards the end of August, using a sharp, sandy compost, in a shady position. The cuttings will be well rooted by the following spring, and be ready for transferring to their permanent quarters. The plants will continue in good health for years if cut back a little annually. For winter use the shoots may be hung up in a dry shed till quite dead, and then stored away; but, as a rule, all the sage required in an ordinary household can be cut from the plants at any time of the year.

Sage is much used in stuffing and sauces, and a vast quantity is required by sausage makers and purveyors of dried herbs, so that the plant usually pays well to cultivate. A decoction of the leaves may be drunk as tea, which is considered tonic and astringent, and useful in cases of gout and rheumatism. The tea, along with vinegar or alum and honey, is a valuable gargle in cases of inflammation of the throat and relaxation of the uvula. The bruised leaves of sage may be applied as a poultice for curing skin and other wounds. Sage is much valued by the Chinese, and credited by them with great medicinal virtue, and to be of no little importance in cookery. So much did they esteem the herb that the Dutch used to barter it for three times its weight in best China tea. Red sage is profitable to grow for medicinal purposes, but great care must be taken with the drying, after which it should be stored in corked bottles.—R. E. D.

Planting Figs.

MORE figs should be grown in our gardens. There are so many suitable, warm portions of walls in the garden itself, or near taller buildings, where fig trees would thrive if properly planted and managed. Proper planting means such as will, practically, ensure the fruiting of the trees. It is an easy matter to be successful in growing fig trees, quite another to ensure fruit forming and ripening on them. The first two essentials, are: thoroughly ripened trees, those that have been grown hardily and, in consequence, are very short-jointed; and a firm rooting medium. Having selected the position take out soil to a depth of 2ft. and over a space of 4ft. by 3ft.; the hole made will be large enough to contain soil that will, with judicious feeding, support a big specimen for half a century or so, as some roots are sure to enter soil around the station. But an effort should be made to confine the roots as long as possible. If procurable, use chalk to form a wall 9ins. round and a bed to the hole 6ins. in thickness. If chalk cannot be obtained, use old bricks for the purpose. An ideal compost will be one of very turfy, fibrous loam, bones, finely ground and lime rubble used as follows: Bones a 7in. potful and lime rubble 2 pecks to 5 bushels of the turfy loam. Make up the beds while the ingredients are fairly dry, then they can be well firmed. Cover the roots 4ins. deep and have the main stem at least 14ins. distant from the wall. Two good varieties are Brown Turkey and White Marseilles; if one only is to be planted, select Brown Turkey.—G. G.

Preparing Ground for Chicory.

TO obtain fine roots of chicory it is necessary to prepare the soil thoroughly. Really large, well shaped roots cannot be grown in roughly dug ground. Where the soil is of a heavy, adhesive character, it is all the more important that such should be deeply dug and well broken up while it is rather moist, as it will not give to the tools later on when sun has baked the lumps quite hard. To take the trouble to pound up the lumps would mean loss of valuable time when so many other things need attention. Of course, there is not much trouble with very light or sandy soils, as these can be quickly prepared at any time. Fresh, littery manure should not be used. If some well rotted manure is available, it may be incorporated with the soil quite deeply now, as the digging work is done. Also, in the case of clayey soils, it is a good plan to mix any old potting soil o:

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some old leaf soil, soil from a very old refuse heap provided there is not any foreign matter, such as sticks and the roots of coarse weeds in it. But in each case it is advisable to pass the soil through a 1in. mesh sieve before it is added to the border soil. Probably only a few short rows are required, so that two barrow-loads of old, fine soil will be sufficient to improve the character of the heavy loam and also enrich it for the benefit of the chicory crop.—GEO. GARNER.

Forcing Asparagus.

DURING this month some litter and tree leaves may be collected with a view to making a good hotbed on which asparagus may be forced early in the new year. The bed may be constructed in a deep frame or in a forcing house. The latter is preferable, as the top heat will supplement that of the hotbed. When the latter is made put on about 4ins. of finely sifted soil, on which the asparagus roots should be spread out. Cover these with about 6ins. of soil. The roots must be strong and arranged rather closely together to economise space. Be careful not to make the soil too moist, but after the young grass begins to grow maintain a moist atmosphere around the bed. It is not advisable to spoil a good bed of asparagus for this purpose, but where there are beds being discarded use the old roots and crowns in this way first.—H.

Preparing Ground for Late Planting of Fruit Trees.

A FRUIT tree is required to occupy a certain position for many years. Only during its youth can a specimen be safely and economically lifted and re-planted after a certain amount of root-pruning. Therefore, it is advisable that the soil should be quite clean—free from the roots of coarse weeds and other foreign matter—before any trees are planted. If an ordinary plantation is being dealt with, the necessary amount of work in the preparation of the soil is considerable, and such work cannot be thoroughly done if it is deferred to the last moment—the planting time.

Some thought should be given to the site. If we take apples and pears as the main occupants of the new orchard, we find that they require protection from the cold north and east winds and the gales from the south and south-west. Advantage may be taken of existing shelters. Where such do not exist, a few trees may be planted at a suitable distance away to provide the shelter in due course. The trees will grow more rapidly than the fruit trees, and if Cupressus macrocarpa be selected growth will be very rapid, its shoots may be trimmed twice each year and the shelter be turned into an ornamental one as well.

The soils should be trenched 3ft. deep. The top half is the only portion that will require special treatment as regards manure. The lower portion must be thoroughly broken up and left below; even if it is a mixture of gravel and soil and naturally well drained the breaking up is necessary for the general welfare of the trees. If a clay subsoil obtains, then extra care is needed in the breaking up of it and the natural settling down afterwards without any undue treading upon the ground will be beneficial. In early spring the planting should be done, and the drier the soil then the better will the trees succeed. In the case of strong clay soils it will be advisable to keep the roots almost level with the surface and mound them with some finer and lighter soil.—CHRISTCHURCH.

GREENHOUSE NOTES

Present Treatment of Late Grapes.

IT is neither necessary nor desirable that bunches of grapes should be allowed to remain any longer on the vines. Grape rooms may not be available and, indeed, they are not necessary except in cases where the grape vine is largely cultivated. A neat little grape rack can be constructed in a clean, dry shed or even in a spare attic room. For each row of bottles two strong laths are so fixed that the bottom of the bottle rests on the lower lath and the neck of the bottle on the higher one. The bottles should have an upward incline of about 40 degrees, and the stem of each bunch should be long enough to reach, at first, almost to the bottom. At intervals of three weeks a small piece should be cut off the stem to open the sap vessels and allow water to enter. On the end of the cut stem above the bunch a small potato should be impaled. The bunches should be so arranged that they are clear of each other. The room must be darkened but ventilated a little. A very dry atmosphere is essential. Cleanliness against dust can be assured if pieces of muslin are suspended in front of the grapes and fastened all round judiciously. The vines will be cleared of bunches and pruning and cleaning work can be attended to.—G.

Taking Down a Greenhouse.

MUCH glass may be saved from breaking when taking down a greenhouse, if the operation is carried out on the right lines. First commence with the ends of the house, that is to say, the vertical walls next the doors; remove the glass from these. The roof is more difficult and should be next tackled in the following manner. Take out a line of glass by working from roof downwards to the plate or gutter; extract brads, etc., and with a hammer knock away the rafter bodily from one side of the next line of glass. The latter will then come away quite easily. Proceed in this way, rafter by rafter, until the whole is demolished. By this method a large percentage of glass may be saved and the work carried out with rapidity.—R. E. D.

Measuring a Greenhouse.

ALL gardeners who possess a greenhouse should know the number of cubic feet in it, as this information is particularly necessary for fumigating and other purposes. The capacity of the house may be calculated by multiplying the length by the breadth, and the figure thus obtained by the mean height. For example, supposing a span roof greenhouse is 20ft. long, 10ft. wide, 8ft. to the ridge (apex), and 4ft. to the eaves (where the roof begins to slope upwards). To find out the number of cubic feet in a house of those dimensions, multiply 20 (the length) by 10 (the breadth), which equals 200. Then add together the two heights (8ft. and 4ft., making 12ft.), and divide by 2, which gives 6. Next multiply 200 by 6, and the result is a cubic capacity of 1,200ft.—OSWESTRY.

The Cold Frame in Autumn and Winter.

DURING the autumn the cold frame will be found extremely useful for the accommodation of many plants. Even if there is a greenhouse, there is usually a great shortage of room when tender subjects are first taken under cover and it is here that the cold frame comes in very handy. A frame is very useful for the reception of bulbs in pots after their removal from ashes or coconut fibre refuse out of doors. When the top shoots of the bulbs push through the soil the pots must be removed from the plunging material and a cold frame will then be one of the best places in which to place the bulbs prior to their removal to somewhat warmer quarters. Quite often a cold frame is employed to house tender plants throughout the winter. In such a case it is very important to bear a few special points in mind. In the first place watering must be very carefully carried out. An excess of moisture in the cold frame from the autumn onwards may do a great deal of harm. Plants in a cold frame should only be watered when they really need it and in carrying out the work as little water should be spilled as possible. Watering is best done in the morning in order to allow the superabundant moisture to dry up before night. With tender plants in a frame one must always be on the look-out for sharp frosts which, now and again, may come quite early in the season. Unless some precautions are taken great damage to tender plants may be the result of a keen night. With the ordinary wooden frame it is a good thing, at the coming of colder weather, to bank it round with straw, leaves, bracken or litter of some kind. If the wooden sides are fully exposed it is not of much use merely to protect the glass lights. Of course, the glass must be covered with mats, old sacks or anything similar and, if a frost should continue, dry, loose straw may be added. If there is reason to suppose that the plants have been caught by the frost, nothing can be done until the coming of milder weather. Even then the frames should not be uncovered or opened for two or three days at the end of which time it may be supposed that the plants have thawed. Then give a little air by slightly tilting the lights, but do not uncover the frames to admit sunlight for a day or so. In this way even tender plants may be brought round to a healthy state after having been frosted. It cannot be too often emphasised that plants are rarely killed outright by frost and, in most cases, when they die, it is because the after treatment has been improperly carried out. During the dull months of the year plants in the cold frame are more likely to suffer from excessive moisture than cold. Zonal pelargoniums, for instance, often fare very badly in a cold frame in which they have been stored simply on account of the undue moisture with which they are surrounded. As has been indicated, great care in watering is essential and of equal importance is the question of ventilation. On every day, save when the weather is very wintery, a frame should be opened up to some extent. It is a mistake to close the lights too early in the afternoon as if this is done there will be a great difference for an hour or so between the temperature inside the frame and the outside. The result of this is a tremendous condensation of moisture on the glass and the frame is likely to keep in a very damp state throughout the night. It is far better to continue the admission of air to the frame until just about sunset and so avoid the sharp differences in temperature.—S. L. B.

A Bright Cold Greenhouse.

A Selection of Subjects to Grow.

TO many the cold greenhouse is in winter a "white elephant," and yet there is no reason why it should be to the amateur who really tries to evolve some system suitable for the dull months. A fair number of flowering plants is open to him, and if he grows these in such a way that they obtain a maximum of light and sunshine, he will brighten up the place considerably. Bulbs will, naturally, come first to mind, and a stock of crocuses, hyacinths, scillas, muscari, tulips and others may be planted. The stock should include Duc Van Tholl tulips; a few early double kinds; Emperor, Empress, Poeticus and other narcissi; early-flowering gladioli, freesias and others as taste directs. A moderate range of soft-wooded plants is also available. Salvias, berried solanums, geraniums, carnations, etc., may become available from garden and frame: these

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will allow him to carry on for a time. After them spring-raised greenhouse primulas of various sorts can hardly be dispensed with, and the reliable cyclamen, five varieties of which are to be had in bloom for many weeks. Chrysanthemums, if the late-flowering varieties have been grown, will keep in a cold house until Christmas and flower well if damp is kept away. Perpetual carnations are more successful in cold quarters than many imagine, and Christmas or Lent roses, hardy primulas, and others may be potted up from the border. Spiræas come along fine in spring. So, too, will Dicentra spectabilis, Solomon's seal and a few more. A fine show may be had in spring from annuals like clarkia, godetia, schizanthus, larkspurs, etc., or wallflowers, provided these are kept in the greenhouse in small pots all the winter and potted on in spring. A few shrubs in pots will undoubtedly lend charm to a small collection. We might mention here Daphne Cneorum, a magnolia Lonicera fragrantissima, Forsythia suspensa, laburnum, lilac, early rhododendrons and so on, a really extensive list of plants being available, good specimens of which are to be had now or later from seedsmen or at market sales. The aspect of the greenhouse has much to do with the date at which flowers may be expected from any particular plant; full sunshine should be secured by clearing away all obstacles. Overdampness must always be avoided, and too little rather than too much water given the plants. A friend of ours secures a brave show in another fashion; he is an "alpine" enthusiast, grows many alpines in pots and winters a large number in the cold greenhouse. Little campanulas, Anemone blanda, several species of oxalis, many primulas, saxifrages, androsace, gentians and others which flower early flower very early in the shelter of the glass.—CLYDESDALE.

PUBLICATIONS RECEIVED.

"A New Orchard and Garden," by William Lawson, with a Preface by Miss Eleanor Sinclair Rohde in which a general view of William Lawson's work and contemporary gardening is made. Although some three centuries old, the information is accurate and could be applied equally well to most present-day conditions. The publishers (The Cresset Press, Limited, 11, Fitzroy, Square, London, W.) are to be congratulated on the high quality of the printing and general standard of the book, which is published at 12s. 6d. net. It is a volume that would make an ideal gift book at this season.

"A British Garden Flora," by J. W. C. Kirk. Published by Edward Arnold, Limited, price 42s. net. A classification and description of the genera of plants, trees and shrubs represented in the gardens of this country, with keys for their identification. There is a preface by Dr. Hill, Director of Kew Gardens, in which the wish is expressed that this book will bring greater pleasure to the garden lover. Perhaps, in this instance, the wish is father to the thought. Certainly it is a valuable work, and interesting from the standpoint of those who have a combined knowledge of elementary toxonomic botany and horticulture; but, from the garden lover's point of view, we are of the opinion that the volume is much too technical. No garden lover cares to wander through pages of analytical keys in order to identify a plant. Moreover, there are quite a number of plants included that will never be grown in the average garden, since they cannot be regarded as other than weeds. On the other hand, information as to the exact botanical position of several of the new plant introductions of recent years, with their description, is omitted.

The figures in the text are well executed, and it is a relief to see that they have not been borrowed from the old text books but have been done from fresh material, which is always an asset.

Colonel Kirk deserves every praise for his labour. Among gardener botanists the book will prove of considerable assistance in the elucidation of many horticultural problems.

The House Garden Handbooks: "Gladioli," by F. F. Rockwell; and "Shrubs," by the same author. (The Macmillan Company, New York, 4s. 6d. net each.) Two useful manuals for all American gardeners, full of good, sound information and practical advice.

"Alpine Plants," by Dr. Rudolf Scharfetter. An admirable little handbook dealing with alpines found in the Alps, with numerous illustrations in half-tone and colour. The work is by an acknowledged authority on alpine flora and well worth the attention of all botanists and plant collectors and rock garden enthusiasts who can read German.

"Manures and Manuring." A handbook for practical farmers, students and others, by Frank Ewart Corrie. (Chapman and Hall, 5s. net.)

"Gardening in Practice and Theory," by F. W. Miles. (Gibbs, Bamforth and Co., 3s. 6d.)

"The Ramblings of a Bird Lover," by Charles Raven, D.D. (Martin Hopkinson, 10s. 6d.)

"Flowers in the Home," by Menie Watt. (Messrs. A. and C. Black, Limited, 6, Soho Square, London, W.1. Price 2s. 6d. net.) —A helpful book on how to use flowers artistically in the home.

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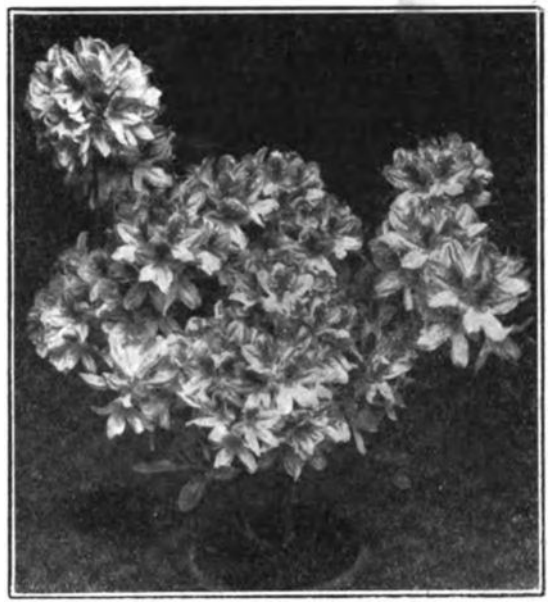

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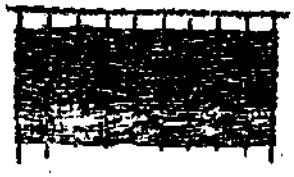

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Messrs. Otto Katzenstein and Co., Tree Seedsmen, Atlanta, Ga., U.S.A.—An interesting collection of tree seeds is offered.

R.H.S. EXAMINATIONS.

THE Examinations of the Royal Horticultural Society will be held in 1928 as follows:—

Written Examinations.

General Examination (Seniors and Juniors), Wednesday, March 21st.

Teachers' Examination (Preliminary and advanced), Saturday, March 24th.

National Diploma (Preliminary and Final), Saturday, May 5th.

Practical Examinations.

Teachers' Examination (Advanced), Friday, June 15th.

National Diploma (Preliminary), Tuesday and Wednesday, June 19th and 20th.

National Diploma (Final), Thursday and Friday, June 21st and 22nd.

All entries, except those for the National Diploma, should be made on the form in the syllabus, obtainable from The Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.1.

THE Show Committee of the Rhododendron Association met recently and passed the schedule for the Third Rhododendron Show, which is now in the hands of the printers. It is hoped to circulate the schedule before the end of the year.

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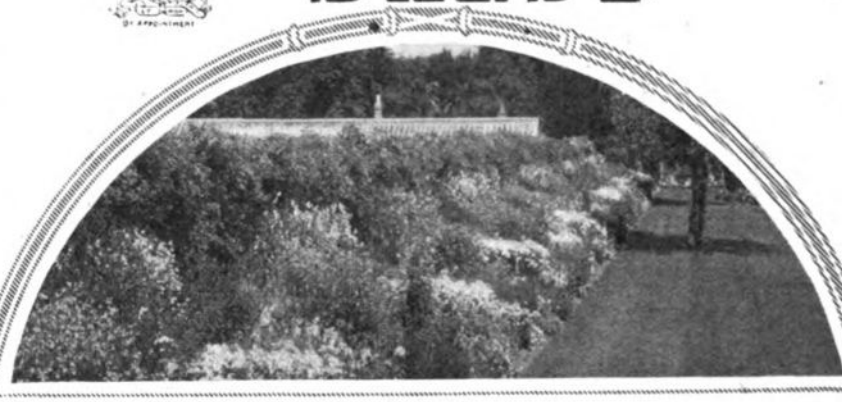

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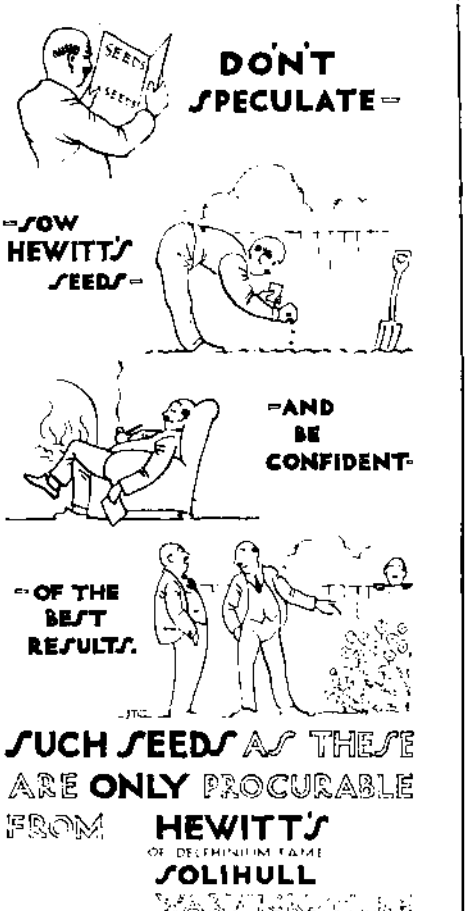

SERVICE BUREAU.—*Continued.*

Treatment of Greenhouse Ferns.

I should be grateful to know how to treat some ferns (a leaf of which I enclose), which I keep in a small, unheated conservatory and which do not look at all cheerful. Am I right in thinking this is the natural result of their "resting" at this time of year and allowing them a small amount of water?—V. L. D., Bournemouth.

There is nothing wrong with the fern of which you sent a specimen leaf. As far as we can see, it is probably a deficiency of lime and iron in the soil which causes a certain amount of chlorosis. This deficiency could certainly be made good in the spring by watering with a limy solution, in order to obtain a healthy green colour. Too much water should not be given during the winter months.

Damaged Rhododendron Leaves.

I enclose two leaves from Rhododendron Falconeri. Can you tell me what has caused this shrivelling up? It belongs to a well established plant, 4ft. to 5ft. high, throwing three flower buds. I have another plant of same species 100yds. farther off, with splendid foliage. I think some insect has attacked this plant. Can you suggest a remedy?—F. G., Londonderry.

The leaves of your rhododendrons show no signs of damage by insects. This shrivelling is caused by a touch of frost or a particularly cold draught on the half-open leaf bud. This may happen in any rhododendron, but is particularly common in the big-leaved species, whose leaves when they first appear out of the leaf bud are particularly soft. The only remedy we can suggest is to move your rhododendron to a more sheltered position, as the leaves are not up to the ordinary size.

How to Deal with Plum Suckers.

I have a plum, Denniston's Superb, about five or six years old. It has never fruited and has thrown up a great many suckers. What do you suggest should be done? Would the suckers be of any use to assist in a "wind-break" for the top of garden, which is very exposed?—T. M., Freshwater, I. of W.

The Denniston's Supurb plum tree that has never fruited will probably benefit by root pruning. This ought to be done at once—or left till next October, if there must be further delay. As it is but five or six years old, lift the tree entirely, remove all suckers—taking a small part of root with each—shorten the long, coarse fibreless roots by half or more, then replant the tree in the same hole. It will be an advantage to work a quantity of old lime or mortar rubble into the soil, or slaked lime, before the replanting is done, but add no manure at this stage. If manure appears necessary, apply it in the form of a surface mulch in early spring.

The suckers—which come from the tree stock, of course, and may be the myrobalan, mussel, Brompton or common plum variety—might well be planted to form a shelter hedge, but ought not to be expected to bear crops of useful plums.

Making a New Lawn on Weedy Ground.

I wish to make a good lawn in my new garden, which is clay soil. The grass at present there is coarse field grass, or couch grass, and I think of taking the turf off and sowing seed, to save digging it all over. Is there anything I can sprinkle over the ground which would kill any root of couch grass left without endangering the seed to be sown later? If so, what time should elapse before sowing the seed?—D. D. S., Kenton.

We are afraid that there is nothing you can do except continually digging over and removing the roots, to rid your lawn of couch grass. It is exceedingly difficult to eradicate once it gets a hold. What we should suggest is that you dig over the lawn now, removing as many of the roots as possible in digging, and burying the other turf. The ground could be left to lie roughly dug for a period of two or three weeks. It could then be broken up more finely, raked over and levelled. Grass seed mixed with a fine sifted compost of sand could then be sown broadcast on the ground about the end of March or April. You will need to keep a look out for any reappearance of the couch, and remove it at once, otherwise it will get a hold on the young grass when it is coming up.

Pruning Climbing Roses.

Last fall I planted in beds outside, (1) Climbing Caroline Testout, (2) Climbing Gloire de Dijon, (3) Climbing Maréchal Niel. They made good growths, but were not cut down. The growths on 1 and 2 are now about 6ft. (previous year's wood), and 3ft. on No. 3. This year I have moved them into a cold house, facing north, which, naturally, gets very little sun. A friend informs me that the whole of the growths should now be cut off 6ins. from the bottom. Would you kindly advise me as to this?—K., Isle of Wight.

We fear the roses are not likely to succeed in the glasshouse with a northern aspect. With regard to their pruning, if it is intended to train them as climbers in the house, it would be as well to cut them down close to the ground early next spring, so as to encourage the formation of vigorous shoots. This would mean that there will be no flowers next year. An alternative method would be to leave the strongest shoots on Nos. 1 and 2 unpruned, but bend them over parallel to the soil, in the same manner as pegging down in outdoor beds. No. 3 might be left to grow naturally, as it is essentially of climbing habit. Any weakly shoots should be pruned hard back in the early spring.

Garden Renovations.

As an old subscriber I should be very glad of any helpful advice on the following matters. I have found THE GARDEN *of use continually during the many years I have taken it, and greatly appreciate it in its present form. I have a border, narrow, and with wall (stone) behind and gravel path in front, facing east, and only partly sheltered by shrubs, etc., some little distance off. The soil is rather heavy, but not at all bad. So far there have been a mixed lot of things in the border — phloxes, Michaelmas daisies, Japanese anemones, etc.—but the whole thing needs renewing and I propose to get fresh plants for some of it. I also have a fair number of pink geums from seed that could be used. Opposite the bed and beyond the gravel path there are rose beds—three good sized ones—but nothing else near enough to need consideration. The wall has now some bare spaces, except for Tropæolum speciosum, a variegated honeysuckle and a few odds and ends. Of course the bed is rather exposed and would not grow delicate things. On the other side of the wall (a high one), there is a larger border which I also want to fill. At present it has chrysanthemums, scabious, dahlias, sweet peas and single asters, but they are chiefly for cutting and have not been really arranged in any sort of plan. This border, of course, faces west, being the other side of the wall and could grow better things, and I should much like to make it attractive to look at, as, although in front of the kitchen garden, I am often in there, and this is a piece of ground apart from the vegetables. I am not a very skilled gardener.—E. D., Tiverton.*

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Epicure	3/9	7/-	11/-	19/-
Immune Ashleaf	4/3	8/-	13/-	24/-
Duke of York	4/6	8/6	14/-	25/-
Sharpe's Express	4/-	7/6	12/-	21/6
Witch Hill Early	4/6	8/6	14/-	25/-
SECOND EARLY.				
Ally	3/9	7/3	11/3	19/6
Arran Comrade	4/-	7/6	12/-	21/6
Ben Lomond	5/3	9/6	16/-	28/6
British Queen	3/9	7/3	11/3	19/6
Great Scot	4/-	7/6	12/-	21/6
Catriona	4/-	7/6	12/-	21/6
MAIN CROP.				
Abundance	3/9	7/3	11/3	19/6
Arran Chief	3/9	7/-	11/-	19/-
Bishop	4/-	7/6	12/-	21/6
Golden Marvel	4/-	8/-	12/3	22/6
King Edward	4/-	8/-	13/-	21/6
Kerr's Pink	3/9	7/-	11/3	19/6
Majestic	4/6	8/6	14/-	25/-
Field Marshal	3/9	7/-	11/-	19/-
Roderick Dhu	3/9	7/-	11/-	19/-

We offer many other varieties, full particulars of which are given in our Catalogue, post free on request.

Packing Free. Carriage Paid for Cash with Order. Quantities up to 28 lb. will be forwarded by Passenger Train. Larger lots by Goods Train.

AUSTIN'S GOLD MEDAL GARDEN SEEDS.
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PLACING THE SEED ORDER

This is the time of selection and preparation for this year's crops.

THERE are no more insistent reminders of the work which lies ahead of us in the garden than the seed catalogues. These are as fascinating as ever this year and, apart from their interest, they will well repay for a close study. Of course, it is all to the good to send in the order as early as possible, for you will then make sure of getting just what you want. In every season stocks of certain seeds are limited, and it is very annoying to find that you are too late to secure something which you have set your heart on trying. It is a mistake, however, to be in too much of a hurry when making the selection, and every attempt should be made to get that which is best suited to your requirements and the special conditions under which the plants will have to be grown. Districts vary so much in soil and climate and some varieties are much better suited than others to grow in special circumstances.

All gardeners should strive to profit by past experience, and the seed order should never be despatched without considering last year's results. In the vegetable garden did you have that regular supply of produce which is so desirable, or were there some serious gaps when there was nothing to bring to the kitchen? Perhaps the early varieties of peas were over, and the later sorts had not come along, just because you had not paid sufficient attention to the second early class. Then some crop may have only given poor results and you could not discover any very definite cause for this. Here, the choice of a fresh variety may make all the difference between success and failure. Many gardeners tend to cling too closely to the old varieties which have served them well in the past, and this is natural, but it is a mistake to be too conservative. Each season new types are brought out, and many of these are vast improvements on the old forms. It may be pointed out that the reputable seed firms do not offer anything unless it has been well tried, and many varieties are tested and grown for some years before being offered to the public. Even if a careful rotation is practised, it pays to get some "new blood" into the garden. One great advantage is that the newcomers may be better fitted to fight the insect and other pests with which you are plagued, and if this proves to be the case, you will have scored heavily.

This is an excellent time to start the garden notebook. It is a great mistake to rely upon one's memory in these matters. If you kept a garden diary last year you will find it of the greatest possible service in helping you to make out your seed order. Should there be no notebook to which reference can be made, make a start with one at once. In this take care to enter an exact copy of the order you are despatching, with the names of the varieties and the quantities. This will be useful for checking when the goods come along, but the list serves a more important purpose. Later on you can note down the times of sowing, the period which elapsed before the germination of the seeds, the length of time before the crop was gathered, what sort of a crop you secured, and any other points of interest. Even if only a penny notebook is used for this record it will help enormously in the efficient running of the garden, and no grower who has once acquired the habit of keeping a diary is likely to discard the practice.

Beginners are often rather puzzled as to the quantity of seed which they should order. Here is a list of seed quantities for given areas in the case of some of the

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	Per pkt.
Iris (June flowering)	$1
Iris sibirica new hybrids	$1
Lilium Regale	$0.75
Border Carnation	Sold out

Complete guide to the successful cultivation of above subjects from seed. Price fifteen cents, refunded from seed orders.

Home readers please send for Seed Leaflet with English prices, as above announcement is meant for our American customers.

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CATALOGUE FREE ON APPLICATION.

Seed Warehouse

54, High Street, EXETER

chief vegetables. From these figures it is easy to work out the amount that will be needed according to one's particular requirements.

Broad beans.—1 quart to 80ft.
Beans, dwarf French.—1½ pints to 80ft.
Beans, runner.—1 pint to 80ft.
Beet.—1 oz. to 30ft. of drill.
Broccoli.—1 oz. should produce on the average 1,000 good plants to transplant 2ft. by 2½ft. apart.
Brussels sprouts.—1 oz. should produce 1,000 good plants to transplant 2ft. by 2½ft. apart.
Cabbage.—1 oz. should produce 1,000 plants to transplant 1ft. or 1½ft. by 1½ft.
Carrots.—1 oz. to 80ft.
Cauliflowers.—As Brussels sprouts.
Celery.—1 oz. should produce not fewer than 5,000 plants.
Cucumbers.—1 oz. should produce about 500 plants.
Endive.—1 oz. should produce 2,000 plants.
Kale or borecole.—As Brussels sprouts.
Leeks.—1 oz. should produce about 1,000 plants.
Lettuce.—1 oz. should produce 2,000 plants.
Onions.—1 oz. to 200ft.
Parsley.—1 oz. to 80ft.
Parsnips.—1 oz. to 100ft.
Peas.—1 quart to 120ft. early sorts ; 1 quart to 150ft. late sorts.
Potatoes, early.—1ft. by 2ft. ; 136 sets per square rod.
Potatoes, late.—1ft. by 3ft. ; 90 sets per square rod.
Radishes.—1 oz. to 100ft.
Savoys.—See cabbage.
Shallots.—363 sets per square rod (9ins. by 12ins.).
Spinach.—1 oz. to 80ft.
Tomatoes.—1 oz. should give a good average crop of plants.
Turnips.—1 oz. to 100ft.
Vegetable marrows.—A plant for every seed sown.

The percentage of living seeds is so high nowadays that thick sowing is not only unnecessary but positively harmful owing to the fact that overcrowding weakens the young plants. On the other hand, it is important to make sure that one has sufficient of any one kind of seed. There are few things more annoying than to find that the seed packet is empty before the sowing of a particular plot of ground is complete. It is useful to have a little seed in reserve in case a re-sowing of any parts of the land is needed. Bad weather in the spring or the ravages of pests may play havoc with the seedlings and a prompt second sowing may go a long way towards saving the situation.

For many gardeners the collections of seeds will make a special appeal. Here one has an expert selection of seeds sufficient to supply the needs of the garden for a whole year. These collections are really good value, for one gets more for one's money than by selecting individual items from the general catalogue, yet the quality of the seeds is exactly the same.

Of special interest also are the collections of flower seeds which have been selected to meet special needs. Thus it is possible to buy collections of hardy annuals, biennials and perennials, plants for rockwork, sweet-scented flowers, etc. Here, again, the buyer can be sure of getting very good value indeed for his money, and it is possible to try a larger number of subjects than could be managed if the seeds were selected separately.

Of course, after receipt some of the seeds will have to be kept for some weeks before they are actually sown. The packets should be stored in a dry place that is not too warm. Take care that mice do not get at them, as the little creatures will gnaw the packets open and spill the contents even if they do not actually eat the seeds.

L. B.

BAKERS' SEEDS

The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

Bakers

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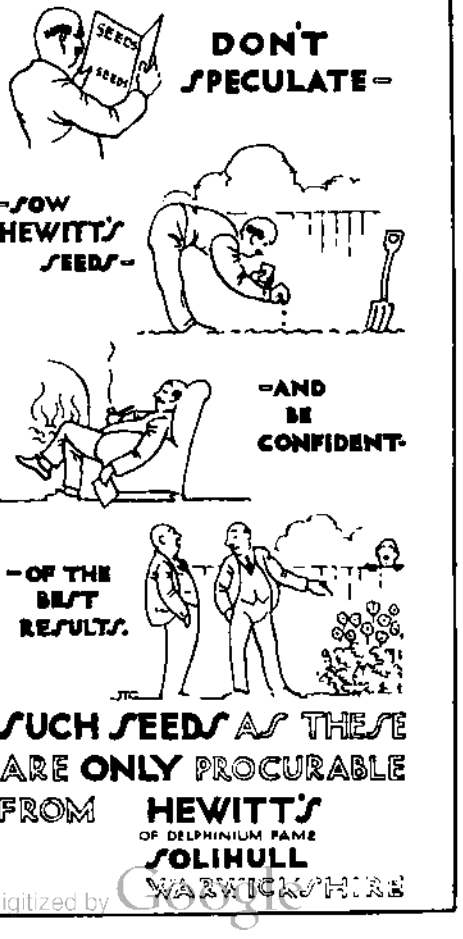

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will gladly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Low-Growing Shrubs for a Front Garden.

In my front garden I have a 4ft. border, in front about 20ft., and at side—it being a detached house—about 30ft., and would like a series of flowering shrubs to fill this up. The house faces north; the soil, of fair quality, was previously farm land, with chalk some distance down. Shrubs that would not be above 3½ft. to 4ft. at full growth or could be cut back to this height.—A. W. G., Wallington.

We would suggest the following shrubs for your front garden: Veronica Traversii, 4ft. to 5ft., white flowers, evergreen; Hypericum Henryi, 3ft. to 4ft., yellow flowers, deciduous; Berberis Wilsonæ, 2½ft. to 4ft., coral red berries, evergreen; Philadelphus Lemoinei erectus, 3½ft. to 5ft., white flowers, deciduous; P. microphyllus, 3ft., very fragrant white flowers, deciduous; Kerria japonica fl. pl., 4ft. to 5ft., orange yellow flowers, deciduous; Cistus cyprius, 5ft., white flowers, evergreen; Cytisus albus, 4ft. to 6ft., white flowers, green stems; C. Andreanus, 4ft. to 6ft., yellow and maroon, green stems; Genista hispanica, 2ft. to 2½ft., yellow flowers, evergreen; Rhododendron racemosum, 3ft. to 4ft., white tinted pink, evergreen; Olearia Haastii, 4ft. to 6ft., white flowers, evergreen; Ceanothus Gloire de Versailles, 4ft. to 5ft., blue flowers, deciduous; Viburnum Tinus (Laurustinus), 5ft. to 6ft., white flowers in winter, evergreen; Mahonia Aquifolium, 3ft. or more, yellow flowers, evergreen; Tamarix pentendra, 4ft. to 6ft., pink flowers, deciduous; Berberis stenophylla, 5ft. to 7ft. or 8ft., yellow flowers, evergreen; Rosmarinus officinalis (rosemary), 4ft. to 5ft., pale mauve, evergreen.

Any which grow too tall can readily be kept to the required height by pruning.

Fruit Trees for a Small Garden.

I am a regular reader of your paper, and have quite recently acquired a tiny garden; but I know nothing about gardening. Would you be kind enough to tell me whether it is too late to plant fruit trees now? I want an apple, and Charles Ross has been recommended. I should also like to have a good winter keeping pear put in, and a small greengage or apricot espalier to grow against the sunny wall of the cottage. Will you please recommend the best varieties for good fruiting for both pear and plum? I see one of your readers recommends Laxton's Superb. I wonder if that particular species of apple would grow in this district; perhaps you would be good enough to tell me in case it should be a better proposition for general purposes than the Charles Ross..—E. M. S., Rickmansworth.

It is by no means too late to plant fruit trees. They can be put in any time between now and the middle of March with safety, so long as the ground is neither too wet nor frosted when the work is undertaken. Charles Ross is quite a good apple, useful for dessert or culinary purposes, and is in season in October and November. Laxton's Superb is a far better dessert apple, of course, but is not ready for eating until after Christmas, and keeps until late winter. It is a fine all-round apple, a good cropper and grower, and can be recommended. Quite the best late pear to plant is Josephine de Malines. This is ready for eating after Christmas and lasts until May in the average store. You would, perhaps, find that the Denniston's Superb greengage is the most reliable cropper, as it is self-fertile and grows well. This would prove more fruitful than an apricot, we think, since, except under most skilled treatment, the latter often disappoints after a few years.

Hedges of Lonicera and Laurel.

I am contemplating planting hedges of both Lonicera nitida and laurel. How far apart should these be planted, and which are the best-sized plants to get? How should they be treated the first year after planting? Should they be cut, or should they be allowed to reach fair size before being trimmed? Would it be all right to plant them during the next week or two, or would it best to wait till April?—P. C., Chesham, Bucks.

It depends on the height you intend the hedge to grow how far apart the plants are set. The higher the hedge, a slightly greater distance must be left between the plants. A good average distance is: Lonicera nitida, 2ft. apart; laurels, 3ft. to 4ft. apart. If the plants have good balls of fibrous roots and the bushes are of moderate size, they may be planted now, Lonicera nitida 1½ft. to 2ft. high, laurels 3ft. to 4ft. high. Prune a little next April and shorten the long shoots two or three times during the summer each year to form a close, compact hedge.

Non-Fruiting of Pernettyas.

I wonder if you can offer an opinion as to a remedy for non-berrying. My case is as follows: I had a good bed at my last place, where they grew and berried to perfection. I brought about six well established plants here five years ago, but cannot get them to berry. They are quite healthy and flower seeds form but come to nothing. I have consulted some of the best gardeners, but so far without result. If you can solve the problem for me I should be most truly grateful, as they are invaluable for winter, and I often wonder they are so little grown. I might add that my present soil is an unkindly one (to put it mildly!) to deal with—a stony clay—though many shrubs appear to enjoy it and do very well.—H. S. B., Pangbourne.

The real problem of the fruiting of pernettyas needs investigation by the scientist. One idea is that male and female flowers are borne, at least in some cases, on different bushes. Certainly the plants fruit better when a fair number are growing together in the full sun. Many growers propagate a good proportion of their stock by cuttings, or layering from the best fruiting bushes.

SOCIETY NOTES

The National Carnation and Picotee Society (Northern Section).

THE fourth Annual General Meeting of this Society was held at Sheffield, and a fair number of members were present.

The report and balance sheet were unanimously adopted. The financial statement showed a balance in hand of £3 1s. 8d., this being a loss of £4 0s. 6½d. on the year's work, principally due to the poor attendance at the Show in August, owing, no doubt, to the recent industrial depression.

Dr. Guy H. Mead was unanimously re-elected President. Messrs. H. E. Pearson, F. Brookfield and Councillor Reeves Charlesworth were added to the list of Vice-Presidents. Mr. H. E. Pearson was re-elected chairman of committees, Mr. J. A. Hewitt, treasurer, and Mr. W. Secker (11, Longley Avenue, Sheffield) secretary. The committee were, with two exceptions, re-elected.

The Floral Committee elected were as follows: Mr. H. E. Pearson, chairman; Messrs. J. L. Gibson (Crawley Down), D. A. Torrance (Glasgow), P. Smith (Birmingham), F. Brookfield, G. Hill and Dr. G. H. Mead (local).

The annual exhibition will be held on July 23rd, 1927, in the British Legion House, Sheffield.

Ladies are especially invited to join this Society, and a class has been arranged for a vase of carnations arranged for effect, open to lady members only. Special classes are arranged for growers of not more than 100 plants in the open border section, and a cordial invitation is given to all readers of THE GARDEN in the North to join the Society. The minimum annual subscription is 5s. There are no entrance or other fees.

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We offer the following collections of Sweet Peas; all the seed used in these is English grown, most of it coming from our own seed farm in Essex. No better value offered by any firm.

"THE GARDEN" COLLECTION.
The 6 most popular varieties, as decided by the votes of readers of "THE GARDEN.
15 seeds of each for 1/6.

THE 12 BEST DECORATIVE SWEET PEAS.
12 seeds each

Doris	Mascott's White
Elfrida Pearson	Renown
Geo. Shawyer	Royal Purple
Glorious	Royal Scot
Hawimark Pink	R. F. Felton
Majestic Cream	Warrior

2/6, post paid.

THE EXHIBITOR'S COLLECTION.
25 seeds of each variety

Charity	Mrs. Tom Jones
Charming	Picture
Constance Hinton	Powerscurt
Elegance	Royal Purple
Grenadier	Warrior
Matchless	Youth

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12 seeds each

Doris	Mascott's White	Elfrida Pearson
Renown	Geo. Shawyer	Royal Purple
Glorious	Royal Scot	Hawlmark Pink
R. F. Felton	Majestic Cream	Warrior

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Station: Woking (Southern Railway) 1 mile

CATALOGUE ON APPLICATION.

The Seaside Planting of Trees and Shrubs

By Alfred Gaut, F.R.H.S. 28 Illustrations. 5/- net. By post, 5/6.

"Country Life" Library, 20, Tavistock Street, Covent Garden, London, W.C.2

STOCKS ALL THE YEAR ROUND

FEW flowers are more fragrant than stocks. They have an old-world scent of which one never tires. All kinds are easily grown, either in the garden or in pots; and with careful management they can be had in bloom nearly all the year round.

Three varieties of stocks are suitable for garden or pot culture: the ten-week, the intermediate, and the biennial or Brompton stocks. The ten-week stocks include the dwarf, quick-flowering kinds that are sown out of doors in spring to flower in summer.

Intermediate stocks are taller and bloom longer than the ten-week type. If sown in summer, they stand the winter and flower early in spring; when the seed is sown in spring, they will flower during the autumn and well into the winter. The East Lothian is a fine strain of this class of stock, and is, perhaps, the most suitable for pot culture. It is fairly tall and bushy, and the flowers are bright pink, purple, crimson and pure white.

Probably the biennial or Brompton stocks are the original type from which the intermediate variety has sprung. If sown in the summer and carefully treated, they will flower the following season from April to July or later. These stocks may be sown again in March to begin flowering in August. When grown in warm situations against walls or in sheltered corners, many of the plants from the March-sowing will bloom during the winter in favourable weather. Like all stocks, the prevailing colours of the Brompton are pink, purple, white and crimson.

Those who wish to keep up a succession of flowering stocks in pots should sow the ten-week variety about September, in light soil in an open situation. As soon as the seedlings are large enough, pot up all of medium size and bushy habit, choosing those with fibrous roots and little or no tap-root. These should flower freely the following spring and should bear the largest percentage of double blooms. Pot them in 3in. pots, using a light, rich compost of sandy loam and well decayed manure, with a sprinkling of lime. Keep the seedlings in a cold frame until they are well rooted in the pots, and then draw the lights off, or remove them to a sheltered sunny spot in the open. When the roots fill the pot, move into a 4in. pot, which is large enough for a ten-week stock to flower in. Or you can grow from three to five plants in a 4in. to 6in. pot.

During winter keep them in a temperature of 45° Fahr., and as close to the glass as possible, to prevent them growing up weak and leggy. Give them plenty of air in mild weather—they cannot have too much. When the buds are showing, water occasionally with a little liquid manure. These plants should flower from March to May.

To continue the succession, sow again in the open in March and April, and treat the plants in exactly the same way. Always pot up the medium-sized and weak seedlings; as a rule, the strongest specimens bear single flowers. Another sowing may be made in July.

The intermediate stock is treated like the ten-week variety. To get good plants in spring, sow the seed in summer and pot up into 6in. or 8in. pots, wintering in a temperature of 45° to 50° Fahr. Sow again in March. These will continue the flowering season when the ten-week variety is out of bloom.

Brompton stocks can be sown three times a year: in June, August and March. The first sowing will flower from April to June, the second from July to October, and the third from October to March. These are the most showy of all stocks, producing many bright, fragrant flowers. Do not pot up all the plants in the autumn. Some of the

New Pedigree Seeds

OFFERED BY

LOWE & GIBSON, Ltd.

CRAWLEY DOWN, SUSSEX.

DELPHINIUM. — "British Birds" strain. This well known strain is reckoned by many growers to be the finest in the world, $1 per pkt.

GLADIOLUS.—The choicest and most varied selection ever offered anywhere, including Primulinus hybrids, "Blue" shades only, at $2. Per pkt. $1, $1.50, and $2.

	Per pkt.
Iris (June flowering)	$1
Iris sibirica new hybrids	$1
Lilium Regale	$0.75
Border Carnation	Sold out

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Our stocks are grown and selected specially for seed purposes, and under normal conditions cannot fail to produce first-class crops. All are Class 1, Scotch.

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British Queen	3/9	7/3	11/3	19/6
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Arran Chief	3/9	7/-	11/-	19/-
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August-sown ones will probably stand the winter out of doors, if they are pricked out in an open, sheltered place. They can be potted up in February, or, if replanted in the garden in mild weather, will make big, bushy plants to flower in spring.

SOCIETY NOTES

Show Notes.

THE first annual Blackpool Flower Show has been fixed to be held on July 20th, 21st and 22nd, 1927. It is to be held in the new Stanley Park, which was opened only last October by the Earl of Derby, and the close proximity of the Italian Garden and Rose Garden, with the tennis courts, bowling greens, golf course, putting green, cricket ground and lake will undoubtedly form an ideal setting for the Show.

The Mayor of Blackpool is president, while Mr. A. Blackburn, Corporation Parks Superintendent, has been elected show manager, and Mr. W. Foster, Borough Advertising Manager is filling the office of secretary.

The Schedule is now in course of preparation, and at last night's meeting four trophies, value 100 guineas, 25 guineas and 20 guineas (two) were promised. The Mayor is now issuing an appeal for trophies and prizes, and there is every indication that a big number will be received. Exhibitors are to be offered every encouragement and facility.

New Carnations Registered by the British Carnation Society.

Name, "Colonel Langford." Colour, deep cerise. Raiser, Lieutenant-Colonel W. J. Langford, Harefield, Romsey, Hants.

Name, "Mrs. Langford," same raiser and address as above. Colour, salmon pink.

Name, "Ruby Glow." Colour, ruby red. Raisers, Messrs. Stuart Low and Co., Bush Hill Park, Enfield.

CATALOGUES RECEIVED.

Messrs. Wakeley Brothers and Co., Limited, Honduras Wharf Bankside, S.E.1.—Many gardeners find great difficulty in procuring stable manure, and at this time of the year, when sweet pea trenches are being prepared, rose-beds top-dressed and flower borders dug over, no doubt they will be looking out for some substitute. One of the most reliable is this firm's celebrated hop manure, particulars of which will be found in their catalogue. Ground garden lime, garden ornaments and seeds are also listed.

FOREIGN.

Messrs. John B. Van der Schoot, Limited. The Old-established Bulb Farms, Hillegom, Holland.—An illustrated catalogue which should interest all gardeners has been sent in by this firm. Herbaceous plants of all kinds, roses, dahlias, gladioli and begonias are included, and from these lists an excellent selection could be made of perennials and bulbs for spring planting. Bedding begonias are coming back into favour again, and some of the finest varieties for this purpose are to be found in this catalogue.

Messrs. W. Atlee Burpee and Co., Seed Growers, Philadelphia, U.S.A.—Sweet peas, dahlias and petunias are three items of particular interest in this extensive flower and vegetable seed catalogue. Three good sweet pea novelties, namely, Delightful, Gladness and Royal Blue, are noted, and several fine new decorative and cactus-flowered dahlias. The half-tone as well as the numerous colour reproductions greatly add to the value of the catalogue.

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The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

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SEED AND FLOWER FARM
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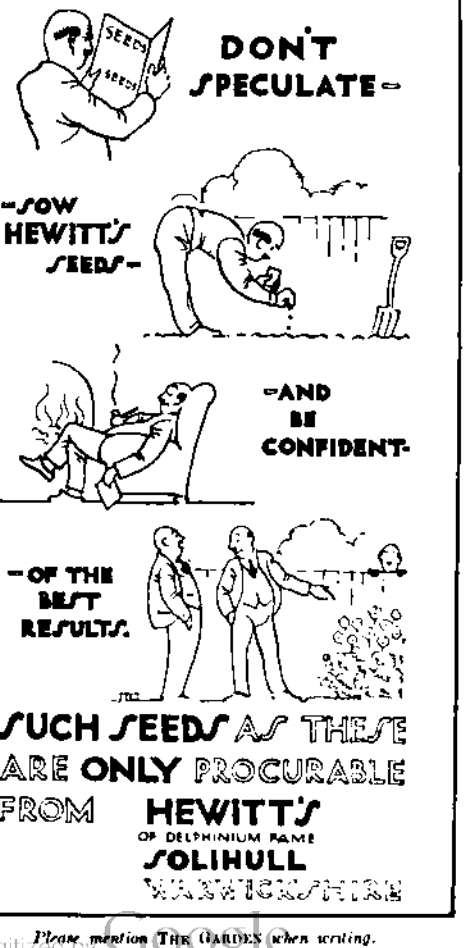

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224 pages. Coloured frontispiece. 100 illustrations.

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"THE GARDEN" CROSSWORD—X

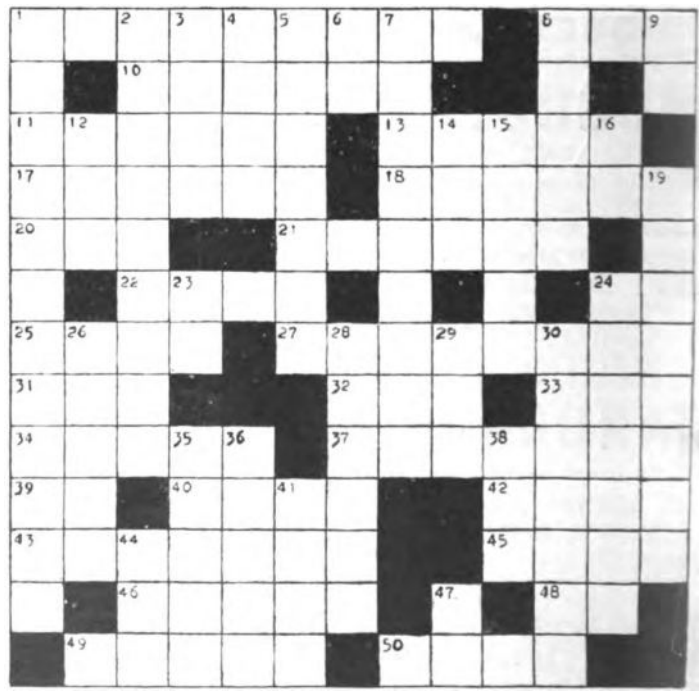
Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, January 27th. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.

1 Shrubby plant with large heads of showy flowers.
8 Fruit seed.
10 Unwell.
11 Variety of sweet apple.
13 The water-lily of Egypt.
17 Machine for spreading hay.
18 Thorny plant with pinnate leaves.
20 Resentment.
21 Growing close to the stem.
22 A catalogue.
24 St. Bernard (abbr.).
25 A part of the whole.
27 Go to work abroad.
31 A card game.
32 A number.
33 Matter from a wound.
34 Brazilian tree whose seeds yield soap.
37 An oddment.
39 Objective case of "we."
40 Roll of names.
42 Variant of "ate."
43 The mignonette family.
45 Perishes.
46 Fruit perry is made of.
48 Territorial Decoration (abbr.).
49 Contraction for a southern county.
50 Fruit of the pine and fir.

DOWN.

1 Art of cultivating gardens.
2 Common wildflower.
3 Fruit-peel.
4 To the leeward side.
5 A valuable fertiliser.
6 At beginning and end of "garden."
7 The sweet-briar.
8 Behead a variety of pine tree.
9 Head of the family.
12 Always (poet.).
14 South American tuberous plant.
15 Vulgarism for "potato."
16 Seventh tonic sol-fa note.
19 An incombustible, flax-like mineral product.
23 The thing mentioned.
24 Checked in growth.
26 Racket.
28 Tract of soft, wet ground.
29 A stone.
30 Lime phosphate of great variety of colour.
35 Colour of growing plants.
36 Isolate (curtailed).
38 As good as a wink.
41 Sailors.
44 A health resort.
47 Achieve.



Name.....

Address.....

.....

Solution to "The Garden" Crossword No. 8.

ACROSS.

1 Gladiolus, 8 Yew, 11 Rose, 12 Fen, 13 Pear, 14 Trefoil, 17 Ary, 18 Scents, 20 Firs, 22 Sir, 23 Chromatic, 27 T.S., 28 Hosier, 29 Tr, 30 Or, 32 Owl, 33 Epee, 35 Russet, 38 Aroma, 39 Ashen, 40 Tulip, 41 Tor, 43 Apple, 45 Hedgerow, 49 Eyts, 50 Arbour, 52 Cress, 53 Barks.

DOWN.

1 Grass, 2 Lo!, 3 Asters, 4 Dern, 5 Offshoot, 6 Leo, 7 Unfold, 8 Yeast, 9 Ear, 10 Wry, 15 Etch, 16 Lime, 19 Citrus, 21 Rare-ripe, 24 R.S.W., 25 Item, 26 Crosses, 30 Orach, 31 Use, 34 Poppy, 36 Shed, 37 Enters, 38 Ale, 40 Troop, 42 Orb, 44 Lock, 46 Err, 47 Has, 48 W.C., 51 R.B.

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NOTICE IS HEREBY GIVEN that the ANNUAL GENERAL MEETING of the Subscribers to this Fund will be held at "Simpson's," 100, Strand, London, W.C., on Wednesday, February 16th, 1927, for the purpose of receiving the Report of the Committee and Statement of Accounts for the past year; to elect Officers for the ensuing year; to elect the nominated Orphan Children to the benefits of the Fund; and to transact such other business as may arise. The Chair will be taken at Three p.m., by order, A. C. Bartlett, Secretary.

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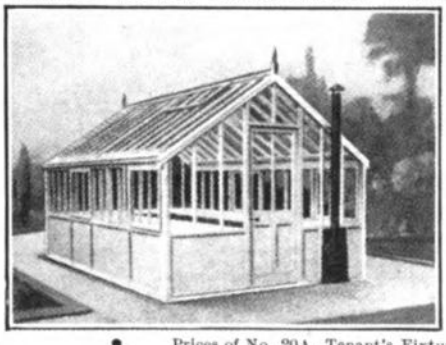

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No. 1	5	7	0	9ft.	6ft.	11	0 0
No. 1	5	10	0	10 t.	7ft.	15	0 0
No. 2	6	0	0	10ft.	8ft.	16	10 0
No. 2	6	10	0	12ft.	8ft.	17	10 0
No. 2	7	5	0	15ft.	9ft.	23	19 0
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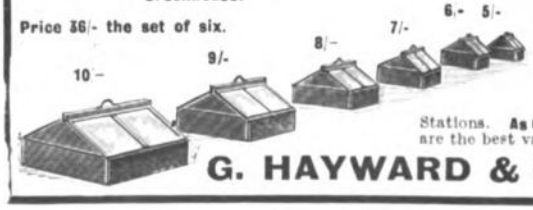

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SOCIETY NOTES

New and Rare Plants at Vincent Square.

THERE was quite a sub-tropical aspect in the New and Rare Plant Table at the Royal Horticultural Society's second meeting of the year, for most of the awards were for South African and Australian plants sent by Commendatore Cecil Hanbury, from his famous garden at La Mortola, Ventimiglia, Italy. Among various other things he sent sprays of a hybrid mimosa, named Acacia Hanburyana. Some years ago his gardener noticed a self-sown seedling growing near large bushes of Acacia Baileyana and A. podalriæfolia, and being struck with its distinctiveness, cherished the seedling. It is now fully 20ft. high and bears plenty of tiny balls of bright canary yellow flowers on pendulous spikes. This hybrid mimosa combines the phyllodes of A. podalriæfolia with the leaflets of A. Baileyana and has the silvery stems of the latter. It received an award of merit and although the branches of the two parents were included, as a matter of interest, the Floral Committee did tardy justice to A. Baileyana and also gave it the award of merit. A. Baileyana was described by Baron von Mueller so long ago as 1887 and it is now the best known mimosa in this country. Enormous quantities are sent every spring from the Riviera for sale and this species is considered to be the hardiest of them all. Commendatore Hanbury also showed Aloe ciliaris and Cotyledon (echeveria) multicaulis, which recieved awards of merit. Both are too tender for outdoor cultivation, but the latter is a showy greenhouse plant.

Tetratheca thymifolia, a pretty little shrub, introduced from Australia in 1824, was shown by Sir William Lawrence from his garden at Burford, Dorking, and it also received an award of merit. It is rather peculiar among shrubs in that the flowers only open fully in bright weather and close at night. In the hall, where the light was moderate, the bright mauve flowers were half open, but they were quite pretty. Tetratheca thymifolia makes neat little pot plants for the warm greenhouse.

PUBLICATIONS RECEIVED

"THE British Journal Photographic Almanac, 1927" (Henry Greenwood and Co., 24, Wellington Street, W.C.; price 2s. net). An invaluable guide for all amateur as well as professional photographers, containing the most up-to-date information on photography. Formulas and instructions for the various photographic processes, including colour photography, are given in simple non-technical language. Descriptions of new cameras and everything pertaining to the camera occupy more than half the book, and any keen photographer will find these pages of great interest. There are many amateur gardeners who are also keen photographers, and we can thoroughly recommend this guide, for it contains much useful and reliable information on this enjoyable hobby.

"Soil Conditions and Plant Growth," fifth edition (Longmans Green and Co., 18s. net). That a fifth edition of this standard work on soils has been found necessary indicates that it meets a much-needed want in agricultural and horticultural literature. Every year registers considerable progress in our knowledge of the soil and its properties, and since the last edition appeared in 1921 striking advances have been made on the chemistry side through continued research and investigation. The present edition is a greatly enlarged work. The text has been completely rewritten except for the historical introduction, and the volume presents the study of soil science completely up to date. It is an exceedingly useful monograph, since it incorporates in readable form all

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CATALOGUES RECEIVED

Owners of gardens who are contemplating the renovation of part of their garden or the making of a new garden may be interested to know of the firm of Messrs. Hodsons of 58, Castle Gate, Nottingham, who not only design gardens and give expert advice on planting and planning, but at the same time can supply plants for any part of the garden. One can then be sure that the placing of the plants will be carried out properly and that there will be no delay in their arrival. Herbaceous perennials, alpines, shrubs, trees and roses, bog plants in many new and choice kinds are stocked by this firm of garden constructors. Details of some of these plants will be found in their new catalogue, although there are many more which they grow in their nursery but are not listed.

For the last seventy-five years Messrs. Joseph Fison and Co. of Ipswich have specialised in the manufacture of fertilisers for the garden and greenhouse. This business is one of the largest and most fully equipped of its kind, and it produces annually hundreds of tons of different fertilisers, each one of which is scientifically blended to suit a particular class of plant. Weedkillers are also one of their specialities. Details of these fertilisers are given in their new and interesting catalogue which contains also useful notes on plant foods and their application. This booklet should be in the hands of every gardener.

A most useful seed list is presented by Messrs. Waterer, Sons and Crisp of Twyford, Berks. In it will be found collections of vegetables for one year's supply, varying in quantity from quite small collections suitable for the villa garden to much larger ones for gardens of an acre or more. The busy amateur will thus find the difficulty of making a selection solved for him. Sweet peas, annuals, perennials, and bulbs and roots for spring planting are also included. This firm also send us a pamphlet of rare hybrid rhododendrons which they are now able to offer for sale.

Messrs. McHattie and Co. of Chester have produced a seed catalogue which should prove most helpful to the amateur gardener who wishes to make a good show in his garden during the coming season. The vegetable seed of this firm is known to give good results in gardens both in the North and in the South.

Spring spraying is one of the most important operations in the successful culture of fruit. Prevention is better than cure, and attacks of insect pests should be warded off before damage is done. The skilled chemists of Messrs. Joseph Bentley of Barrow-on-Humber, Lincs, produce in the laboratories of this firm, insecticides and fungicides, as well as fertilisers and weed-killers, which are reliable and efficacious, and in the majority of cases it is better to use these proprietory brands rather than home-made untested mixtures. All particulars of Messrs. Bentley's preparations will be found in their new 1927 catalogue.

The specialist and true garden enthusiast will find much to interest him in Messrs. Thompson and Morgan's catalogue of choice flower and vegetable seeds. Extensive lists of primulas, rock garden campanulas and saxifrages are noted, as well as a number of rare plants. This firm's seed establishment and nurseries are at Ipswich.

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"THE GARDEN" CROSSWORD—XII

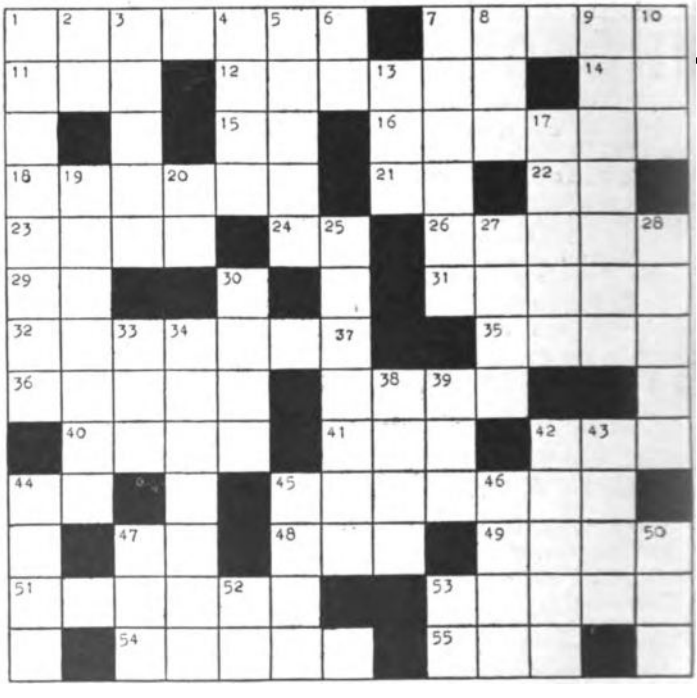
Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, February 10th. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.

1 Fern
7 Composite plant allied to Artemisia.
11 Spike of corn.
12 Shady garden retreat.
14 Hay (curtailed).
15 Half of loam.
16 In blossom.
18 Genus of ten British species of orchids.
21 A London botanical garden (curtailed).
22 Fifteen (Roman).
23 What a garden should be.
24 Beginning and end of Paradise.
26 Used for measuring.
29 Behead a fruit seed.
31 A splinter of wood.
32 Fruit of well known tree.
35 A church recess.
36 Dish of raw herbs, cut up and seasoned.
37 Found in old potatoes.
40 Hard-shelled fruits.
41 Idle talk.
42 Plot of land.
44 A thoroughfare (abbr.).
45 Became fully ripe.
47 Post Express (abbr.).
48 An affirmative.
49 Small whirlwind.
51 The grain of oats deprived of the husks.
53 Bring about.
54 Bordered by a leafy expansion.
55 A tree.

DOWN.

1 Pink flowers having unequal-sided and often coloured leaves.
2 Egyptian sun-god.
3 Genus of palm, including the betel-nut or penang.
4 The prickly saltwort or glasswort.
5 Toothed like a leaf.
6 Note well (abbr.).
7 Swellings in underground plant stems, as the potato.
8 Behead Carl.
9 Garden implements.
10 The sweet potato.
13 A majestic tree.
17 Flower of the primrose kind.
19 Transplant.
20 Height (abbr.).
25 A posy or bouquet.
27 Poisonous Javanese tree.
28 Half rain-half snow.
30 Odds and ——.
33 M.L.U.
34 Food derived from a cereal grain.
38 Garden entrance (var.).
39 Decapitate a zebu.
42 Genus of ericaceous plants.
43 ——and ends.
44 Plant of the mint family.
45 Nuts on which swine feed (collectively).
46 Actual.
47 Meadow grass.
50 Evergreen tree.
52 Thank you.
53 Cerium (abbr.).



Name.....

Address.....

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Solution to "The Garden" Crossword No. 10.

ACROSS.

1 Hydranges, 8 Pip, 10 Ailing, 11 Rennet, 13 Lotus, 17 Tedder, 18 Acacia, 20 Ire, 21 Adnate, 22 List, 24 S.B., 25 Unit, 27 Emigrate, 31 Loo, 32 One, 33 Pus, 34 Tingi, 37 Remnant, 39 Us, 40 Rota, 42 Otto, 43 Resedas, 45 Dies, 46 Pears, 48 T.D., 49 Hants, 50 Cone.

DOWN.

1 Horticulture, 2 Dandelion, 3 Rind, 4 Aloe, 5 Nitrate, 6 G.N., 7 Eglantine, 8 Prune, 9 Pa, 12 E'er, 14 Oca, 15 Tater, 16 St, 19 Asbestos, 23 It, 24 Stunted, 26 Noise, 28 Morass, 29 Gem, 30 Apatite, 35 Green, 36 Iodat, 38 Nod, 41 Tars, 44 Spa, 47 Do.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GRADEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying, readers with data about anything that is advertised in the pages o the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Shrubs for Screening.

Can you advise me as to suitable inexpensive subjects for a small garden screen to give some degree of privacy? The aspects are practically north and south, subsoil chalk. Would one of the cupressus you recommended recently be suitable, or Rose Albéric Barbier? The site is rather open.—E. M., Carshalton.

Cupressus macrocarpa would be very suitable for a screen in the position you mention. It is quick-growing, and can easily be kept within bounds. Any of the Penzance briars or Rugosa roses would also be suitable. Roses Albéric Barbier, Excelsa and American Pillar, if trained on a trellis, would soon form a good screen.

A Climber for a Cool Greenhouse.

I shall be glad if you can name a free-flowering climber (a rose or anything else would do) which could be grown to cover a wall about 15ft. by 9ft. in a cool greenhouse. The house gets full sun and becomes very hot in the summer. I propose to treat the roof with shading in future, with a view to keeping the house cooler. As there is no artificial heat the place is, of course, sometimes very cold during winter.—E. C., Dublin.

Plumbago capensis (leadwort) would be a suitable climber for your greenhouse. The blue flowers are produced on the young wood, so that cutting hard back after flowering and allowing the plants to rest during the winter by keeping them on the dry side is advisable. The soil should be good fibrous loam, to which has been added sand and a little peat.

How to Lay Crazy Paving.

I intend shortly to lay crazy paving in my garden, and I shall be obliged if you will favour me with advice as to the best method that can be adopted.—E. A. W., Rickmansworth.

The most important point to remember when laying crazy paving is that the stone is laid on a well drained firm base. This is essential for success. The paved area should be excavated about 6ins. or even more. At the bottom a good layer of old clinkers, broken bricks, etc., should be put down. Over this a thick layer of sifted ashes should be spread and the stone placed evenly on this. Each layer should be levelled and tested by means of a spirit level. The cracks between the stones should be filled up with sifted ashes.

This method of treatment is highly satisfactory, and cheaper than embedding the slabs of stone in cement. One ton of crazy paving stone should cover an area of about 10 sq. yds.

How to Grow Christmas Roses.

Will you please tell me what soil is needed by a Christmas rose? As mine is doing very badly in the garden, I have decided to plant it in a tub, but do not know what soil to give it. I should be glad of any hints on the treatment of Christmas roses.—R. K. B., Gloucester.

The Christmas rose is not particular as to soil. It does best in a light, moist soil in a semi-shady position, such as might be possible in a shrub border, or in an easterly aspect in an ordinary perennial border. It is easily increased by division of the roots in spring—about March—which is also the most suitable time to plant. It is also easily raised from seeds sown in either spring or summer in the usual way. As the plants are poisonous in nature, care should be taken to prevent children from touching them.

Making a Tennis Lawn on Poor Soil.

I should be grateful for advice on the making of a tennis lawn. The present surface is coarse grass, with couch grass in places and patches of broom and gorse. The soil is sandy and poor and only a few inches deep, under which it is rough and gravelly. The lawn is to be sown

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and the problem is to get enough soil on the top for a tilth, without the expense of importing it. If soil has to be brought in, would it be sufficient to skim a level site, removing roots, and spread a few inches? Or is it essential to dig over the rough stuff first, working in manure? It would be possible, I believe, to obtain sewage sludge: would this be of any use for surfacing? —E. J. A., Blackwater, Hants.

We are afraid that you will not be able to make a lawn which will keep in good condition unless you go to a fair amount of trouble to improve your poor soil. If the soil were merely skimmed to remove weeds, etc., and the seed sown on a thin layer of new soil, the results would be most unsatisfactory. It is essential that the whole area should be as deeply dug as possible. As this work proceeds, all weeds, rough grass and gorse should be removed, and any decayed manure as well as sewage sludge and leaf-mould thoroughly worked in. The sewage sludge should not be left on the surface. When the lawn has been dug and levelled, it should be left untouched until March, when the surface soil should be raked over, and, if possible, covered with a thin layer of sifted prepared compost. This compost should consist of loam which has been stacked at least six months, decayed leaf-soil and a very little sand. Sowing should be carried out at the beginning of April, and care should be taken that the right kind of grass seed for your particular soil is obtained. We advise you to write to Messrs. James Carter and Co., Raynes Park, S.W.20, who will be able to supply you with the seed and also suitable fertilisers for your soil.

A Complete Fertiliser

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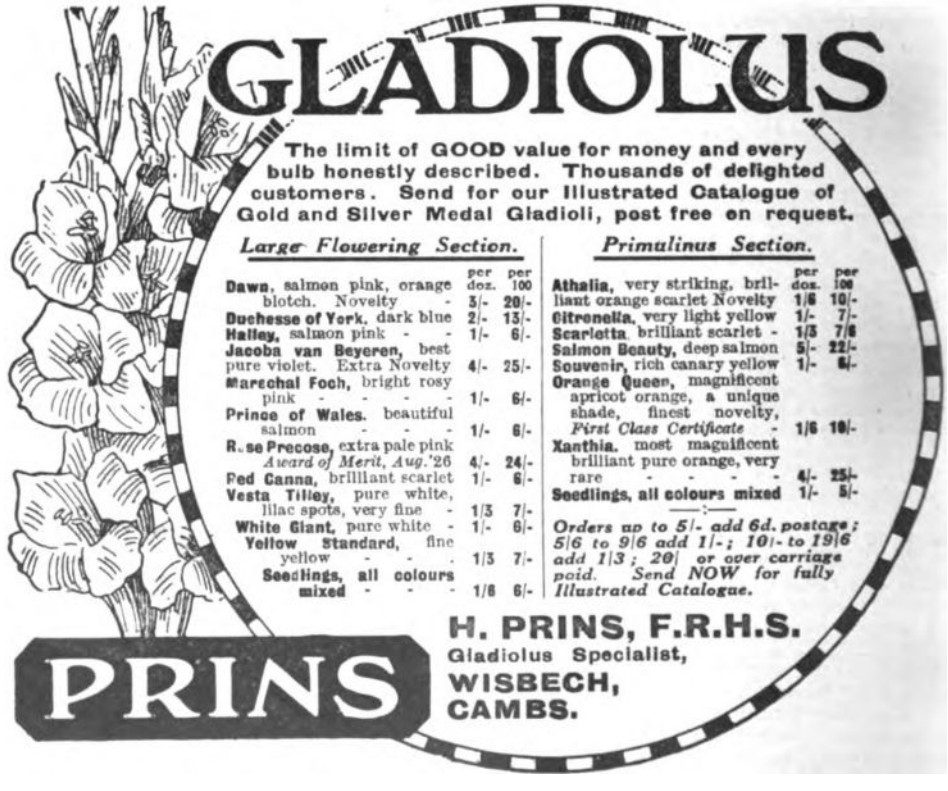

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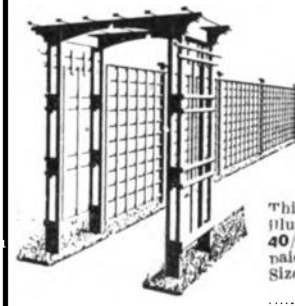

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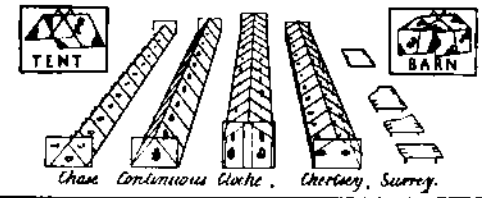

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ANNUALS WORTH SPECIAL NOTICE

AFTER studying the seed catalogues one's mind is in rather a bewildered state, for so many good things are offered and it is hard indeed to make a selection. Experience shows that it pays to consider the newer introductions, and this is especially the case with annuals. Most of the varieties which have come along during the last few seasons show outstanding features in the matter of form, colour and size, which place them far ahead of the old kinds. Of course, one might fill columns with descriptions of worth-while annuals, but here are a few, mostly of fairly recent introduction, which are of exceptional merit.

A very distinct form of aster is the giant anemone-flowered. Here the flowers are beautifully formed with long quilled central florets encircled by an outer ring of curled petals. These asters, which are to be obtained in pink, mauve and white, have a very vigorous habit of growth and are excellent for cutting. Many gardeners do not realise the beauty of the new clarkias, especially those belonging to the elegans class. One of the finest of these is Sutton's Salmon-scarlet, which has the most brilliantly coloured blossoms, the colour of which is indicated by the name. The flowers, which are completely double and resemble small roses, are borne on long sprays. Other varieties belonging to this group exhibit a wide range of the most beautiful colours. All lovers of that dainty flower, the cosmea, should try the double varieties, which are very attractive both in form and colour. Here the shades of the old single forms are represented, and although one may get a percentage of single flowers, owing to the fact that the "doubling" is not quite fixed, this is not a matter of great moment. It is especially important in the case of the double cosmeas to get the early-flowering varieties which will bloom within twelve weeks from a spring sowing or even earlier if the plants are allowed to become slightly potbound before putting into bed or border. Of recent introduction, the annual Echium plantagineum has not as yet received the attention which it deserves. The plant is a great addition to the border and is also useful for greenhouse culture in the spring. Its blue flowers, which have a rosy tint when young, are very attractive, and as the plants grow to the height of from 1½ft. to 2ft. an extremely handsome effect is produced. Although they are related to the humble ragwort, the newer forms of jacobæa (senecio) are specially worthy of mention. The single tall varieties are the best, as these grow to the height of 2ft. and have long stems which make the flowers of special value for cutting. The blossoms resemble a star cineraria, and the varieties known as bright rose and bright magenta are particularly fine.

Few plants give such a fine range of bright colours as the annual larkspurs. Specially worthy of mention are the forms which give varying shades from rosy scarlet to a most delicate shell pink. All of these make very handsome garden subjects, and the fine spikes of bloom are invaluable for table decoration. Of course, other forms of the annual larkspurs bear flowers in distinct shades of blue, mauve and also white. A dwarf annual, which is excellent for edgings and rockwork, is leptosiphon, which grows to the height of about 3ins. and is thickly covered with flowers of bright and varied colours. The newer hybrid forms, which are usually sold in mixed packets, are great improvements on the earlier sorts. Any gardener who once grows nemesias will never be happy without a selection of these attractive little plants. Some of the newer hybrids are among the most beautiful of half-hardy annuals. Special attention must be directed to Aurora and Blue Gem.

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Although the sweet scabious succeeds well as a biennial, it is also easily grown as an annual. Sown in March, and transplanted in May, the plants flower freely the first year. A new variety with flowers of a soft and distinctive shade is Sutton's Coral Gem. Those who want something really showy in bed or border should certainly grow salpiglossis. One of the most striking exhibits at the Chelsea Show last May was formed with these extremely handsome plants. People who remembered the varieties of only a few years ago were amazed at the improvements which the skill of the plant breeder has brought about. Particularly handsome are the forms which show a gold veining on a ground of blue or crimson. The sweet-smelling stocks are always welcome in the summer garden, but it pays to get the best varieties. Many of these show much brighter shades than one is in the habit of associating with stocks, and both for culture in the greenhouse, where they will follow on the forced daffodils, and also for outdoor planting, they will prove very attractive. For bed or border there are few prettier little plants than the Swan River daisies (brachycome). These are remarkable for the continuous display of gay flower, like small cinerarias, which they maintain. Of course the different kinds of brachycome produce flowers in varying shades of rose, blue, mauve and also white. The variety known as Sutton's Azure Fairy strikes one as especially attractive for here the flowers show a white zone round a dark blue centre. A very easy annual to grow, which in its newer forms is particularly worth while, is viscaria. This plant is extremely free-flowering, and if sown rather thickly makes the most brilliant clumps in the border. The dwarf varieties are also excellent for pot culture. The colours, which include a variety of shades of pink, blue and white, are very gay and those who have not grown viscaria before should certainly find a place for it in the garden this season.

S. LEONARD BASTIN.

CATALOGUES RECEIVED.

The spring planting season will soon be upon us, and those who still have gaps to fill in their shrubbery, orchard or rose garden should send to The Nurseries, Spalding Road, Holbeach, for Mr. F. Baker's catalogue. Selected lists of the most useful kinds will be found in it.

Special lists of novelties in flower seeds are of particular interest in Messrs. Barr's Seed Guide. Seeds of a number of rare alpines and uncommon greenhouse plants and perennials are included. This is a most comprehensive and well classified catalogue. Messrs. Barr's address is 11, King Street, Covent Garden, London.

Messrs. Wm. Power and Co. of Waterford send us their handy list of vegetable and flower seeds. This is a reliable guide, and we strongly recommend it to all amateurs.

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FOREIGN.

Messrs. Anthony C. Van der Schoot, Limited, Hillegom, Holland.—This well known and long-established Dutch firm have sent us their new spring catalogue. In it will be found much to interest the professional as well as the amateur gardener. It includes perennials for spring planting, gladioli, dahlias, tuberous begonias, roses, etc. The collection of plants which are listed, such as fifteen hardy perennials suitable for a colour border, together with a plan for arranging them, should prove of great service to the busy gardener who has little time to select plants or design borders. A number of fine dahlia novelties are noted.

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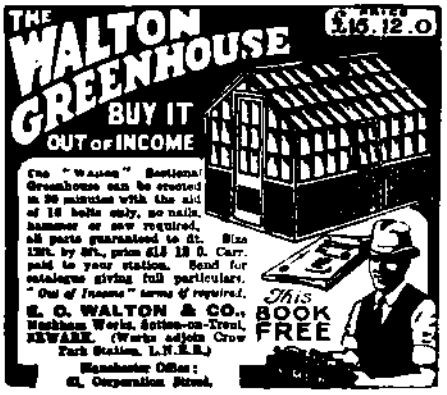

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"THE GARDEN" CROSSWORD—XIII

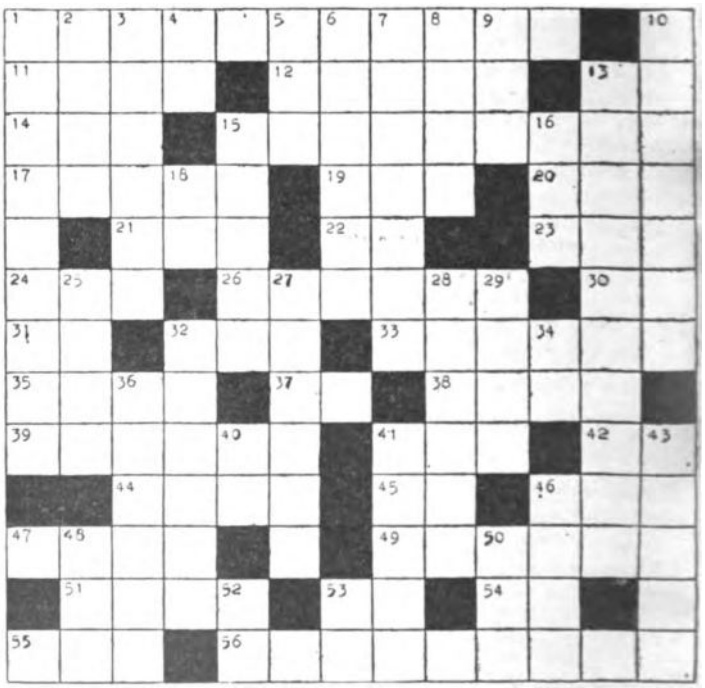
Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, February 17th. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.

1 Plants of the asparagus group of Liliaceæ.
11 An aperture.
12 Green.
13 Hay (curtailed).
14 Half of "pampas."
15 Fruit trees of the fig family.
17 At work.
19 Half of a New Zealand high-climbing shrub.
20 A tree.
21 Brood of pheasants.
22 Begins many Welsh names.
23 502 (Roman)
24 Ancient name for a gun.
26 Cabbage, spinach, broccoli, etc.
30 Ahead.
31 Leave.
32 Land of the grape-fruit and water-melon.
33 Narrate.
35 Behead a Chinese magnolia.
37 Denial's note.
38 Coconut fibre.
39 Dry-rot in timber.
41 Devoured.
42 Else.
44 Pea-shaped object.
45 Curtail "sap."
46 Army Post Office (abbr.).
47 The soft part of fruits.
49 Trims by lopping off superfluous parts.
51 Variety of onion.
53 Iron (symbol).
54 Vermont (abbr.).
55 Word of assent.
56 Bananas.

DOWN.

1 Plant whose young shoots are esteemed as a table delicacy.
2 Sliced cabbage eaten as a salad.
3 Goddess of fruit and garden produce.
4 Pronoun.
5 Clinging plant.
6 Hooked instrument for cutting grain.
7 Climbing plant.
8 White frost.
9 Stir.
10 Plants having very fragrant flowers.
13 Plant with small, sweet-smelling lilac-blue flowers.
15 Wild plums.
16 Colour.
18 Rye (curtailed).
25 The hat-plant, or sponge-wood.
27 A tree which is not a tree.
28 The honey of the glands of plants.
29 Blue-black fruit of the blackthorn.
32 Green.
34 Three-toed sloth.
36 Former forbidden fruit.
40 Nearly "old."
41 The tremulous poplar.
43 Beautiful summer flowers.
46 Found in "antirrhinums."
48 Mexican gum tree.
50 An indehiscent fruit.
52 King's Proctor (abbr.).
53 Fourth note of scale.



Name.....

Address.....

Solution to "The Garden" Crossword No. 11.

ACROSS.

1 Columbine, 8 Row, 11 Hip, 12 Oat, 13 Leafy, 15 Eddish, 17 Add, 18 F.C., 19 Sl, 20 N.S., 21 Tree, 22 Ah!, 23 Tuna, 24 Whorl, 25 Le, 26 N.M., 27 Arm, 28 Wo, 30 Fa, 31 Reaper, 33 Ta, 35 Bane, 37 Hire, 39 Malt, 41 Rising, 43 Musel, 44 Grass, 45 Alp, 46 Are, 48 E.g., 49 Cee, 52 Rea, 53 Sieve, 54 Etna, 55 Dry, 56 Hoes.

DOWN.

1 Chestnut, 2 Oidium, 3 L.P.D., 4 Mose, 5 Bah!, 6 It, 7 Elder, 8 Ra, 9 Offal, 10 Wych-elm, 14 Edelweiss, 16 Inarable, 17 Aroma, 21 Three, 24 Warn, 29 Orris, 32 Phials, 34 Amulet, 36 Attar, 38 En, 40 Aspen, 41 R.R., 42 Gages, 43 Mace, 44 Gear, 47 Red, 48 Eve, 52 I.H., 53 Eo.

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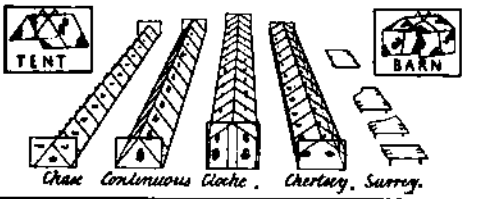

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SOCIETY NOTES

The Amateur in Horticulture.

LECTURING recently before the members of the Royal Caledonian Horticultural Society at Edinburgh on the subject of "Horticulture at the Cross-roads," Mr. William Cuthbertson (of Dobbie and Co.) made pointed reference to the changed conditions of horticulture. When he became actively engaged in horticulture, nearly fifty years ago, it was the hey-day of big private establishments employing anything up to twenty and thirty gardeners, and in those days the head-gardener (when the family was not in residence) was monarch of all he surveyed. The glory has departed, and many of our great private gardens are now nothing more nor less than market gardens, supplying the big house with what vegetables are required at market price and selling the surplus as best the gardener can.

The gardeners of fifty years ago came to the cross-roads and are gone. Their successors are breeders, etc.; but what to him was a daily wonder, in all sections of gardening are outstanding amateurs—statesmen, railway magnates, great bankers, great business men, great professional men—who lead very full lives and yet are the keenest of gardeners, with specialised knowledge of their favourite plants which is often on a level with that of the cleverest professional. These amateur gentlemen have come in at the cross-roads during the last thirty years, and their work and example have given a tremendous impetus to horticulture generally.

Discussing the small amateur enthusiast, Mr. Cuthbertson cited the case of the railway worker who won the Veitch Memorial Medal for a collection of vegetables at Dundee Centenary Show, and he recalled another railwayman's garden in Berwickshire where only thirty-six roses were grown, but there were not thirty-six better roses in Scotland. He knew small gardens in many parts of the country devoted many years ago almost exclusively to one flower—pansies, dahlias, pinks, auriculas or carnations; while those who had a "bit" of glass grew fuchsias, pelargoniums and calceolarias. That class of gardener still existed, but to-day he was growing sweet peas, roses, dahlias, violas and chrysanthemums, and in his greenhouse begonias, carnations, chrysanthemums and lilies. The old quilled aster is gone, but a glorious substitute has taken its place. If the striped snapdragon has decreased, the selfs have increased ten thousand-fold. Pentstemons are again coming into their own, and delphiniums have risen to glorious perfection. These are all beloved of the small grower, and so, of course, are marigolds. They seem to be cultivated all over the world, but nobody understands them except Scotsmen.

In a passing reference to the influence of flower shows, the lecturer described the village shows as the outposts of horticulture, and in many districts formed a bright spot in the yearly routine of country life.

New and Rare Plants at Vincent Square.

SPRING flowers were dominant among the novelties at the Royal Horticultural Hall, Westminster, on Feb. 8th. From the garden lover's point of view, the best of the plants which received the award of merit was the dainty little Colchicum croaticum. The word "colchicum" immediately directs one's mind to C. autumnale, the meadow saffron, often also termed the autumn crocus, and colchicum is mostly a genus of autumn-flowering bulbous plants. But the newcomer is one of the few exceptions, and these relatively few spring-flowering species are comparatively unknown in our gardens. In addition to their beauty and interest, these spring sorts, as Mrs. Dykes pointed out on the show card of C. croaticum, "it flowers incessantly in the spring for six to eight weeks," and this is true of the others of its type. The flowers are a trifle larger than those of the common crocus, and the segments are a little more pointed. In colour it is a good paper white, with regular greyish lines, though there is quite a suggestion of potential pink flushing on the flowers. Mr. E. A. Bowles showed two crocuses which received awards of merit. C. gargaricus, from Mount Gargarus, is a showy little species. It produces a succession of shining buttercup yellow flowers, and is peculiar in being the only spring crocus which flowers in advance of its foliage. The other crocus is a cross between C. denius and the Asia Minor species, C. chrysanthus. It is named Curlew, and has flowers coloured yellow within and barred with dull chocolate on a whitish ground without.

Carnation Vesta, which also received an award of merit, is a vivid greenhouse variety. The flowers are shapely, very fragrant, and of a bright rose cerise colour. Iris Wedgwood, which received the award of merit on January 27th, 1925, was given a first-class certificate. For several years it has been forced for marketing in greatly increasing quantities. It is of Dutch extraction, and may well be termed a larger and earlier Spanish iris which will force readily without producing speckled flowers, as so often happens with the Spanish type. The beautiful Wedgwood blue colour is enhanced by orange on the falls of the blooms. Tulipa pulchella, shown by Mr. Clarence Elliott, is a most charming little species, though it did not find favour with the committee. It is only about 3ins. high, but the flower is relatively large and a lovely soft pink colour with an inky purple blotch at the base of each segment. It was introduced from the Cicilian Taurus in 1877.

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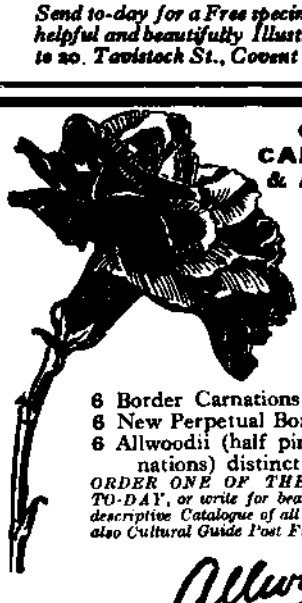

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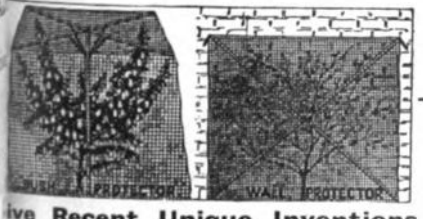

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Owing to reduction of staff, the Imperial War Graves Commission has been compelled to dispense with the services of 140 gardeners. In all cases the men are leaving entirely owing to the necessary reduction of staff, and the Commission would be most grateful to any employer who can offer any of them employment. Any prospective employer might apply to the Commission, who will be pleased to furnish all particulars, at 82, Baker Street, W.1.

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Messrs. Bees, Limited, 175, Mill Street, Liverpool.—This firm's catalogue includes seeds of vegetables, annuals and perennials, as well as begonia tubers, gladioli, liliums and various sundries of all kinds. The numerous illustrations, both colour and half-tone, and the useful cultural hints should prove of great assistance to the amateur.

Messrs. Robert Veitch and Sons, 54, High Street, Exeter.—This firm, noted for the fine shrubs which they grow in the nurseries, send us their general seed catalogue. A long list of this year's novelties and specialities is included, and anyone who is anxious to try something new should apply for this list.

Messrs. Dickson, Brown and Tait, 57, Cross Street, Manchester.—The kitchen garden, the greenhouse and the flower garden are catered for in this firm's seed illustrated catalogue, which is well classified and clearly printed. The illustrations are especially good.

Messrs. Robinson Brothers, Limited, of West Bromwich have compiled a little brochure which contains a complete description of the fertilising specialities of this firm. Valuable information on how to increase the fertility and productivity of the garden is given.

Messrs. Thyne and Sons of 8 and 10, Union Street, Dundee, send us their illustrated catalogue of hardy Scotch plants, which includes perennials for the herbaceous border and rockery, roses, fruit trees and ornamental trees and shrubs. Anyone who gardens in a cold, damp district where frost does considerable damage would be well advised to purchase their plants from some well known Scottish firm, such as this one, for plants grown in the northern nurseries are not so likely to suffer a check when transplanted as those raised in any of the warm southern counties. This firm's seed catalogue is also well worth procuring. In it will be found flower and vegetable seeds of all kinds and a comprehensive list of bedding antirrhinums.

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"THE GARDEN" CROSSWORD—XIV

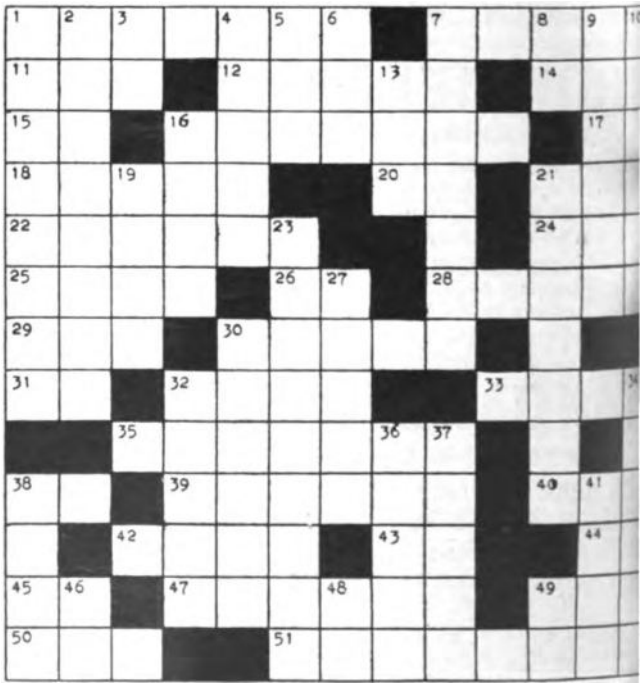
Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, February 24th. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.

1 Ornamental flower, its roots medicinal.
7 Plant stem.
11 French land measure.
12 Stage of fungi of order Uredinei
14 Gardening tool.
15 Right centre (abbr.).
16 A little spade.
17 Verbena root (abbr.).
18 Dust-coloured.
20 Gay (curtailed).
21 Watering utensil.
22 Genus of polypetalous plants of the pink family.
24 A lifetime.
25 Curtail a dried plum.
26 Rose garden (abbr.).
28 Form of flower with radiating stalks.
29 Decapitated "dude."
30 Shrub from the twigs of which besom is made.
31 Raspberry seeds (abbr.).
32 To bloom or blossom.
33 Garden tool.
35 Side away from wind.
36 Regarding.
39 A granary or storehouse.
40 Small lizard.
42 Palm-tree which produces the cocoa-nut.
43 That is.
44 Diphthong.
45 Upon.
47 Spines on plant stems.
49 Blunder.
50 An ivy bush.
51 Tufts of grass or twigs.

DOWN.

1 Plant with showy flowers.
2 Garden of fruit-trees (plur.).
3 Come about.
4 Plant of the genus Lupinus.
5 Man's name meaning "watcher."
6 Tea (reversed).
7 The nightshade family of plants.
8 An exclamation.
9 Plant allied to Angelica from which a liquor is obtained.
10 Edible part of a nut.
13 Worked with a spade.
16 Rind of fruits.
19 Fever.
21 Common vegetable.
23 Starch obtained from roots of certain West Indies plants.
27 The wild daisy.
30 To whiten.
32 Bore.
34 Consumers of garden produce.
36 Control a horse.
37 To manure.
38 Hidden part of plant.
41 Gardening implement.
46 A refusal.
48 Curtail the plant known as Herb of Grace.
49 East Central (abbr.).



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Solution to "The Garden" Crossword No. 12.

ACROSS.

1 Bracken, 7 Tansy, 11 Ear, 12 Arbour, 14 Ha, 15 Lo, 16 Abloom, 18 Orchis, 21 Ke, 22 XV, 23 Neat, 24 EN, 26 Rules, 29 Ip, 31 Spill, 32 Almonds, 35 Apse, 36 Salad, 37 Eyes, 40 Nuts, 41 Gab, 42 Lot, 44 St., 45 Matured, 47 P.E., 48 Aye, 49 Eddy, 51 Groats, 53 Cause, 54 Alate, 55 Elm.

DOWN.

1 Begonias, 2 Ra, 3 Areca, 4 Kall, 5 Erose, 6 N.B., 7 Tubers, 8 Arl, 9 Shovels, 10 Yam, 13 Oak, 17 Oxlip, 19 Re-plant, 20 Ht, 25 Nosegay, 27 Upas, 28 Sleet, 30 Ends, 33 M.L.U., 34 Oatmeal, 38 Yate, 39 Ebu, 42 Ledum, 43 Odds, 44 Sage, 45 Mast, 46 Real, 47 Poa, 50 Yew, 52 Ta, 53 Ce.

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rchards. Spraying Fruit Trees.
he Apple. The Pear.
lums and Damsons.
eaches and Nectarines.
pricots, Cherries, Currants.
oseberries, Raspberries.
trawberries, etc.
iscellaneous Hardy Fruits.
he Orchard House.
reserving Vegetables by Bottling.
lant Diseases caused by Fungi.
nsect and Other Plant Enemies.
arden Friends.
opular Garden Plants.
reenhouse and Conservatory.
he Stove or Tropical House.
rchids, Ferns, Palms, Cycads.
ucculent Plants. Forcing and Retarding.
arden Structures.
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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Treatment of Black Currants With Big Bud.

I should be obliged if you would advise me on my black currants. I think they have big bud. The buds on all new shoots are as big as peas. If it is big bud, must I take all the buds off or cut the shoots? Also in late summer I get celery fly, the leaves of my celery turn yellow and die off; last year I covered with soot, but to no purpose. Is there any connection between the two, big bud and celery fly?—A. G., Stockport.

We should think, from your description, that your black currants are infected with big bud. The best treatment we can suggest is that of spraying the bushes with a solution of lime sulphur. This should be carried out at intervals of a few weeks, commencing about the end of March. Apart from the wet spraying, dusting with a mixture of finely ground quick lime and flowers of sulphur can be tried. This should be done at intervals of a fortnight, commencing at the same time. All the attacked buds should be destroyed as soon as seen, and really badly infected bushes should be burned. Care must be taken not to assist in the spread of the disease in any way. When purchasing black currant bushes, you should aim at buying those which are more or less strongly resistant to the disease. There is no connection between big bud and celery fly.

We should also suggest as a remedy for celery fly that you dust your plants with soot and lime and spray with paraffin emulsion. These materials should be applied at intervals from April onwards. Both these substances will be found very effective.

Evergreen Plants for a Cold Greenhouse.

Can you recommend some evergreen pot plants for a cool greenhouse from which frost is just kept out? Are Euonymus radicans, choisya and eucalyptus suitable, and possible to keep reasonably small, say not more than 2½ft. high?—S. G., Manchester.

There are quite a number of evergreen plants that will stand in a greenhouse from which frost is excluded. All the following plants may be used for this purpose. Some of them, of course, are hardy, but are useful for furnishing during the winter. All the beautiful variegated forms of Euonymus japonicus, including radicans, are suitable, also young plants of Eucalyptus globulus and Gunni, Choisya ternata, Eurya japonica var. latifolia variegata, Viburnum Tinus (laurustinus in small pots), also small well fruited plants of Aucuba japonica, Pernettya mucronata, Skimmia japonica, also Fatsia (Aralia) japonica and its variegated variety. Cordyline australis and its varieties are also very useful, also CC. stricta and Haageana. Small plants of the common myrtle and its varieties are also useful, also small plants of Olivia miniata, which are beautiful when in flower. Liriope spicata var. variegata, also Asparagus Sprengeri and Grevillea robusta, Cytisus fragrans, Daphne odora, Mitraria coccinea, Ficus macrophylla, Osmanthus Delavayi; all the South African heaths should stand, also Boronias megastigma, elatior and heterophylla.

Propagating Dracænas.

I have a twenty-year-old dracæna which has flowered for the last two years, and two young offshoots have been growing out of the stem since last spring. How and when can I extract them and how treat after severance, to secure two new specimens?—W. R., Merioneth.

If the young shoots of your dracæna are springing up from the root, you can detach them at any time now. You will probably have to turn the old plant out of the pot before you can detach the offsets. If the shoots spring from the stem you must cut them off and insert as cuttings in a pot, standing them in a close propagating case until they have rooted. You do not say what variety you have, which makes it somewhat difficult to advise. Another method of rooting them is to cut the shoots half way through, and tie a good handful of moss round the stem, keeping the moss moist. When the shoots root into the moss they can be detached and placed in suitable sized pots, keeping them close until they are established.

Plants for a Small Water Garden.

I have a concrete tank 9ft. in diameter and 2ft. deep in my garden, but I am not quite sure as to the best plants to grow therein. There is a border (dry) around the same, 3ft. wide, and I would like the names of suitable plants, flowering and otherwise, for this.—A. S. B., Hinckley.

Some good plants for your small tank would be: Nymphæa pygmæa alba, N. pygmæa Helvola, N. Laydekeri fulgens, Azolla Caroliniana (fairy floating moss), Butomus umbellatus (flowering rush). In the surrounding border you could grow Japanese irises (Iris Kæmpferi), Astilbe Pink Pearl, Iris sibirica, Caltha palustris (marsh marigold), Primula japonica, Saxifraga peltata, Rheum palmatum, Senecio Clivorum, Rodgersia podophylla, Trillium grandiflorum and Funkia Sieboldii. The nymphæas (water lilies) should be planted in baskets of prepared compost and the baskets should be sunk in the middle of the tank. Two varieties would be sufficient. The flowering rush should be planted in a basket placed at one corner of the pool. The taller-growing plants should be planted at one or two of the corners of the borders and the lower-growing subjects should be grouped along the remaining sides. The plants suggested for the border are attractive both in flower and foliage and look very effective by the waterside.

Some Climbers for Pergolas.

Can you suggest good evergreens and deciduous climbers for pergolas? Please give two or three varieties of each—not Escallonia macrantha or Azara microphylla.—R. H. T., Cricklewood.

The following climbers are suitable for a pergola: *Evergreen.*—Lonicera japonica Halleana; Escallonias langleyensis and Donard Seedling; Jasminum officinalis; Ceanothus rigidus and dentatus; Solanum jasminoides; and Trachelospernum japonicum. *Deciduous.*—Loniceras Early Dutch and Late Dutch; Wistarias sinensis and multijuga alba; Jasminum nudiflorum; Clematises Jackmannii, Lady Northcliffe, Nellie Moser and Henryi; Vitis vinifera purpurea; Roses Albéric Barbier (evergreen), Sanders White, and American Pillar (partly evergreen); and Forsythia suspensa (Sieboldii).

The Uses of Fowl Manure.

Could you advise me on the uses of fowl manure? For what flowers and vegetables is it suitable, and in what quantity should it be applied?—H. M. B., Hillingdon.

Fowl manure should be quite dry and reduced to a fine powder. It is beneficial to all flowers except hard-wooded, such as azaleas and those with very fine thread-like roots, such as primulas, though very small quantities may be included in the composts—a 5in. potful to a bushel of soil. In open borders 4 oz. per square yard will benefit herbaceous, bedding-out plants, annuals and roses; also 6 oz. per square yard for established fruit trees and vegetables.

Raising Amaryllis and Tritomas from Seed.

Would you kindly tell me whether I can grow Amaryllis (hippeastrum) by sowing seed in a frame or indoors during June or another summer month and wintering the seedlings in a warm kitchen in which there is no fire at night but which retains the warmth well? Can I raise tritomas (red-hot pokers) from seed by sowing in summer and wintering plants in a frame?—J. T. W., Plumstead.

You cannot grow hippeastrums from seed unless you can give them a temperature of 55° to 60° Fahr., and they should be kept growing all the time until they reach the flowering stage. If you have flowering bulbs you can keep them dry all winter in a temperature of 40° to 45°; but you really want a greenhouse to grow and flower them successfully, although there is one species, namely, H. aulicum, which can be successfully grown in a cool greenhouse, and it would possibly do in a window. You can raise tritomas from seed during the summer and winter the young plants in a cold frame, planting them out the following spring.

The Culture of Androsace sarmentosa.

I have three times tried to establish Androsace sarmentosa in my rockery, but on each occasion I have found the "stars" gradually wither. Will you please tell me what soil and situation it likes? A friend of mine has a campanula in a pot, it has a variegated foliage of green and greeny-white; it hangs down over the pot and the flowers are of a lavender blue, nearly an inch across. Could you tell me its name?—L. T., Exeter.

Androsace sarmentosa requires a mixture of sand, leaf soil and loam, with plenty of pieces of broken sandstone mixed with it. Select a sunny position on a slightly sloping ledge for planting. We hope you will be more successful in growing this plant during this season. The plant to which you refer is Campanula isophylla var. Mayi.

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nure for Potatoes.

'ill you kindly advise me in the following ter : Yearly we have a competition for heaviest lift from three potatoes planted le, and I have not been as successful as ould like. The method I have tried is ng out a trench 3ft. wide and 2ft. deep, ing 9ins. of good manure in, then returning forking in 4 oz. of superphosphate and d ash. When planting I sprinkle a little y's Fertilizer along drill, also a little when vth is about 3ins. high, and again when ng up, and I have used nothing after . To give you an idea, last year I lifted ., which you know is poor from such tment. I have been so successful in following hints given in your paper in other things t it is with confidence I await your advice his matter.—J. L., Warrington.

As soils vary in different parts of the ntry, it is not possible to mix a complete nure to suit all, and you do not say what d of soil yours is. Well rotted manure, in eral quantity, is essential in all soils. ll rotted leaf-soil is also very good, ecially where heavy soils obtain. You st reduce the soil to a fine powder and, addition to the rotted manure, apply one rowload of leaf-soil and 3 oz. of super- osphate at the time of planting. When thing up apply 3 oz. of sulphate of monia. More nutriment of this kind uld not be needed, but you may mix peck of burned soil with the bulk; helps in the production of clean, heavy ers.

epotting Cypripediums.

I have a number of cypripediums which are vering well but will want dividing up and otting later on. I have only a small green- use and require the space in the summer lilies, etc.. Can I summer the cypripe- ms in a cold frame during the warm months thout injuring them? I suppose the frame ght to face north if I can do so.—G. B., ngley, Bucks.

You may grow the greenhouse cypripe- ums in a cold frame during the summer nths, especially if they are well established the root before you put them out. It uld be an advantage if the frame had rtial shade during the hottest part of the y, and there is no reason why it should t face north. It would be well to stand e plants on inverted pots or pans to allow irculation of air about them.

ow to Strike Cuttings of piphyllum.

Will you kindly advise me the best time to tain cuttings of Cactus Epiphyllum and full tural directions after they have rooted? hat kind of compost do they require, how en do they require potting, watering, and the old plants be cut back and repotted?— A. L., Yorks.

Cuttings of Cactus Epiphyllum may be ten at almost any time throughout the ar. It will strike root fairly rapidly from ttings, but the cut surface should be owed to dry for several days until a corky er is formed over it. The best way to cure this is by allowing the cuttings to on a greenhouse shelf for two or three ys. The cuttings may then be placed sand, the base of the cutting only being little below the surface of the soil. If e cuttings are at all slender, they should tied into position by a supporting stick. he compost required is almost one of pure nd, but with good drainage. They should ot require watering except at intervals of ce a month, but the atmosphere in which piphyllum best succeeds should have a gh degree of humidity. The old plants hould not be cut back too much after cuttings ave been made, otherwise bleeding will robably ensue. They can, however, be epotted, care being taken to disturb the ompost round the roots as little as possible.

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SOCIETY NOTES

Garden Championships.

AT a conference dinner held at Anderton's Hotel on February 16th, delegates assembled from sixty branches and affiliated societies of the London Gardens Guild. Over 150 delegates were present, and a scheme for Garden Championships was approved on similar lines to those organised last year by the *Daily Express* in conjunction with the London Gardens Guild. The meeting was remarkably enthusiastic, and it is the anticipation of the organisers that 15,000 gardens will be entered during the forthcoming season by amateurs around and in the metropolis.

The Birmingham Gardens Guild is also organising garden and window-box competitions in the different parts of the city. Full particulars of these championships will be forwarded by the organisers, and communications should be sent to the following addresses:

London.—London Gardens Guild, 124, Walworth Road, London, S.E.17.

Birmingham.—W. H. Jenkin, 18, Westminster Chambers, 99, Corporation Street, Birmingham.

British Carnation Society's Show.

WE would draw the attention of our readers to the schedule of prizes to be competed for at the thirty-second floral meeting of the British Carnation Society at the Royal Horticultural Hall, Vincent Square, Westminster, London, on March 29th and 30th next. The schedule indicates that the show is to be run on comprehensive lines and the prize list is a large one in some fifty-five classes. A gold challenge cup is offered among other cups for the best scented carnation not in commerce prior to 1925. This cup is for open competition, and not less than six flowers of the one variety must be exhibited. This section is certain to produce keen interest and competition among all carnation enthusiasts. It is to be hoped that the entries will be numerous and so assist the Society and its objects. Further particulars will gladly be furnished on application to the secretary, Mr. P. F. Bunyard, 57, Kidderminster Road, Croydon, S.E. The entries for the show close on March 26th.

Flower Show at Blackpool.

THE county borough of Blackpool announce that their first annual show will be held in Stanley Hall, Blackpool, on July 20th, 21st and 22nd. The preliminary schedule indicates that the show is to be run on extensive lines. Valuable cash prizes, challenge trophies, medals and other awards are offered in over 250 classes. Many of the classes are open to all, others to amateurs only and a few to local gardeners, fruiterers and allotment holders. Further particulars as regards the classes and list of prizes are to be issued shortly, and these are to be obtained from the secretary, Mr. W. Foster, Turner House, Blackpool. It is the intention of this enterprising county borough to make this first attempt a really first-class show, and it is to be hoped that their efforts will meet with the success they deserve.

A New Viola and Pansy Society.

IT will be of interest to many of our readers to learn that there has been formed The London and South of England Viola and Pansy Society.

At their shows there will be separate classes for bedding violas as well as for varieties which are grown exclusively for exhibiting.

One of the objects of the Society is to encourage raisers to produce violas of short

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tufted growth suitable for bedding which, with special cultivation, will produce blooms of good size for the show table.

The first show will be held on July 19th, 1927, in connection with the R.H.S. Show at Vincent Square.

The subscription to the Society is 2s. 6d. (minimum) per annum. Interested readers should communicate with the hon. secretary, Mr. John H. Little, Brent Tor, Brentwood Road, Romford, Essex.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 16, which appeared in our issue of February 10th, have been awarded to

Miss E. H. Lyster,
Crofton Grange,
Orpington.

and

Mr. J. C. Murphy,
"Addencliffe,"
Westwood Lane,
Headingley,
Leeds.

To each of whom a cheque for that amount has been sent.

PUBLICATIONS RECEIVED.

"The Gardeners' Year Book for 1927," published by Messrs. Williams and Norgate, price 3s. 6d. This is a most comprehensive guide, which should be in the hands of all professional gardeners and those keenly interested from the amateur's point of view. Much useful information is contained in condensed space.

"Vegetables for Home and Exhibition," by Edwin Beckett, published by Messrs. Simpkin, Marshall, Hamilton, Kent and Co., London, price 15s. This is a thoroughly revised and up to date edition of this already well known work on vegetable culture. That it has met a long felt want can be judged by the fact that this is the third edition. It is written by an acknowledged authority on the subject, and all the information given in its pages is the result of a life-long practical experience in the growing and raising of vegetables for all purposes. It is a volume which should be in the hands of every professional gardener and any keen amateurs who grow their own vegetables will find it a work of great assistance.

"Sweet Peas for Amateurs," by Norman Lambert and H. H. Thomas, published by Messrs. Cassell and Co., price 2s. 6d. A practical guide on the culture of sweet pea.

"Florida Wild Fowers," by Mary Frances Baker, published by Messrs. Macmillan and Co., price 12s. 6d.

"My Garden Comes of Age," by Julia H. Cummings, published by Messrs. Macmillan and Co., price 12s. 6d.

"Sanders Orchid Guide," published by Messrs. Sanders, St. Albans, price 31s. 6d. This is a thoroughly revised edition of this valuable guide, which contains all the best known species, varieties and natural hybrid orchids in cultivation. It also gives a list of the native countries, with descriptions, seasons of flowering and the best methods of cultivation. In this present edition the cultural notes are greatly extended, while the essential features of the previous edition have all been retained. There is an interesting foreword by Sir Frederick Moore, who emphasises the importance of such a work of reference. It is a most informative work consisting of 450 pages of condensed information on all points pertaining to the successful cultivation of orchids, and Messrs. Sanders undoubtedly deserve the thanks of all keen gardeners for their energy and enterprise in bringing such an interesting guide thoroughly up to date.

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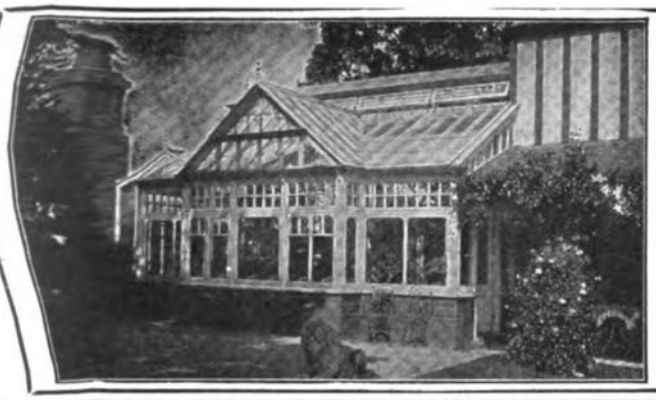

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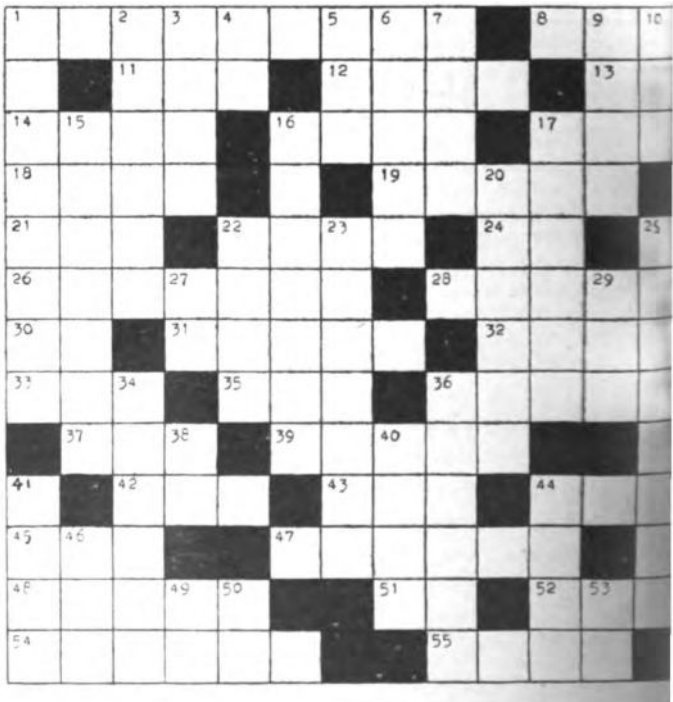
"THE GARDEN" CROSSWORD—XV

Two Prizes of ONE GUINEA will be given to the first two correct solutions opened on the morning of Thursday, March 3rd. If no correct solutions are sent in, these prizes will be awarded to the first two in order of merit that are opened. All envelopes must be marked "Crossword" on the outside and addressed to THE GARDEN, 20, Tavistock Street, Strand, London, W.C.2. No other communication must be enclosed in this envelope.

ACROSS.
1 Kind of mallow, brought from the Holy Land.
8 The laurel tree.
11 Necessary to plant life.
12 Tenacious ductile earth.
13 A third of "radish."
14 Plants which yield Arrowroot.
16 Garden receptacle.
17 Border or outer edge.
18 Stone which lines a garden path.
19 Part of a flower.
21 Curtail "idea."
22 Spherical bodies.
24 Royal Institute (abbr.).
26 Genus of water-lilies including the Egyptian Bean.
28 Used for watering gardens.
30 Transit (abbr.).
31 Plant bearing large carmine or white flowers.
32 A spiral of smoke.
33 Cut and dried grass.
35 Brood of pheasants.
36 A tithe.
37 Meadow.
39 Plant.s identification tag.
42 To cut off, as branches.
43 Scares off birds.
44 A seed-vessel.
45 Half of "roller."
47 Implement for spreading hay.
48 Fruit of the oak.
51 A point of the compass.
52 Lubricant.
54 Shady garden enclosures.
55 Matured fruit is this.

DOWN.
1 Bulbous-rooted flower of a great variety of colours.
2 The bay-tree.
3 Branch of a tree.
4 365 days (abbr.).
5 S. Am. potato-like plant.
6 Trims with shears.
7 Cabbage with open, curled leaves.
9 Peculiar covering of some seeds.
10 The sweet potato.
15 Growing in waste places (bot.).
16 Cook partly.
17 A dried ripe grape.
20 Gardening tool.
22 A portent.
23 Slavery.
25 Kind of lily: in Greek mythology the peculiar plant of the dead.
27 On high.
29 Superlative suffix.
34 Colour of daffodils.
36 Young shoots are this.
38 Apple orchard (abbr.).
40 First shoots of a plant.
41 A wild bitter apple.
44 A support for climbing plants.
46 Coco (beheaded).
49 Concerning.
50 Near (abbr.).
53 That is.



Name.....

Address.....

Solution to "The Garden" Crossword No. 13.

ACROSS.
1 Aspidistras, 11 Slot, 12 Virid, 13 Ha, 14 Pam, 15 Sycamores, 17 A-work, 19 Kie, 20 Elm, 21 Nye, 22 LL, 23 DH, 24 Asa, 26 Greens, 30 On, 31 Go, 32 U.S.A., 33 Relate, 35 Ulan, 37 No, 38 Coir, 39 Saprot, 41 Ate, 42 Or, 44 Pill, 45 Sa, 46 A.P.O., 47 Pulp, 49 Prunes, 51 Leek, 53 Fe, 54 Vt., 55 Yes, 56 Plantains.

DOWN.
1 Asparagus, 2 Slaw, 3 Pomona, 4 It, 5 Ivy, 6 Sickle, 7 Trailer, 8 Rinse, 9 Ado, 10 Jasmine, 13 Heliotrope, 15 Skegs, 16 Red, 18 Ry, 25 Sola, 27 Rantle, 28 Nectar, 29 Sloe, 32 Unripe, 34 Al, 36 Apples, 40 Ol, 41 Aspen, 43 Roses, 46 Anti, 48 Ule, 50 Uva, 52 K.P., 53 Fa.

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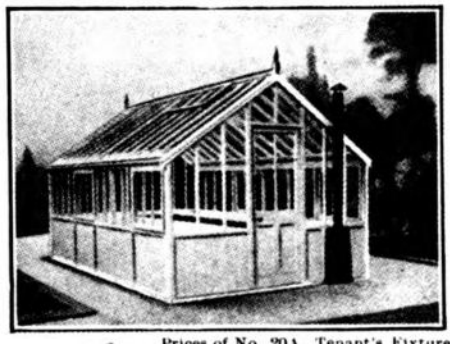

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12ft.	8ft.	19 10 0	25tt.	10ft.	49 0 0
15ft.	10ft.	30 0 0	30ft.	10ft.	60 0 0

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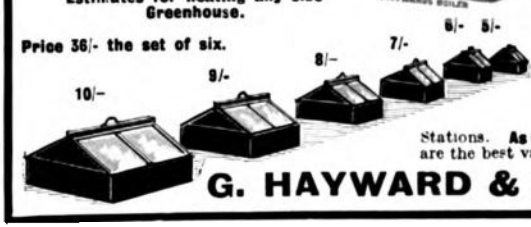

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No. 1	5	5	0	8ft.	5ft.	9	0	0
No. 1	5	7	0	9ft.	6ft.	11	0	0
No. 1	5	10	0	10ft.	7ft.	15	0	0
No. 2	6	0	0	10ft.	8ft.	16	10	0
No. 2	6	10	0	12ft.	8ft.	17	10	0
No. 2	7	5	0	15ft.	9ft.	23	19	0
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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

May Trees for a Front Garden.

Will you kindly tell me whether May trees (double crimson) would grow well in front of my house? This is facing north-west and its height would not prevent the trees from getting the sun. The soil is rather poor, builders' rubbish and clay. Would there be any species of May trees better than others for this purpose? Together with May trees I should like very much to plant two Acacia hispida (Rose acacia), but I am afraid these two last named will grow too high and become too large.—E. J., Wembley Park.

The double crimson May tree will thrive quite well in the position you describe, especially if you work in a little good loamy soil when planting. The Rose acacia can be kept to any reasonable size by pruning. It should do well with the roots in the builders' rubbish as drainage in clay soil.

Pruning of Shrubs.

The following shrubs I have obtained lately from nurserymen and planted in my garden. I should be much obliged if you would inform me as to how they should be pruned (if at all) at present time: Almonds, buddleia, escallonia, deutzia, Prunus Pissardii, philadelphus, Polygonum Baldschuanicum, weigelas, climbing roses (not ramblers), and climbing rambler roses.—A. E. C., Hadleigh, Essex.

The shrubs which you mention require no regular pruning, but only demand a light thinning of the twiggy branches, on which all dead wood must be removed and any straggly branches cut back to preserve the balance and shape of the bushes. You will find, for example, in the case of philadelphus, that the growth is dense, and quite a lot of dead wood is to be found in the centre of the bush. This should all be cut away, and also a number of last season's shoots. This, although best done two or three months after flowering, can be done immediately, before new growth begins. Buddleias can be cut hard back after flowering. Deutzias should be treated in the same way as philadelphus. Escallonias only require a light thinning. Polygonum Baldschuanicum can be cut fairly ahrd back to keep it in check, and provide good flowering growths for next season. Climbing rambler roses are best pruned in December, but ordinary hybrid teas can be treated this month. An article dealing with the pruning of roses will be found on page 156 of this issue, which may be of service to you. The main thing to remember is always to prune to an outward-pointing bud, and all vigorous-growing shoots can be shortened from 9ins. to 12 ns. in length.

Potting Early-Flowering Gladioli.

I am planting in pots a considerable number of early-flowering gladioli (Ackermanni, etc.). Must I plunge these out of doors to root, or can I stand them under the benches of the greenhouse? Last year I plunged them and they all got frozen and then rotted.—G. B., Langley, Bucks.

It would be best to stand the Gladiolus Ackermanni in a cold frame. If stood under the benches of the greenhouse there would be a danger of them getting too wet. They should stand outdoors until rooted—at the foot of a warm wall would be quite suitable, if properly protected with fibre or old weathered ashes from the stoke-hole. Peat moss litter is excellent material for covering purposes.

Plants for a Small Pond.

I have a water lily which has flowered two seasons and this year has become too large for the existing pond (cement lined). It has, therefore, been necessary to make a larger pond. Will you kindly say (1) if the lily can be successfully divided, and, if so, the best time and how to do it. The variety is Nymphæa Marliacea albida. (2) Will you also please name a good variety which is not so vigorous, but at the same time blooms well. (3) Suitable water plants which are not rampant, but flower well in a cement-lined pond. If possible, I want two or three divisions of the old plant for the large pond, and the small variety for the small pond.—F. J. W., Handsworth.

A water lily will divide quite successfully. This work should be carried out in early May. The plant should be lifted and the crown divided into two or three pieces. These should be replanted in baskets of prepared compost and the baskets sunk in the large pond. A suitable small-growing water lily for a cement pond is Nymphæa pygmæa Helvola, or N. Laydekeri lilacea. If these grow too large they can be lifted and divided every three or four years. Some suitable aquatics are: the water plantain (Alisma natans), Pontederia cordata, Azolla caroliniana, Ranunculus aquatilis (water crowfoot), Hydrocharis Morsus-Ranæ, Aponogeton distachyum, the flowering rush (Butomus umbellatus) and Sagittaria japonica plena.

Planting and Pruning of Clematis.

I intend to plant some clematis plants this spring, and would like some particulars of various kinds. When should lanuginosa (pale lavender) be planted—is it too early at present? When established, what pruning, if any, will it require, and when? Of the two clematises Gypsy Queen (velvety violet) and Lady Northcliffe (blue), which is the freer bloomer and which has the larger flowers? I have already planted, two seasons ago, a clematis, Ville de Lyon. It bloomed in 1926—apparently on shoots of 1926 growth; does this kind require pruning—if so, when? Is there such a thing as a chestnut brown clematis? If so, what is its name?—D. H., Weston-super-Mare.

February is a very good time for planting Clematis lanuginosa. Prune after planting, taking off thin weak ends of growths to about two-thirds the original length and cut out the side pieces. The variety Lady Northcliffe has larger flowers, with a longer season of flowering. You should find a place also for Gipsy Queen. It flowers more freely for a shorter period, but of at least six weeks duration, and is of sturdy habit. Clematis Ville de Lyon should be pruned in February by shortening growths to half their present length, and cutting out weak, thin shoots. We think you mean C. Kermesina, a variety with chestnut crimson flowers.

Improving Soil in an Old Garden.

I should be very glad if you would let me know the best treatment to give to the soil of an old garden very near the city. Straw manure, etc., is nearly impossible, and chemical fertilisers do not appear to improve the value of the soil. Is there anything that could be applied now to do the garden much good? The garden is both vegetable and flower.—A. B., Birmingham.

As the garden is an old one, no doubt the soil contains some humus. You should obtain some lime and apply it to the surface of the dug ground at the rate of 6 oz. per square yard, now. In the spring the lime, in a powdered state, will mix freely with the soil as the latter is being cropped, or prepared for crops. For the benefit of the latter, you should buy a bag (or more if required) of Wakeley's Hop Manure. Heap all vegetable refuse in some convenient corner and turn it several times during the year, sprinkling salt on each layer. Next autumn it will be available as a valuable manure for the vegetables.

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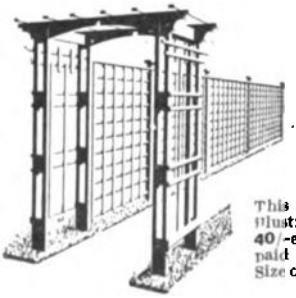

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SOCIETY NOTES

New Crocuses at Vincent Square.

CROCUSES were certainly in the ascendant among the new plants placed before the Floral Committee of the Royal Horticultural Society on February 22nd last. These were all fascinating sorts, and the two which received awards of merit were especially beautiful. Crocus biforus Alexandri major is a rounded flower with more substance in its milk-white segments than the common crocus possesses. In the middle of this chaste white cup are set filaments of brilliant orange-scarlet colour, while the outer segments ase delicately feathered with bright purple; this novelty was shown by Mr. H. Mc D. Edelsten of Hillside, Lindfield. Crocus minimus is a native of Corsica, and it bears pretty, bright purple flowers on slender stems lined with dull purple. This new crocus also has showy filaments, but they are not so vivid as those of the former variety. The outer segments are beautifully feathered with shining chocolate. Presumably it was collected by the late secretary to the Society for it was shown by Mrs. W. R. Dykes. The other crocuses, which did not receive award, were very pretty. Some were creamy coloured, while others were orange, yellow or white, and all had the fascinating feathery markings on the outsides of the flowers.

A beautiful snowdrop received an award. Although its name, Galanthus plicatus Warham var., indicates a Crimean origin, to the general garden lover it is a greatly improved common snowdrop, while Lady Beatrix Stanley, who showed it, said it was found in a Norfolk cottage garden by the Rev. C. Digby. Two other snowdrops, several violets, tufted saxifrages, some pretty little Narcissus triandrus seedlings and Poets' narcissi were on view, but although attractive, they did not sufficiently impress the committees to obtain awards.

The Blackpool Show.

EXCELLENT progress is being made in the arrangements for the New National Flower Show, which is being organised to be held in the New Stanley Park, Blackpool, on Wednesday, Thursday and Friday, July 20th, 21st and 22nd, 1927.

The "Preliminary List of Classes," which was recently sent broadcast to the horticultural enthusiasts throughout the country, has brought forward many suggestions and improvements, all of which have received careful consideration of the Committee in an endeavour to meet the wishes of those in the trade and to establish a show which will be maintained in the highest position in the horticultural world. Many of the leading growers and exhibitors have intimated their decision to stage exhibits.

The full Schedule will be issued as soon as possible, and will embrace over 300 classes. The prize money and value of the trophies offered will exceed £3,000. A one hundred guinea trophy, ten fifty guinea trophies and many of twenty-five and twenty guineas have already been given to the show, and other offers are being received daily.

There is no doubt that Blackpool's first Annual Flower Show will help to maintain the reputation which the resort has justly earned for carrying out its many projects on a big and successful scale.

Trials at Wisley.

THE Royal Horticultural Society will carry out trials during this year of large-flowering gladiolus, alpine phloxes and rhubarb. Three plants of each variety of alpine phlox and of rhubarb, and ten (or five forms of each large-flowering variety of gladiolus should be sent to reach the Director,

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Thuiopsis borealis, 10 to 12 ft. Cupressus Lawsoniana, 12 to 14 ft. Cedrus atlantica glauca, very fine, 14 to 16 ft. Osmanthus, Phillyreas, Spireas, Lilacs, Viburnums, and a good general nursery stock.

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The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 14, which appeared in our issue of February 19th, have been awarded to—

Miss L. Young,
51, Northgate,
Beccles.

and

Mrs. Woodd,
Marathon,
12, Lawrie Park Crescent,
Sydenham, S.E.26.

To each of whom a cheque for that amount has been sent.

Solution to "The Garden" Crossword No. 14.

ACROSS.
1 Lobelia, 7 Stalk, 11 Are, 12 Uredo, 14 Hoe, 15 R.C., 16 Spatula, 17 V.R., 18 Khaki, 20 Ga, 21 Can, 22 Sagina, 24 Age, 25 Prun, 26 R.G., 28 Umbel, 29 Ude, 30 Broom, 31 R.S., 32 Blow, 33 Rake, 35 Leeward, 38 Re, 39 Garner, 40 Eft, 42 Coco, 43 I.e., 44 OE, 45 On, 47 Thorns, 49 Err, 50 Tod, 51 Tussocks.

DOWN.
1 Larkspur, 2 Orchards, 3 Be, 4 Lupin, 5 Ira, 6 Aet, 7 Solanum, 8 Ah!, 9 Lovage, 10 Kernel, 13 Dug, 16 Skin, 19 Ague, 21 Cabbage, 23 Arrowroot, 27 Gowan, 30 Bleach, 32 Begot, 34 Eaters, 36 Reins, 37 Dress, 38 Root, 41 Fork, 46 No, 48 Ru, 49 E.C.

A Decorative Broom.

AMONG the many interesting ornamental shrubs listed in the catalogue of Messrs. Watsons of Killiney, Co. Dublin, we would direct special attention to their new broom known as Cytisus "Dorothy Walpole." This variety is one of the most striking brooms of recent years and is undoubtedly one of great garden merit. The colour of the flowers is of rich velvety crimson, an entire breakaway from the colouring of other varieties. It is very free flowering and the long arching sprays of crimson blossoms are particularly handsome and attractive either in the garden or used for vase decoration indoors. It is perfectly hardy and will be found to withstand conditions equally well in the "north" as in the "south." The plants are generally supplied in pots. As with all brooms the planting is best done during the next few weeks. Spring planting, on the whole, always proves more successful with pot grown plants than autumn planting. The entire stock of "Dorothy Walpole" is in the hands of Messrs. Watsons, and readers, many of whom may have seen the plant at Chelsea Flower Show or other exhibitions, will find in it an attractive and beautiful shrub for their garden.

CATALOGUES RECEIVED.

Messrs. John E. Knight and Son, Wolverhampton. This firm's catalogue of garden seeds will be found of special interest to the amateur. It contains all standard varieties of vegetables and many annuals and perennials suitable for the small garden. Coloured plates add to the value of this catalogue.

Messrs. James and Geo. H. Matthews, Harold Wood, Essex. A flower and vegetable seed and Scottish seed potato catalogue, as well as a useful booklet on Matthews' Big Production Fertilisers. In this booklet of fertilisers will be found plant foods for all kinds of crops, lawn sand, hop manure, worm killers, etc. Good crops of tomatoes are obtained by the use of this firm's special tomato manure, and highly beneficial is Matthews' High Grade Horticultural Fertiliser to vegetables, particularly potatoes.

In Messrs. Carter's advertisement of gladioli on page x in our issue of February 26th, we much regret that, owing to a printer's error the illustration of Gladioli White Giant was inserted upside down.

BAKERS' SEEDS

The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

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SEED AND FLOWER FARM
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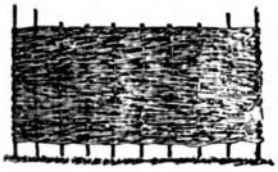

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SERVICE BUREAU—*continued.*

Fig Culture in the Open.

I shall be much obliged if you will give me some information about the planting of a fig. What is the best sort to grow in a rather stiff, cold soil? Where do you recommend getting the tree? Which aspect do you think best, considering the soil—in a corner facing south and east, or south and west? Is it advisable to plant with manure well below the roots or higher up?—M. A., Godalming.

Perhaps the best variety of fig for your purpose would be Brown Turkey, or Brunswick would be a good second choice. The tree must be given a warm, sunny position and a south-west aspect is much to be preferred. The sooner the tree is planted now, the better, as it is advisab e not to plant after mid-March. The soil should be prepared before planting and the best compost is one consisting of fresh fibrous loam to which plenty of finely broken mortar rubble has been added. also, bone meal and wood ashes should be mixed in fairly liberally. The manure will be best applied as a surface mulch after the tree is planted. If your soil is cold and wet, as you suggest, it would be advisable to drain the soil border in which the tree is to be planted, so that there will be no danger of waterlogging or of the soil becoming sodden and stagnant.

A Hedge of Berberis and Cotoneaster.

On page 73 of the issue of Jan. 29th, appears a paragraph recommending a hedge of Berberis Darwinii and Cotoneaster Simonsii. I should like to plant a 60ft. hedge of these as a dividing screen across my garden. Is the present time suitable for planting or must I wait until next autumn? Would these shrubs give a 6ft. screen, and how far apart should I plant?—F. B.

The berberis and cotoneaster can be planted any time during the month during open mild weather. They should be planted about 4ft. apart. These shrubs would give a 6ft. screen, but the cotoneaster would require more pruning than the berberis to maintain a height of 6ft.

Pruning of Rambler Roses.

Your paper says that newly planted ramblers must be pruned hard, but newly planted climbing hybrid tea roses need not be pruned hard. Hence the latter give better results first year than the former. Is there any advantage in ramblers over climbing hybrid teas?—G. M.

As a rule one may say that rambler roses are more vigorous than climbing hybrid teas, and give a massed display of several weeks duration. Hybrid teas flower from June to September, giving a more or less continuous display of blossoms. Many ramblers give the best flowers on vigorous growths produced the previous year right from the base. Hybrid teas flower on healthy young side shoots produced on the older wood.

Treating an Impoverished Lawn.

As an absolute novice, I am seeking your help with regard to my lawn, which is very patchy. Evidently a fertiliser of some sort and a certain amount of grass seed will be required, but how to keep the birds away and what kind of fertiliser to use I know not.—R. E., Ewell.

We should suggest that you dress your lawn with sulphate of ammonia during March. This material is obtainable from gas light and coke companies, generally in 7lb. bags. When applying the dressing to the lawn, we should advise you to mix a little sharp sand with the material to ensure a more even distribution of the dressing. Where the lawn looks patchy, the turf should be raked over and a dressing of fresh grass seed and sharp sand might be given, mixed in the proportion of two to one. The sulphate of ammonia will be very beneficial and will promote a dense growth of turf.

Yellowing of Arum Lily Leaves.

Could you please suggest a remedy to prevent the leaves of arum lilies turning yellow? The lilies were top-dressed in October with 3 parts loam and 1 part of well decayed cow manure. They were then placed in a temperature of 50° Fahr. by day and 45° Fahr. by night. The plants started quite healthily, but after a month the outer and older leaves commenced turning yellow and became spotted with black spots. Only two or three leaves on each plant were affected at a time. On examination of the roots of one of them, I found that the fibrous roots had rotted off, but only those that had entered the new soil.—T. A. A., Barnet.

The temperatures have been too cold for your arum lilies. The compost, too, has been too cold and wet, and so the young roots perished. As the sun heat becomes stronger the plants may improve, but you must attend to the watering, not over-watering nor allowing the soil to become too dry. A little later on you should syringe the foliage on fine mornings. Apply clear water only.

Manure for Mushrooms.

I should be much obliged if you could tell me if a successful mushroom bed can be compounded with poultry manure, and if so, how? If mushrooms can be grown out of doors or if cover is necessary? What rapidly growing creeper (the thicker the growth, the better), you can recommend to cover a wooden arch as quickly as possible. Soil is on the poor side and not very deep. The arch is at the entrance of a small wood, and there is not a great deal of sun. I do not mind how common a thing it is, so long as it makes a dense covering quickly.—C. B., Ware.

A very small quantity of fowl manure may be mixed with stable manure to form a mushroom bed—one peck to six of stable manure. Poultry manure in bulk is too heating and not lasting, but the heat and the ammonia would soon kill the mushroom spawn—the mycelium. Mushrooms can be most successfully grown in cellars, cool sheds and under stages in warm greenhouses. The culture of mushrooms in open pasture land is very uncertain, so much depends upon weather conditions. Buddleia globosa would be suitable for covering the arch. Another good, evergreen, quick-growing plant bearing white flowers is Clematis Armandii.

How to Pollard Lime Trees.

I wish to plant a row of lime trees which I propose to pollard when they are tall enough on the system one sees in France, e.g., height from ground to foliage about 7ft., and the foliage of each tree meeting the next and forming a continuous mass above that height (7ft.) to, say, 11ft. or so. Can you tell me the distance apart to plant the trees and the rate of growth? I propose to buy young trees about 5ft. high. Should the trees be pollarded when they reach the desired height or before? Also, is there any particular difficulty in executing a scheme of this sort, or can I safely count on its success? There is a lot of clay in the soil. The trees would be planted east and west between a field and a tennis court.—J. B., Templecombe.

The trees would need to be planted not more than 10ft. or 12ft. apart, and it would be desirable for them to grow for about three years before pollarding, *e.g.*, cutting hard back. It would be best for you to plant trees with a 5ft. clean stem to begin with. The variety known in nurseries as red-twigged lime would be most suitable. They cost, this size, from 72s. to 90s. per dozen. It is quite a feasible scheme for trees in this country and should be quite successful. Lime trees respond well to hard pruning and thrive in heavy soils.

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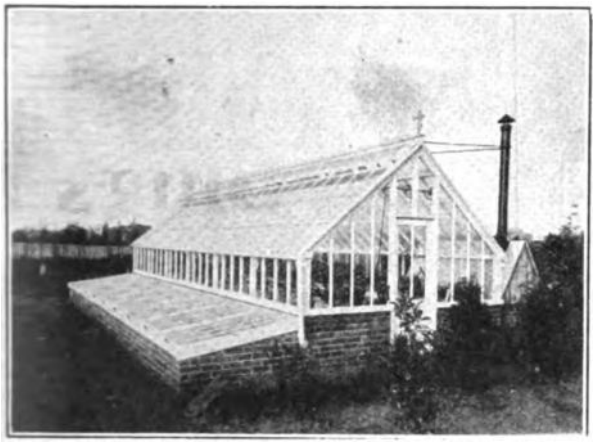

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SOCIETY NOTES

Gardener's Royal Benevolent Institution.

LORD FREOWEN will preside at the eighty-second Annual Festival Dinner in aid of the funds of the Gardeners' Royal Benevolent Institution on June 29th. The dinner will be held at New Princes' Galleries, Piccadilly.

Birmingham Botanical and Horticultural Society.

IT has been decided to hold a three days flower show under the auspices of the Birmingham Botanical and Horticultural Society at the Botanical Gardens, Edgbaston on June 1st, 2nd and 3rd next. Cups and medals will be awarded to trade growers, and prizes and certificates to amateurs. It is proposed to engage a military band, and a prominent public person will be invited to perform the opening ceremony each day.

A committee has been formed, and a meeting will be held at the Botanical Gardens Edgbaston, on Friday, March 11th, at 5.30 p.m., to which all interested are cordially invited. Schedules of prizes will be distributed as soon as possible. Two silver cups have already been offered. Any information will be gladly given by T. Humphreys, Birmingham Botanical and Horticultural Society, Edgbaston, Birmingham.

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Margot Holmes, mauve. Raised by Messrs. Stuart Low and Co.

Lectures on Gardening.

A COURSE of four lectures is to be given at the Chiswick Public Library on "Gardening." Admission is free. The doors open at 7.30 p.m., and the lectures will begin at 8 p.m. sharp. They will be held as follows:

Thursday, March 17th, 1927: "Vegetables for Gardens and Allotments," by W. H. Johns.

Thursday, March 24th, 1927: "Lilies and Other Bulbous Plants," by John Weathers.

Thursday, March 31st, 1927: "Carnations," by Montagu C. Allwood.

Thursday, April 5th, 1927: "Plants for Shady Places," by W. Stewart.

CATALOGUES RECEIVED.

Messrs. Ryder and Son (1920), St. Albans, have issued a special spring list of dahlias, gladioli, begonias, seeds of annuals, biennials and perennials, as well as vegetables for late sowing. Dwarf bedding dahlias in variety are noted, and concise information is given. We recommend readers to send for a copy without delay.

Messrs. Barr and Sons of 11, King Street, Covent Garden, W.C.2., send us a copy of their catalogue of bulbs and tubers suitable for February, March and April planting. Ranunculus, watsonias, dahlias, cannas, gladioli, lilies, etc., are included. Lilium, Neigherrense and L. Ochraceum, two interesting rare Indian lilies are noted, and also

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Our stocks are grown and selected specially for seed purposes, and under normal conditions cannot fail to produce first-class crops. All are Class 1, Scotch.

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Di Vernon	5/-	9/6	18/-	32/6
Epicure	3/9	7/-	11/-	19/-
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Ally	3/9	7/3	11/3	19/6
Arran Comrade	4/-	7/6	12/-	21/6
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British Queen	3/9	7/3	11/3	19/6
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Abundance	3/9	7/3	11/3	19/6
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Catalogues ready.

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a number of fine montbretias and the pretty Schyostylis Mrs. Hegarty, a new pink Caffre lily, which bears rose-pink flowers.

Messrs. Carter and Howard, Kingston Road, Raynes Park, Wimbledon, London, S.W.20. This firm of horticultural builders and heating engineers, have sent us their catalogue of greenhouses and garden frames. Of particular interest is a small greenhouse of the "tenant's-fixture" type. Full details are given of this greenhouse, which is an ideal general purpose house for the amateur.

Long lists of large-flowered and primulinus gladioli will be found in Mr. H. Prins' catalogue. The best of recent gladioli introductions are included. Lovers of this flower could make a fine selection from this catalogue. Mr. Prins' nursery is at Wisbech, Cambs.

OBITUARY.

W. Longman Corry.

IT is with the deepest regret that we have to announce the passing away of Mr. W. Longman Corry. He had enjoyed good health right up till the last fortnight, when he took a chill and died on Friday, the 4th inst, in his eighty-seventh year. As is well known, he was the head of the firm of Messrs. Corry and Co., Limited, the oldest horticultural sundriesmen in this country. He will, without doubt, be missed by a great number of friends.

TRADE NOTES.

Roses, sweet peas, chrysanthemums, cucumbers, potatoes, beans and tomatoes all benefit greatly by regular applications of a good grade fish manure or guano. "Apex" fish manure, which is obtainable from Messrs. J. C. Whitney and Co. Eldon Street House, 2, Eldon Street, London, E.C.2, is a purely organic fertiliser and gives excellent results, and can be recommended.

Those who are still unacquainted with the famous "hollyhock" delphinium of Messrs. Bees will be able to raise plants this year from free seeds supplied by this firm with a 6d. sample packet of candytuft, calliopsis and love-in-a-mist. Prizes amounting in all to £300 will be awarded for raising these seedlings, and full particulars should be obtained from Messrs. Bees at 175G, Mill Street, Liverpool.

The Crossword Prizes.

THE two prizes of One Guinea each, offered to the readers who sent in the first correct solutions opened to THE GARDEN Crossword No. 15, which appeared in our issue of February 26th, have been awarded to—

Mrs. D. Robson,
Cheyne Walk,
Northampton.

and

Miss E. Avey,
Brookleigh,
Esher, Surrey.

To each of whom a cheque for that amount has been sent.

Solution to "The Garden" Crossword No. 15.

ACROSS.

1 Hollyhock, 8 Bay, 11 Air, 12 Clay, 13 Ra, 14 Arum, 16 Pail, 17 Rim, 18 Curb, 19 Petal, 21 Ide, 22 Orbs, 24 R.I., 26 Nelumbo, 28 Hoses, 30 Tr, 31 Peony, 32 Wisp, 33 Hay, 35 Nid, 36 Tenth, 37 Lea, 39 Label, 42 Lop, 43 Gun, 44 Pod, 45 Rol, 47 Tedder, 48 Acorn, 51 S.E. 52 Oil, 54 Bowers, 55 Ripe.

DOWN.

1 Hyacinth, 2 Laurel, 3 Limb, 4 Yr., 5 Oca, 6 Clips, 7 Kale, 9 Aril, 10 Yam, 15 Ruderal, 16 Parboil, 17 Raisin, 20 Trowel, 22 Omen, 23 Bondage, 25 Asphodel, 27 Up, 29 Est, 34 Yellow, 36 Tender, 38 A.O., 40 Buds, 41 Crab, 44 Prop, 46 Oco, 49 Re, 50 Nr., 53 I.e.

BAKERS' SEEDS

The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

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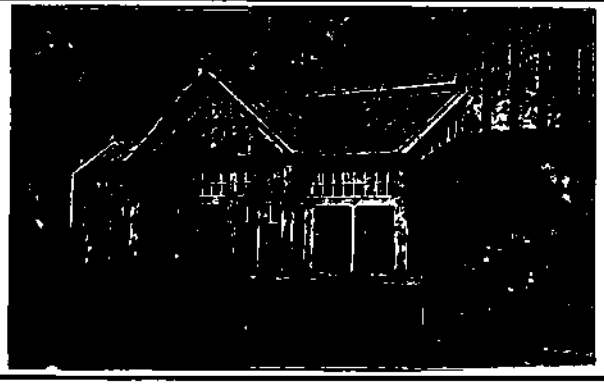

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Kills

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LAWN	FOR ECOMOMICAL SUCCESS	4%	25%	2%	3/4	5/8	10/3	18/6	34/6
Rose Fertiliser ...	Autumn Dressing	5%	30%	8%	3/9	6/6	11/9	21/6	40/6
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Sweet Pea Fertiliser		3½%	32%	6%	4/-	7/-	13/-	24/-	45/6
Special Bulb Fertiliser		5%	38%	4½%	3/6	6/-	11/-	20/-	37/6
Bone Charcoal		1·5%	67%	—	3/-	5/-	9/-	16/-	29/6
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	Sulphate of Iron	...	...	...	3/6	6/-	11/-	20/-	37/6
	,, Magnesia	...	...	...	3/1	5/2	9/3	16/6	30/6
Ammonia Federation GARDEN FERTILISER		5%	22%	6%	3/1	5/2	9/3	16/6	30/6
MATTHEWS LAWN SAND KILLS ALL COMMON WEEDS					3/6	6/-	11/-	20/-	37/6

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Large Flowering Section.

	per doz.	per 100
Dawn, salmon pink, orange blotch. Novelty -	3/-	20/-
Duchess of York, dark blue	2/-	12/-
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Seedlings, all colours mixed - - -	1/6	6/-

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Athalia, very striking, brilliant orange scarlet Novelty	1/6	10/-
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Orange Queen, magnificent apricot orange, a unique shade, finest novelty, *First Class Certificate* -	1/6	10/-
Xanthia, most magnificent brilliant pure orange, very rare - - - - -	4/-	25/-
Seedlings, all colours mixed	1/-	5/-

Orders up to 5/- add 6d. postage; 5/6 to 9/6 add 1/-; 10/- to 19/6 add 1/3; 20/- or over carriage paid. Send NOW for fully Illustrated Catalogue.

PRINS

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Gladiolus Specialist,
WISBECH, CAMBS.

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Messrs. Wallace are showing a design of walled in paved garden which is most effective with its small pool bordered with tulips and the old stone garden house. Many early-flowering shrubs are planted in the surrounding banks for seclusion. Messrs. Bakers in their attractive old-fashioned garden show many fine varieties of rhododendrons and other shrubs in the borders edging the cobbled causeway and pool which, together with the old village pump, is a central feature of the garden. A particularly charming and simple rockery is that laid out by the Orpington Nurseries Company with its wide undulating sweeps of heather and grass with birch trees at intervals; while the Central Gardens Supplies also exhibit a garden homely in its very simplicity. The design is good, on simple lines, and we feel sure that alpines would grow happily in their situations in such a garden. All the plants shown are well grown specimens and the variety is particularly striking. The beds of hyacinths and the borders of flowering shrubs in the central paved portion lend a brilliant touch of colour to the whole garden.

Running water has been made a special feature in the garden designed by Messrs. Burton Holt. Charming effects are produced by rock pool and fountain. Leading out from a small formal paved garden made by Messrs. Skelton and Kirby is a garden planted with shrubs and alpines. This design is particularly adaptable for small gardens and shows how even a limited area can be made interesting and yet effective.

Mr. J. Klinkert shows many fine examples of his excellent topiary work which is sure to attract attention. A garden planted with early flowering shrubs of all kinds was exhibited by Messrs. L. R. Russell, and in conjunction with this exhibit Messrs. Duncan Tucker show a conservatory filled with cool greenhouse plants.

HINTS WORTH REMEMBERING

Half a guinea will be paid each week for the most useful or interesting hint sent in by a reader. Five shillings will be paid for all others published. Owing to the number of hints which are sent in, we desire that, in future, each hint should be sent in on a post card, and should be limited to 150 words. Payment for these hints is made on the 7th of each month following publication. Responsibility for the accuracy of these hints must rest with the contributors.

THE HALF GUINEA HINT

Background for Herbaceous Borders.

I have tried many ways of forming a background to the flower borders, and the best and prettiest is to drive some stakes—say about every 4yds.—along the back of the border and tie some garden wire right along at about a foot apart. The taller the stakes the better. After completing this, sow seeds of Tropæolum canariense and T. Lobbianum alternately, 4ins. apart. Convolvulus major is also a fine climber for this sort of work, and will mix well with tropæolum. Seeds sown in the middle of March in good loamy soil will be a wonderful sight in the summer, and will completely cover the stakes and wire.—E. W.

Old Inner Tubes are Valuable.

Those who have standard trees, in particular roses and young fruits, know the importance of keeping the stem bark unbruised, preventing sway, and also allowing for increasing stem girth. The usual stem to stake binding is sacking tied with string. Tied tightly, it stops the bark sap; and tied loosely, in the first good wind, the sacking shifts, the tree sways, and the bark is chafed by the string. Use, then, instead of sacking, strips of inner tube 1in. or more wide and sufficiently long to more than lap the stem. It will be found that, owing to its resiliency, the rubber, when tied, grips the inequalities in the bark gently but firmly, allows a good knot to be tied without compressing the stem, and the stem to swell without cutting the bark.—D. R.

A 'Hint' for Rock Gardeners.

All rock gardeners know the tragedy, so common on spring mornings, of finding that some tiny treasure, such as Wahlenbergia serpyllifolia or Dianthus neglectus, full of blossom-promise the night before, has made a succulent breakfast for a slug. A strip of perforated zinc about 2ins. wide, with the edge turned outwards, will make a simple but entirely effective safeguard. The zinc should be cut across the holes in order to leave sharp points on the edge, and each strip should be bent into a collar which can be pushed into the soil encircling the plant.—G. H.

An Aid to Early Production.

To prevent the roots of seedlings—which have been reared in warmth for early production—from being disturbed or damage when transplanting, sow the seeds in egg-shells, which one can soon accumulate. Break a small hole in the bottom of each shell to allow water to escape, half fill with soil, put in one or more seeds, and place side by side in a box 2ins. or 3ins. deep, then cover the whole with soil. Each shell can be lifted and transplanted without fear of damage, and I have found this answers excellently with sweet peas, tomatoes, etc., and well repays the trouble taken.—W. E. B.

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SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Oil Lamps for a Propagating Case.

My greenhouse is heated only when there is a risk of frost. In these circumstances, as you will be aware, it is difficult to germinate seeds which require bottom heat, also to strike cuttings early in the year. I have been thinking of getting a propagator with water tank heated by oil lamp. Would you please advise me if this class of propagator answers satisfactorily? My intention is to place it in the greenhouse, so only require a small one.—M. S., New Barnet.

A double-wick burner ordinary oil lamp, obtainable from local ironmongers, would answer your purpose if placed under a small frame or box in which cuttings are to be rooted or seedlings raised. If you wish to have another kind of oil lamp, the Rippingille greenhouse heater, No. 618, would serve your purpose. It is named "Sunrise." Of course, these oil lamps must receive careful attention every day, filling, trimming and regulating the burning wicks every evening being important items in the management.

To Set a Sundial by the Sun.

I want to set a sundial. Can you tell me how to do this?—W. A. S., King's Norton.

Having seen that the place or pedestal on which the dial is to be fixed is perfectly flat, also quite horizontal by means of a spirit level, remove with a pair of pincers the three studs that are usually at the back of dials, then place plate on pedestal and move it about until it shows by shadow the time within a few minutes. When the dial is in this position mark with a pencil on pedestal through the holes in dial from which studs have been removed; remove dial, and cut with a chisel three holes about twice as large as the studs, so that after replacing the studs in dial plate the dial has plenty of play to the right and left. It is best to get this work done by 12 o'clock, as that time or near is the best to set a dial. Mix a little thin cement—we say thin because it is not wanted to set too quickly—fill up the holes in pedestal with cement and replace dial plate; cement will then flow over the base of studs

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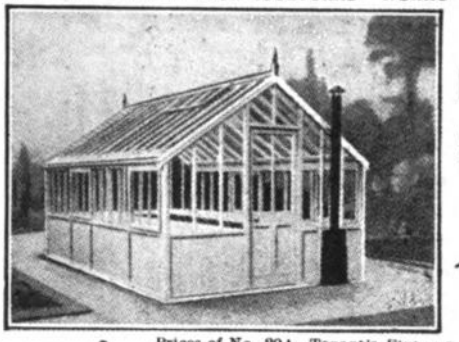

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No. 1	5 10 0	10ft.	7ft.	15 0 0
No. 2	6 0 0	10ft.	8ft.	18 10 0
No. 2	6 10 0	12ft.	8ft.	17 10 0
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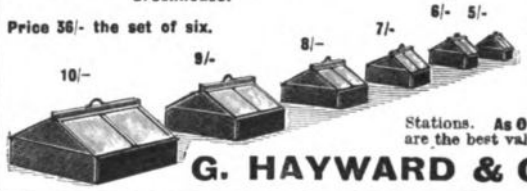

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and allow dial to be moved into the true position before it sets firm. Your watch, which should be a good time keeper, should have been previously set to the mean time of the place where dial is to be fixed. We say this because sundials do not show Greenwich mean time, but solar time. Also find out on the day on which the dial is fixed the difference between solar and mean time, which difference is the same in all parts of the world, except four times a year, when sun and watch are equal; this can be found out by abridged equation table, or if to seconds, by a nautical almanac. For instance, suppose dial is to be set on March 12th, watch having been previously set to the mean time of place by adding or subtracting the difference, fast or slow, of Greenwich, on reference to the table you will see that your watch is faster than the dial by ten minutes. Move dial plate about until the whole of the space between the 12 o'clock lines is filled up, and watch shows ten minutes past 12 o'clock. Allow cement to set, taking care that dial plate is flat upon surface of pedestal or other surface; sundial is then fixed. Sundials can be fixed at any other time, but 12 o'clock is the best. Standing facing the figure XII on dial, that edge of the shadow to the right is to be taken for all hours before noon, the space is to be filled by shadow at noon, and after noon the left-hand edge of the shadow is to be taken.

Making a Lily Pond.

I intend making a small lily pond, 8ft. by 3ft., and have dug out the site 18ins. deep and the bottom is natural solid clay. I intend to line the sides with concrete and also the bottom, unless you can suggest any alternative method. Is the pond deep enough and can you suggest a few suitable subjects? The pond is in the centre of a lawn and will be surrounded by tiles or flags, with a flag approach. The information I require chiefly concerns the planting and choice of suitable subjects. The pond is at the back of the house, which faces south-east and is very exposed.—A. B., Blackley.

The pond, at present, is not deep enough; it should be at least 1ft. deeper. We certainly advise you to concrete the sides and the bottom, and finish the work by facing the concrete with a thin layer of fresh cement, one part, and very fine sand, rather more than one part. You should form in the bottom two brick pits, 3ft. square and 1ft. deep, not using cement or mortar. In these pits place good, fibrous lumpy loam and plant the lilies in it in May. The following varieties would be suitable:—Nymphæas odorata gigantea, white; Laydekeri purpurea, rosy crimson; odorata luciana, blush pink; odorata sulphurea, yellow; tuberosa rosea, light pink; and William Falconer, garnet red. These would furnish the pond.

Vegetables on Clay Soil.

This year I intend growing potatoes in my garden. The soil is very heavy because it is full of clay. I shall be much obliged if you will give me particulars as to the best way to improve the soil for potatoes. What vegetables are best grown in clay soils?—H. M., Glasgow.

Such soils as yours should be trenched early in the autumn, left in a lumpy state throughout the winter with a good coating of lime on the surface. Next autumn you should carry out the operation. Now you can only reduce the lumps as much as possible when the soil is dry enough. If procurable, place light, gritty material, leaf-soil in the drills as the tubers are planted. When planting is finished scatter one peck of dust-dry lime on the surface at the rate of this amount per square rod. Grow broad beans, peas—sow these in April and May—Brussels sprouts, broccoli, cauliflowers, cabbages, turnips, onions and winter greens mainly this year, and gradually get the soil lighter.

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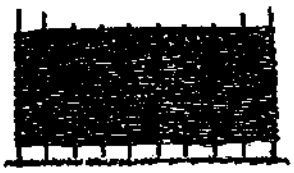

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SOCIETY NOTES

New Plants at Vincent Square.

ALTHOUGH there was an interesting selection of novelties before the Floral Committee of the Royal Horticultural Society on March 8th last, only three received awards of merit. These were an uncommonly good hellebore, a hybrid rhododendron and a white crocus. Helleborus orientalis Prince Rupert, which was shown by Messrs. Barr and Sons, has the great merit of carrying its flowers at right angles to the stem, so that they are fully seen. Most of the varieties of the species have a nodding habit and only the backs of the blossoms show on the growing plant. Besides this the new variety is a distinct advance in colouring. The substantial round flowers, which are borne in pairs, are freely spotted with carmine on a creamy white ground. Crocus Imperati alba was shown by Mrs. W. R. Dykes. It has large white flowers set off by showy orange and yellow filaments. The new rhododendron, R. cilipense, was raised in the famous garden of Lady Aberconway at Bodnant, North Wales, by crossing R. ciliatum with pollen from R. mouprinense. It has a hardier appearance than the seed parent and bears fascinating trusses of widely expanded flowers nearly 3ins. across. They are of an uncommon sparkling white colour, very lightly flushed with pink on the upper segments. The flower buds are deeply stained with pink. Messrs. Barr and Sons showed two pots of the dainty little Narcissus canaliculatus, which is much like a miniature Tazetta narcissus and has a delicious perfume. Mr. Peter Barr told us the bulbs came from Mentone. Sir William Lawrence showed pots of two rare eucharises from his garden at Burford, Dorking. Eucharis Lawrencei has pendulous bells of white flowers, while E. Burfordiensis, which received a first-class certificate in 1899, has flowers much like those of the Amazon lily, but the corona is much more restricted. Ranunculus calandrinioides, brought by Mr. Charles Musgrave, is a most uncommon buttercup with crimson markings on the large flowers. Although it has a delicious aromatic perfume, Rhododendron Mackenzianum, sent by Mr. Lionel de Rothschild, from Exbury, Southampton, is a straggling bush which requires greenhouse culture, but has certainly beautiful and delicate white blooms with a touch of lavender, which render it an admirable species.

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CATALOGUES RECEIVED.

Messrs. Keith Luxford, Sawbridgeworth' Herts.—A list of chrysanthemum novelties for 1927. Some fine new Japanese as well as single varieties are noted.

Mr. Amos Perry of the Hardy Plant Farm, Enfield, has sent us two interesting catalogues. One includes alpines and perennials, some of which are not in general cultivation, and the other deals with hardy plants for the water garden. The latter is particularly useful, for it is well illustrated, contains notes on the water garden, hints on the cultivation of water lilies, as well as comprehensive lists of common and uncommon aquatics and bog plants.

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Hedge Plants for a Front Garden.

I should very much esteem your advice as to the best shrubs to plant inside my garden fence next the road. The fence is 4ft. 6ins. high and is of oak cleft paling without spaces between the pales, so that it would not be necessary for the shrubs to grow bushy at the base so long as I could get a nice head—at least, on the left side, where I thought of planting a hedge to grow about a foot higher than the fence, to act as a screen. How would Cotoneaster Simonsii and Berberis Darwinii, planted alternately, do for this side, as suggested on page 73 of January 29th issue? What height would these attain?—L. P., Leicester.

Cotoneaster Simonsii would be suitable, but we are inclined to recommend Berberis stenophylla in preference to B. Darwinii. The latter is a native of Chili and may not be perfectly hardy at Leicester. Cotoneaster Simonsii will grow up to 10ft. high, but can be kept to a height of 6ft. by pruning. Berberis stenophylla averages 6ft. high. Plant 3–4ft. apart, 18ins. from fence.

A Wind Screen for the Kitchen Garden.

My kitchen garden is on the west side, and is very much exposed to strong winds, so I wish to plant something near the boundary fence that will in some measure break the wind and yet be ornamental. At the same time, I do not want the trees to overhang the garden too much, nor take too much strength from the soil near by. What do you think of the idea of planting tamarix and, say, the balsam poplar alternately? I know they are deciduous, but I very much desire something graceful, while being to some extent a wind-break.—J. L., Keighley.

Neither the tamarisk nor the poplar would be very suitable for your purpose. Cupressus macrocarpa planted 3ft. apart would be better. Plant young specimens about 1ft. high; they grow more rapidly than larger ones. Neatly trim off the young shoots, cutting back to one-third of their length twice a year, in May and September. You would be able to build up a narrow hedge from 10–15ft. high if necessary.

Roses for Bedding.

I have nine beds, each about 15ft. by 4½ft. (rectangular), round a lawn. I have been in the habit of filling them with snapdragons in the summer and wallflowers for the spring. If it is not too late, I would like a change, and wish to plant roses. I expect a bed all of one variety is best. Would you be good enough to recommend, say, twelve varieties, from which I might get nine? I would like the whole range of shades to be fairly well represented. What is the best distance to plant apart for best effect? Would you introduce any standards or half-standards of some varieties? If so, how many in a bed?—W. O., Walmley.

We think that your suggestion of planting roses in the beds for a change this year is a good one. The following is a list of varieties which we can thoroughly recommend for your purpose: *Crimson.*—General McArthur, Etoile de Hollande, Hugh Dickson. *Scarlet.*—K. of K., Red Letter Day. *Orange.*—Independence Day, Emma Wright. *Pink.*—Mrs. Henry Morse, Mme. Abel Chatenay, Caroline Testout, Mme. Butterfly. *Salmon.*—Los Angeles. *White.*—Frau Karl Druschki. We should suggest that in making the beds you restrict one variety to one bed; the effect is much better. They should be planted about 2ft. apart. We should advise you to order your plants immediately and, after preparing the beds, to carry out planting as soon as possible. The roses, when they come from the nursery, will probably all be pruned hard back, and you may not obtain a plentiful supply of bloom this year, but the results in after years will be much better. Regarding standards and half-standards, this depends mostly on circumstances and the position of the beds, and we leave this to your discretion.

Apples for Sandy Soils.

I shall be glad if you will advise me of the season and also your opinion of the following apples: Annie Elizabeth, Red Victoria, Washington Nonpareil. Perhaps you will kindly mention varieties of apples which you consider to be especially suitable for growing on sandy soil.—C. T., Teddington.

Annie Elizabeth is a first-class culinary apple, in season until June. Red Victoria is a good early culinary apple, brilliantly coloured, in season in August and September. Washington Nonpareil is a very good, late keeping dessert apple. These should grow and fruit quite well on a light soil, if the trees are generously mulched with manure in early spring, to tide them over periods of drought. Other good varieties to grow would be: *Dessert.*—Ellison's Orange, in season October; Egremont Russet, October-November; Laxton's Superb, Christmas to March. *Culinary*—Rev. W. Wilks, October-November; Edward VII, January-April; Encore, till June.

Making New Lawns.

I am writing to you as one who has had no experience of gardening whatever, and, having taken a new house with garden, I shall be obliged if you will inform me which is the best way to make a good lawn back and front of the house. The front of the house is nearly all ashes, and the rear all good turf and soil with clay 8ins. below the surface.—A. A., Leeds.

At this time of the year it will be advisable to leave the turf at the rear of the house as it is now, but set to work to ease up hollows with a garden fork, and beat down higher portions or even lift and relay such. In this way you may obtain a good lawn by April, ready for mowing. At the front of the house you should spread a good layer of soil, burying the ashes about 9ins. deep, and sow grass seeds there at the end of March. Even if you put down turves it would be necessary to have a deep layer of soil under them. If there is some soil now mixed with the ashes, a layer of pure soil 6ins. deep would suffice.

How to Grow Gladioli.

I am thinking of purchasing some gladioli. When and how do I plant these? I am quite a beginner.—H. L., Liverpool.

The culture of the gladiolus presents no difficulties. The soil should be deeply dug, and well rotted manure incorporated with the bottom spit. If the soil is light, a mulch should be given during the summer. Gladioli may be planted any time from the middle of March to the middle of May, but the first week in April is the best time. Plant when the soil is fairly dry. Plant each corm about 3ins. deep. Water during June and July. An open, sunny position is best. Gladioli should be lifted when the foliage has died down, and before the frosty nights of October are liable to injure them. Store in trays in a frost-proof shed.

Propagation of Lonicera nitida.

I should be glad if you could give me full directions of the best method of increasing or propagating the hedge plant Lonicera nitida.—A. W., Cheltenham.

Lonicera nitida is readily increased by cuttings. They are best inserted in a sandy soil from June to October, but a percentage will root inserted any month in the year in a close frame or under a cloche.

Climbers for Brick Walls.

I have a building 40ft. long and about 12ft. high. It faces east, and this wall has in it three windows, and is somewhat shady during the summer in its southern half; the whole of the west wall is also a good deal shaded, especially in the morning, i.e., after the sun has got round to the south. Our prevailing wind is north-west, and we get a certain amount of east wind in March; the position of the house is, on the whole, windy. I want to cover these two walls with creeping or climbing plants, which, so far as possible should be evergreen; some, at least, should be quick growers. I do not like ivy and our sandy soil is not much good for roses.—C. L., Oxford.

We suggest that for the east wall you grow the following: Rose Albéric Barbier (this rose does not require very good soil), Lonicera Halliana, Jasminus officinale, Pyracantha yunnanense. For the west wall we suggest that you plant the following: Ceanothus thyrsiflorus, Pyracantha Lalandei, Garrya elliptica, Escallonia langleyensis.

Plants for a Shady Front Garden.

Will you kindly name a few plants for a small triangular garden, facing due north. This particular piece of ground does not get any sun. Would weigela bloom in such a position? I want one or two low-growing shrubs for back to wall and flowers in front. How would lily-of-the-valley, violas, ferns and one or two others thrive.—B. D., Effingham.

The following plants would be suitable for the position you mention: Japanese anemones, Funkia Sieboldii (the plantain lily), the oak fern, the lady fern, the male fern, the harts tongue fern, violas, lilies of the valley (if soil is light leafy loam), polyanthus, bearded irises, London pride, Heuchera sanguinea Pluie de Feu (alum root), lupins, Hemerocallis aurantiaca (day lily), coreopsis, Michaelmas daisies, such as Amellus King George, Little Boy Blue, Anita Ballard, Aster acris, Campanula persicifolia and Chrysanthemum maximum.

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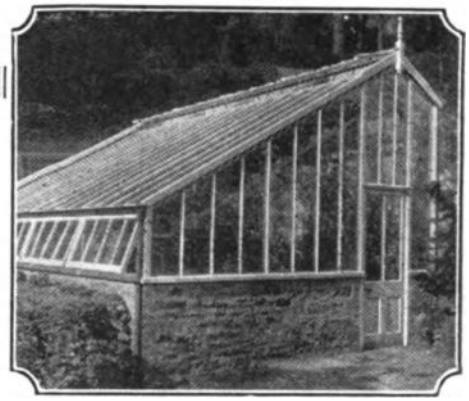

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Re-Making a Vine Border.

I am having all my vines done away with on account of mealy bug, and am going to re-plant. The vinery was built about forty years ago. On clearing out all the soil, to a depth of about 5ft., there are open archways in the brick, allowing the roots of the vines to penetrate outside the house to a bed, well manured, outside. I am told that nowadays the roots of vines are better kept confined in the house, which would, of course, necessitate these archways being bricked up. What do you advise?—H. N., Oakham.

A depth of soil 2ft. 6ins. and 9ins. of drainage—3ft. 3ins. altogether—will be sufficient. Five feet is much too deep. If there is room for a border about 9ft. to 12ft. in width inside the house, the arches may be bricked up, and there will not be any need for an outside border. Outside borders are necessary where the space for an inside one is not large—less than 9ft. in width. Good fibrous loam and finely ground bones form a suitable rooting medium for vines.

Fertilisers for Roses and Perennials.

As I cannot obtain stable manure, I shall feel much obliged if you will give me the names of suitable artificial manures for roses and perennials, and also the quantity to use?—S. W., Highcliffe on Sea, Hants.

The following artificial fertilisers give excellent results:

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March.—Superphosphate, 3-5lb.; sulphate of ammonia, 1-3lb., per 40 square yards.

November.—Basic slag, 8-12lb.; sulphate of potash, 1lb., per 40 square yards.

Perennials for a Narrow Border.

I have a long narrow border, 90ft. by 6ft., newly made and last used for chickens. It faces south-west, and has a brick wall at the back. Could you give me any idea of what perennial plants to put in it? It is raised a little, and about 1ft. of the width taken up by rocks to form an edging. I want it to be a herbaceous border with plants easy of culture. Do you advise anything to be grown against the wall, and, if so, what?—H. O., Croydon.

The following perennials are all easy to grow and very beautiful. Delphiniums Michaelmas daisies, aquilegias, lupins, Anemone japonica, Lychnis chalcedonica, tritomas, helianthus, rudbeckia, erigeron, solidago, Scabiosa caucasica, Achillea rupestris, gaillardias and Coreopsis grandiflora. For the front of the border, plant Antennaria tomentosa, Achillea umbellata, white arabis and aubrietias in clumps, with a few clumps of blue violas. Against the wall we suggest that you plant Clematis montana, Jasmunum officinale and, to fill up the first summer, sweet peas.

The Uses of Lime.

Will you please enlighten me as to the various properties—as differing from each other—of lime, mortar rubble and chalk; or will any of them answer the same purpose to the gardener especially interested in alpines? I can dig chalk from a near pit, and shall be glad to use this if it will do for such plants as the catalogues tell me need lime.—A. W., Sudbury, Suffolk.

Except for such plants as rhododendrons, lime in general (at the rate of about 1 part to 200 parts of soil) is essential. Six ounces per square yard is a suitable proportion, and autumn the best time to apply it. Chalk is a milder or less strong form of lime: 2lb. per square yard may, with safety, be applied. Builders' old mortar rubble is usually mixed with about six times its bulk of sand; it is always safe to apply freely. It sweetens soil and keeps it porous.

Repairing Cracks in a Cement Pond.

Our cement-lined pond was made in 1910, and for many years it was a great success, but lately it has started to leak, and, as we had gold fish and carp in it, we were obliged to replenish the water every few days. We took the fish out in the autumn, and found a narrow crack running almost the whole length, about half-way down the side. The pond is lined with 4ins. of concrete and faced with 1in. of cement. What would you suggest as the best way of repairing it? We want to make a thoroughly good job of it.—G. T., Gerrards Cross.

Pure cement, used by itself, will crack. The best finishing work is done by using quite fresh cement 1 part, and fine sand nearly 2 parts. At each side of the crack, 3ins. wide, 6ins. wide altogether, the present cement surface should be chipped away half through the 1in. lining, and then filled again with a cement mixture as above. A sharp, well tempered chisel will be needed to cut away the old cement properly. A competent local bricklayer would soon do the work for you. It is easier to retain water than to exclude it.

Bulbs for the Cold Greenhouse.

I read in an American book that Spanish irises could be grown in bowls if kept on the dry side and not grown in full sunshine. I planted a bowl, and so far they look quite healthy and promising. This makes me wonder if Anemones St. Brigid and blanda; Irises stylosa, histrioides and cristata; and also Cyclamens Coum and ibericum, could be grown in a similar way.—M. K., Cheadle Hulme.

There is no reason why several of the plants you mention should not be grown in bowls or flat pans. Anemone blanda will certainly do perfectly well this way, but the St. Brigid type is hardly suitable for indoor culture; it does best in a border outside. Iris stylosa is rather large for the purpose, but I. histrioides and I. cristata are quite suitable. Cyclamen Coum and ibericum are both amenable to pan culture, and are generally found in flower now in many cool greenhouses. The drainage must at all times be good and for that reason it is better to grow them in pans or some other porous receptacle. They will all thrive in a medium or loamy soil, and leaf mould and fibre, with a little sand added.

Ornamental Walnut Trees.

I want to plant a walnut as an ornamental tree. Is not the variety laciniata the most ornamental? As it is a variety of the common walnut, I presume it is also valuable for its fruit? The black walnut would probably be unsuitable. I should be much obliged for guidance.—D. C. P., Felsted, Essex.

The variety laciniata of the common walnut—Juglans regia—is one of the most handsome, with the leaflets handsomely cut into deep narrow lobes. A beautiful foliage tree, superior to the variety heterophylla. The black walnut is also a most ornamental tree, and is considered by many authorities even more so than the common walnut, and it thrives almost as well in this country as in its native haunts. It is extremely handsome in the young state, having a shapely, pyramidal habit, with large pinnate leaves. We would suggest that you obtain the two, and we feel sure that both species will do well with you.

Oleanders in the Greenhouse.

I have in a box a large plant of oleander, about 6ft. high, which has neither been pruned nor transplanted for some years; also some smaller ones in pots, and none of these flowers. The greenhouse, which is on a north-west wall, is a cold one and heated by a lamp during very cold weather.—E. M. W., Belfast.

The shoots of the oleander that grow this year will flower next year if they are well matured. To obtain such well ripened wood the growth should start early in the season—perhaps yours has not done so. The weakly shoots only should be cut out.

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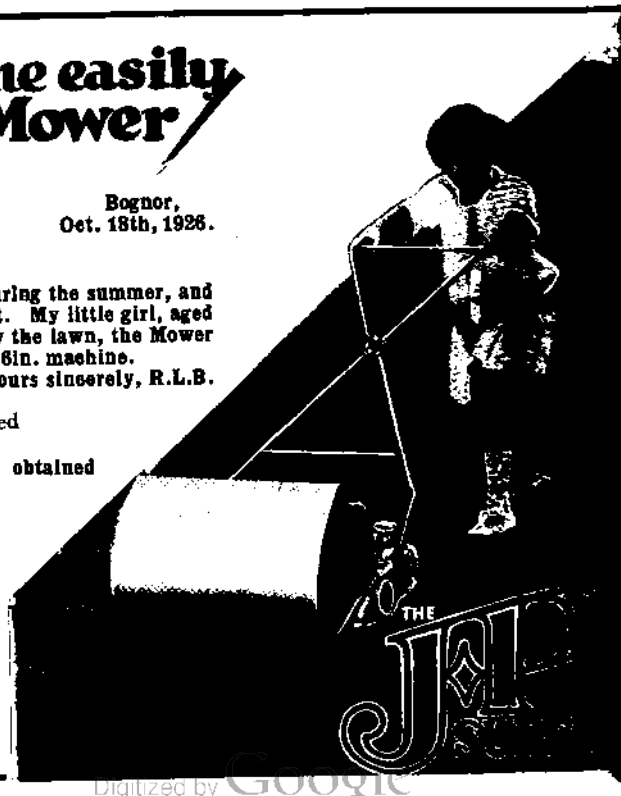

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How to Make an Attractive Path

ALL that is required to make a durable and attractive pathway is sand, cement, energy and application. Perhaps you have taken over a piece of new ground and are in something of a quandary about how to go about path-making. A gravel surface may look well, but it requires frequent raking and rolling to keep it in condition, and weeds may be troublesome. Ordinary crazy paveing, besides being expensive, may prove difficult for the inexperienced beginner.

The following is an account of an experiment made by the writer which has turned out most successful.

Having mapped out the pathways and edged them with 1in. boards, I took out the soil between, sloping the sides to about 1ft. in depth at the centre. The cavity I filled in with rubble, broken bricks and stones. This was done at odd times last winter, and nothing further was done until recently, except that occasionally I pulverised brickbats with a heavy hammer and sprinkled the fine particles on the surface.

Four bucketfuls of sand and one of cement were then thoroughly mixed. Four handfuls of Venetian red dry colour were added, and a further mixing given.

Water was now added slowly and the whole gradually wrought with a shovel into a paste of workable consistency. The material was then laid down, levelled with a plasterer's smoothing board, and at the edges at some points with a trowel, care being taken to make the crown of the pathway slightly higher than the sides, so that rain-water would run off.

As each portion was laid a pattern was marked off with pieces of wood ½in. thick and varying in length from 12ins. to 18ins. This should be done carefully, the indentations being made by holding the wood firmly and tapping it to the required depth with a light hammer.

A few days later, when the job had set, it occurred to me that the edges of the design might in time tend to crumble, so I made a further experiment.

I mixed up some sand and cement in the same proportions as before, but withheld the Venetian red colouring. With this mixture I filled in the spaces and smoothed the surface off with a trowel.

The result has proved most effective. The pathways have the appearance of cemented crazy paving of red-tinted sandstone, very pleasing to the eye. The surface has hardened like iron.

There may be easier methods of doing such a job, but I am convinced there is none that will prove more satisfactory in the end. A path of this type, if the surface is not made too thin, will last for many years.

A few hints in conclusion. Do not be in a hurry about starting on the job. Have the whole thing definitely planned and everything required in readiness. Do not mix too much material at once; the quantities stated are sufficient for one mixing. Mark off your design as you go along. The hardest part of the whole job is the mixing of the materials. If you can induce someone to navvy for you, do so, but make out your own quantities of sand, cement and colour, and do the important and final part of the operation yourself. Make your surface fairly thick certainly at no part less than 1in. HAMISH.

CATALOGUES RECEIVED.

Messrs. Lowe and Gibson, Limited, Crawley Down, Sussex.—A unique collection of modern gladioli are offered by this firm. They include in their catalogue some of the finest varieties of both the large-flowered and primulinus types, some of which are quite recent novelties. Gladiolus seed is also offered. Every gladiolus enthusiast should make a point of applying soon for this interesting catalogue.

Messrs. Sutton and Sons of Reading have sent us their Farmers' Year Book, which includes valuable information relating to the most reliable types of roots, grasses and clovers. Small-holders as well as all farmers will find much to interest them in this guide.

Messrs. Fisher, Son and Sibray, Limited, Handsworth, Sheffield.—Standard varieties, of vegetable and flower seeds are given.

Messrs. Finch and Fleming, Limited, of Soar Lane Mills, Leicester, have sent us Pratts 1927 Garden Seed List. It is carefully compiled and clearly printed.

Mr. W. J. Unwin, the sweet pea specialist and seedsman of Histon, Cambridge, has issued a new catalogue of his stock of sweet peas, garden seeds, dahlias and gladioli. All sweet pea and gladioli growers should write for this list, which includes the finest of modern varieties.

Messrs. Harrison and Sons, St. James' Street, Leicester.—Garden seeds, new vegetables, selected strains of hardy perennials and annuals.

Messrs. Isaac Poad and Sons, Limited, 84, Walmgate York.—A price list of Scottish seed potatoes, general collections of early, second early, mid-season and main crop varieties are given, as well as two immune potatoes named Arran Consul and Gigantic.

Messrs. Andrew Ireland and Hitchcock, Marks Tey, Essex.—This well known firm of sweet pea specialists have sent us their new seed catalogue of vegetable and flower seeds. Three sweet pea novelties are noted, namely, Dominion, Pioneer and Rona.

Messrs. G. H. Mackereth, Limited, Ulverston, Lancs.—A list including seed of standard varieties of vegetables, this firm's special strains of vegetables, sweet pea novelties of all the leading sweet pea specialists, annuals and perennials. Fertilisers, insecticides and weedkillers are also included. A useful and handy catalogue.

Messrs. W. Drummond and Sons, Limited.—Although this catalogue is mainly a list of flower and vegetable seeds, of particular interest are the horticultural sundries which are included. Lawn mowers, insecticides, weedkillers, fertilisers and tools for all purposes will be found described and illustrated in the pages of this list.

Messrs. Dicksons of Chester send us their comprehensive seed catalogue. Valuable cultural directions on the growing of mushrooms are given. Messrs. Dickson's mushroom spawn is used extensively throughout the country, and if the necessary cultural directions which they include with each parcel are observed, highly satisfactory results are always obtained.

A useful little brochure entitled "About Plant Hygiene" has been received from Messrs. Bugge's Insecticides, Limited, Westcombe Hill, London, S.E.3. It deals with fungoid diseases, insect and soil pests, and general cleanliness and hygiene in the garden.

It is now time to examine your lawn mower and have it put in order. If a new machine is necessary, gardeners would be well advised to study the catalogue of Messrs. Ransomes, Sims and Jefferies, who have for many years manufactured lawn mowers of highest quality.

Messrs. A. H. and A. Mills, Danson Lane, Welling, Kent.—A list of silver medal English roses. Fruit trees and border plants for present planting are also included.

Messrs. Barr and Sons, 11–13, King Street, Covent Garden, London, W.C.2.—We have pleasure in bringing to the notice of our readers the catalogue of this firm. It contains a carefully selected list of some of the best hardy perennials, alpines, aquatics and hardy climbers. Plants suitable for sun and shade, for the wild garden, wall garden and paving are all included. Large collections of irises, phloxes, Michaelmas daisies and peonies are also given.

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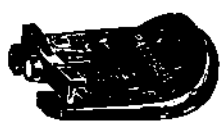

Fig. 1 for Shod Horses. Fig.2. Welted Boot.

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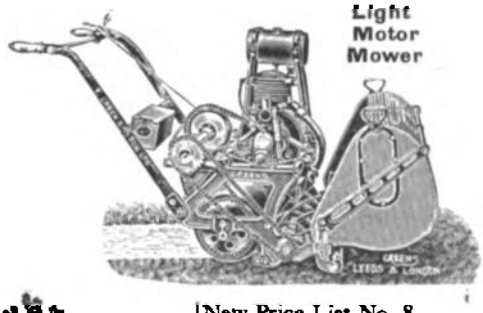

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OBITUARY

Mr. Richard Gill.

IT is with the deepest regret that we announce the passing of Mr. Richard Gill of the firm of Messrs. Gill and Son, the well known rhododendron specialists of Penryn and Falmouth, at the age of seventy-eight years. By his death, horticulture loses one of the old school who are so hard to replace, for he was a great and successful gardener.

Mr. Gill was one of the pioneers of the culture and hybridising of rhododendrons, many of which are named after him, and the exhibits of the firm at the leading shows, have shown his work to perfection. As is well known, he produced many remarkable hybrid rhododendrons, a number of them having taken a foremost place in the garden throughout the country, and many parts of the world, especially New Zealand. In his very early days Mr. Gill was well known through the west of England as an extensive exhibitor at most of the shows, where he had great success with stove plants, orchids, chrysanthemums, azaleas, etc. The azaleas he grew were greatly admired, many of them being perfect sugar-loaf specimens, 6ft. to 8ft. in height; from the azaleas he devoted his energies to rhododendrons of the Himalayan and Chinese sections, with the greatest success. He was always of a kind, gentle, unassuming disposition and loved by many.

He leaves a widow, daughter and two sons, Councillor R. E. Gill of Falmouth, and Mr. H. T. Gill, who is in the Himalayas in India.

POTATO DISEASES.

THIS was the subject of a lecture delivered on a recent Wednesday evening by Mr. T. Anderson, M.A., B.Sc., to the members of the Glasgow and West of Scotland Horticultural Society. Mr. Thomas Dagg presided and there was a large attendance.

Beginning with wart disease the lecturer remarked that it was an insidious trouble for which there was no known remedy. In a thoroughly infested garden the spores might be found in every inch of soil to a depth of 18ins., so that it was a practical impossibility to attack it. The growing of immune varieties was the only solution of the problem and he thought there was a reasonable prospect of supplanting all the old and susceptible varieties with new sorts of equal merit and which were free from wart. The most likely places to find the disease were in allotments and small gardens; and the west of Scotland was the worst area in the country, because of the industrial conditions and the fact that it was an area which was liable to a greater amount of seasonal rain than the eastern area. A prolific source of distribution of the disease was the interchange of seed between small growers and in commenting on the law which provided that all gardeners in Scotland must plant immune varieties he said that this restriction was no hardship because there was a good selection of potatoes that gave as good results, with the single exception of early varieties, of which there were only two, *viz.*, Witch Hill and Immune Ashleaf. As regards mid-season sorts, Arran Comrade was a good substitute for British Queen. Great Scot and Abundance were the stand-by for farmers and gardeners, but Catriona, though a good cropper, was susceptible to virus diseases and had to a great extent gone off the market. For a late crop choice lay with Kerr's Pink, Golden Wonder and Arran Victory, provided the latter was consumed before Christmas, but he did not recommend Arran Consul except when a a late keeper was wanted.

Corky scab was another insiduous disease that was prevalent in allotments and private gardens. It was particularly bad in wet years and no varieties were immune. The only advice he could offer was to give the ground a

George G. Whitelegg

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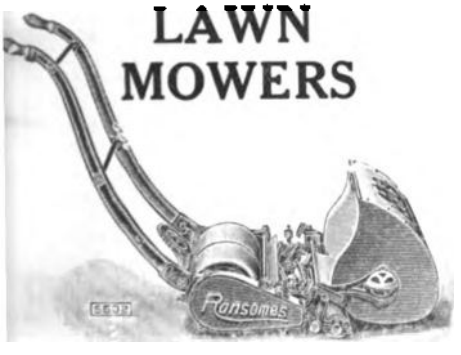

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good long rest. Ordinary scab was sometimes troublesome and while it made the tubers unsightly, it did not affect the yield.

Of the virus diseases he described leaf curl and mosaic as the most common. The first named was the most serious as it reduced the crop, while mosaic did not affect the yield of the crop so much, especially when the ground was well manured. In this connection he mentioned that these diseases were carried from infected crops to the healthy plants by the green fly, and emphasised the importance to follow the example of the Ayrshire growers of Epicure and take unripe seed. People who owned small gardens made a practice of saving small tubers as seed, but it was better to select the best plants and keep all the product.

The worst disease of all was blight. Instead of digging up the infected plants, the better plan was to allow the stem to die down, otherwise the spores would get into the soil and reach the tubers unless they were well earthed up. Light soils were more liable to produce degenerative diseases than heavy soils and were more liable to become infected with virus diseases.

BOOK REVIEW

A Garden in Wales.

WELL known as a writer of out-of-the-ordinary gardening articles, the name of the author of this delightful book ("A Garden in Wales," by A. T. Johnson. Edward Arnold and Co., London, price 16s.), which has just been published, will in itself go far to ensure its being widely read and appreciated.

Bound in a simple, yet artistic cover, and including a useful index, it consists of 324 pages of clear type, well printed and supplemented by a number of illustrations from photographs taken by the author. These are mostly good and well placed, though one or two are not quite so clear as they might be. Considerable attention appears, however, to have been given to the nomenclature, which is good.

In his preface, the author informs us it is his desire to present to the many gardening friends who have been kind enough to express their appreciation of his efforts in other places, a more intimate impression of his garden and some of its contents and having thus invited you to his garden, he proceeds by means of an able pen, combined with a first hand knowledge of plants, to introduce to your notice the many choice and often rare species and varieties which, having been planted and tended by understanding hands, have responded by flourishing in this part of Wales. While the list of plants enumerated as having been successfully established is not only lengthy and extraordinarily interesting, ample cultural and descriptive remarks are inserted to prevent this from becoming a mere list of names and to assist other gardeners as much as possible.

Useful advice may often be dry reading, but this cannot be said to apply to the chapter headed "Ways and Means," and it is certain that few will read the concluding chapter of this book without feeling that much more than the climate of Wales has been responsible for the happy results obtained in this delightful garden.

TRADE NOTE.

For heating a small greenhouse Messrs. Fenlon's gas boilers are most efficient and economical. They do away with all stoking and so are very convenient and easy to manage. Fenlon's gas boilers take the form of a gas-heated hot-water apparatus, which can be regulated to suit the requirements of the plants growing in the greenhouse. This busy amateur will find a labour-saving heater of this kind extremely useful. This firm's address is 8, Tudor Street, Ludgate Circus, London, E.C.4.

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The 1927 Catalogue of Seeds and special offers of Hardy Border and Alpine Plants, Roses, Shrubs, etc., are now ready, and we invite immediate enquiries for both.

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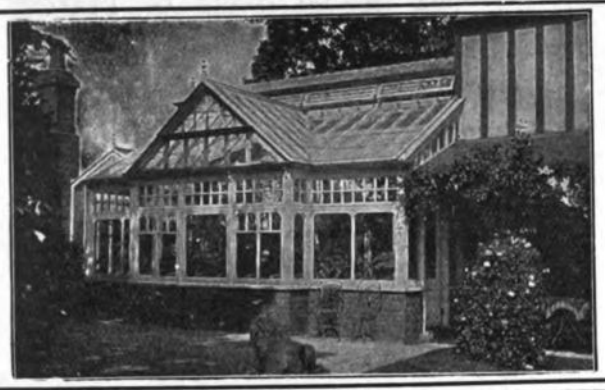

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always be found in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Shrubs in Boxes.

In front of my window there is a strip of concrete 8ft. wide, across which I propose planting a screen of privet (4ft. plants) in boxes 12ins. by 12ins. by 3ft. Do you think such a hedge would be successful? If so, I will be obliged if you will be good enough to advise me the number of plants that will be required and the kind of soil suitable. If you can suggest a better scheme and more suitable plants than privet I shall be glad. I may say I do not wish to interfere with the concrete in any way.—A. C., Palmers Green.

The privet you suggest for the purpose of a hedge should prove quite suitable if the boxes could be made another 2ins. or 3ins. deeper, to provide more ample root room. The privet, as you probably know, is a very gross feeder, and likes a good root run, and should do well in the position you mention. It does well in ordinary loamy soil of good average tilth. Another suitable plant for your purpose would be found in Lonicera nitida, a new hedge plant, which is a rapid grower, and very attractive, with tiny dark green leaves. This is an evergreen shrub and, we think, would do well in the boxes mentioned, and in all probability would not require such a deep root run. Lonicera nitida is easily obtained from the majority of nurserymen dealing in shrubs, and can be planted this month. It is a shrub which submits to clipping and training every bit as well as the privet, and is more out of the common than the ordinary privet.

Climbers for a South-East Wall.

I shall be very much obliged if you will tell me the best creepers to plant up the front of my house, which faces south-east and has a small border in front of it. The soil is chalky, but I have plenty of good farmyard manure. Would Roses Shot Silk and Padre be suitable—the climbing variety—also the jasmine, white and yellow? The house is long and low, and close to the road.—D. C. H., Monks Risborough.

It is not too late to plant the yellow and white jasmines. We have not heard of climbing varieties of Roses Padre and Shot Silk. There are, however, good climbing varieties of Ophelia, Los Angeles and Mme. Abel Chatenay suitable for planting in the position described. The variety William Allen Richardson would also be suitable. Other climbers worthy of attention are Garrya elliptica, Cydonia japonica, Ceanothus Veitchianus and Gloire de Versailles.

A Border of Gladioli and Spanish Irises.

I have a narrow border planted rather thinly, owing to lack of sufficient bulbs, with Spanish irises. Could I plant my gladioli now among them as a succession? Also, I have a quantity of Hyacinthus candicans bulbs. Besides planting these in the border, could I naturalise them in grass? And at what depth should they be planted? Do they mind wind if supported? I am just going to dress my lawn with Sutton's lawn sand. Will this discolour the grass very much, and for how long?—M. F., Bordon.

You should certainly plant the gladioli corms at once in the narrow border where you have the Spanish irises. They would give you a succession of flowers from about the beginning of August to the end of September, and we should suggest that they be planted out at intervals of a fortnight. Both the large-flowering and primulinus types would be suitable for your purpose. We should not advise you to naturalise Hyacinthus candicans in grass. This is not a subject which lends itself to naturalisation unless grown in a wild situation under trees; rather should you select a position in a shady border, where it will succeed particularly well. As they grow to a height of some 3ft., they might require a support if in an exposed position; but if they are closely planted with other subjects, the stems generally have sufficient strength to do without staking. The dressing of lawn sand will not discolour the grass to any great extent, unless a heavy dressing is given, and that during the next two or three weeks will wear off owing to the action of rain.

Rock Plants for a Seaside Garden.

I have just built a small rock garden, size about 4ft. by 15ft., with a south-west aspect. We are near the sea, and when a westerly breeze is blowing it will contain a fair supply of salt. Plants of a hardy nature are therefore desired. Soil medium quality, just recently treated with Newstir powder (lime). Quite open to sun, with the exception of about a yard, which is screened for two-thirds of the day by a trellis screen. I call this section D. I should be grateful if you would suggest suitable plants for the following: (1) Small pockets in front and sides, of a carpet type; (2) ditto for D; (3) larger plants for the centre and rear, where pockets and depth are substantial; (4) ditto for D. I should like to grow from seed where possible, but I wish only those that will flower this year.—N. P., Blyth, Northumberland.

In the pockets plant aubrietias in variety, arabis, Antennaria tomentosa; for edgings, Santolina incana, sedums, sempervivums, London Pride and golden thyme. Larger plants suitable are Campanula Haastii, C. garganica, Alyssum saxatile, Lychnis viscaria, irises, Linum flavum, Dianthus alpinus, Erigeron aurantiacus, Cheiranthus alpinus, ramondia, and Papaver nudicaule in variety. It would be much more satisfactory to put in young plants rather than raise seedlings this spring. Do this for next year. The same kinds and varieties will do in position D, as well as in the more open positions. The only difference would be a little later flowering. You may now plant young plants of violas for this year. They should do well in clumps near the front of the border.

Positions for Various Climbers.

I have just built a house on the top of a hill, sheltered from the north by a hedge and facing due south. I have a good south and west wall, also east and north, plenty of room to grow creepers. I propose growing Ceanothus dentatus, pyracantha, Pyrus japonica, Clematises montana and Nellie Moser, Solanum jasminoides, and Rose Zéphirine Drouhin. Is Forsythia suspensa, the yellow feathery creeper, like jasmine? Would you kindly tell me which aspect they all prefer? Also would you recommend another quick-growing climbing rose? My soil is very chalky.—A. G., Guildford.

We should suggest that you plant the pyracantha, Pyrus japonica and Clematis montana on the wall facing north, Ceanothus dentatus on the south and west walls, Clematis Nellie Moser on the west wall, and Solanum jasminoides on the south wall. The Rose Zéphirine Drouhin should be planted on either the south or west wall. Forsythia suspensa is undoubtedly the best one for your purpose. In appearance it is somewhat similar to the jasmine, but the flowers are larger and the plant has altogether more character. We should certainly suggest that you grow this as a wall shrub, preferably on the south or west wall, as, when situated on a north wall, its blossoms are liable to be cut by early frost. We should also suggest that you grow Hydrangea petiolaris on the west wall. It is an excellent subject. Another quick-growing climbing rose is Climbing Lady Hillingdon. This is quite a good variety for the purpose you have in view.

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BLACK CURRANT DISEASES

Those to be Looked for and the Remedial Measures to be Undertaken.

THREE factors have swayed the success of black currant growing in recent years, namely, big bud, reversion and "running off." It is hard to say which of the three is the greatest pest, but each can be remedied by a knowledge of their history.

"Running Off."

One of the chief uncertainties of black currant growing to-day is due to the running off of the fruit after it has apparently set but before it is ripe. Bushes begin to bloom midway in April and on to the beginning of May, when for a fortnight or three weeks the berries begin to swell, and at this stage it would appear that a good crop of fruit might be expected. About the end of May or beginning of June the berries begin to fall, dropping irregularly from the raceme, but chiefly towards the apex.

Not only is the loss heavy in that the weight of fruit is greatly reduced, but the value of the fruit itself is considerably lowered by the bare stalks on the raceme. That it is not a question of soils which govern running off is evident, because fruit grown on heavy, medium and light soils all suffer to the same degree.

It is now known that running off is due to a variation in the formation of some flowers which makes it essential that insect pollination should take place. In an abnormal flower the style is lengthened and the receptive part of the stigma is thus held well above the anthers. The pollen of black currant flowers is very sticky, and therefore if the abnormal flowers are to be fertilised, the pollen grains must be carried by some mechanical agency, such as insects, which visit the rather unconspicuous flowers for the nectar secreted from the floor of the calyx. Insects visiting the flowers are many and varied, but the leaf-eating weevil, ladybirds, wasps and hive bees are just a few.

Running off is always more prevalent in seasons when cold winds and sunless days prevail during the flowering period. This is easily understood when one pictures a sunny day in spring with the air seemingly full of insect life, while on a cold, cloudy day few insects can be seen.

Bees are the chief agency in insect pollination, and the laying out of a new plantation of black currants should always be accompanied by the introduction of hive bees. To keep down the loss occasioned by running off the following precautions should be carried out when possible :

1. Shelter and a sunny position should always be afforded, thus favouring insect work.

2. Hives should be introduced, as the bees do an enormous amount of work among black currants.

3. The selection of the variety most suitable to the locality should be carefully studied beforehand, bearing in mind the fact that abnormal flowers are never present in the Baldwin class, which renders them independent of insect pollination.

Big Bud.

The ravages caused by big bud are familiar to all black currant growers, and for many years now research work has been carried out in order to obtain methods of control. Big bud is caused by the black currant mite Eriophyes ribes, which enters the buds in July and commences reproduction, many generations being produced before springtime brings with it the need for finding fresh quarters.

Control measures tried in the past consisted of hand picking infected buds, hard pruning and burning of all infected shoots, the use of dry lime sulphur sprays, and also of a wet spray made up of soft soap, flowers of sulphur and water, but no method proved satisfactory. Recently the use of lime sulphur sprays (one part to ten or eleven of water) have been more successful, though the best time for the application of the spray has been a matter of great controversy. From investigations carried out at East Malling Research Station by Mr. Massee it is now definitely established that by the use of the lime sulphur spray at the correct and vital time big bud can be controlled, and with care abolished. Mr. Massee found that just after the flower trusses appeared, but before the flowers themselves have opened, is the correct time to spray. In view of this, future control of big bud will rely upon judicious timing of a lime sulphur spray and a careful examination in the following winter for big buds caused by mites that have escaped through the late opening of the bud in which they had been reared. With this knowledge obtained by scientific research one of the greatest pests of the black currant will be exterminated.

Reversion.

Reversion or nettle leaf of black currants is probably the most serious trouble the grower has to face, in that, with reverted bushes, there is a failure of the whole of the crop. In leaves that show reversion the number of sub-veins and marginal teeth are greatly reduced, and this gives rise to the name of "nettle leaf," which is closely resembled. Examination for reversion should be confined to strong new shoots, because spur leaves vary and are unreliable, and the best time for inspection is in June. All shoots showing reversion should be cut off and burned, and badly attacked bushes marked preparatory to lifting and burning them in the autumn. An annual inspection carefully carried out will keep down the infection and eventually eradicate the reversion from the bushes. The actual cause of the disease is not yet known, but it is established that reversion and big bud are associated together and the presence of big bud mite upon a previously healthy shoot tends to the production of reverted leaves.

With careful control measures of running off, big bud and reversion, the growth of black currants would take on a new aspect. No fruit will repay more for good cultivation none can prove so profitable. W. M. C.

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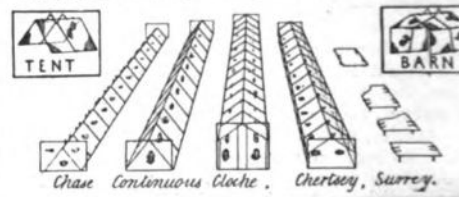

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They are the finest thing for market gardeners and will pay you simply through their unequalled colours and productiveness. For the amateur gardeners it is the very thing they all would like, because when put up at a show they are bound to be admired by everyone. A trial of them will convince you.

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SOCIETY NOTES

New Rhododendrons and Daffodils at Vincent Square.

THERE was an interesting array of new plants and flowers at the R.H.S. Show at Westminster on March 22nd and 23rd last. Daffodils were the most numerous and the four which received awards were raised by Mr. P. D. Williams of Lanarth, Cornwall, who named the glorious jonquilla hybrid after his place. Lanarth is a large, round flower, with a rich yellow perianth and a basin-shaped vivid orange cup. Tregoose, a large incomparabilis variety, has a deep primrose perianth and a trumpet-shaped tube of vivid orange and prettily waved margin. Havelock belongs to the same class and is of deeper colouring, with a sharply serrated margin to the cup. Godolphin, a very large trumpet daffodil of great substance and rich yellow colour, has a definitely recurved tube.

Of the general plants which received awards of merit, rhododendrons were the most important. Rh. hippophæoides, which was shown by Lady Aberconway, from her famous garden at Bodnant, North Wales, which her eldest son, the Hon. Henry D. McLaren helps to manage, is a valuable rock garden rhododendron. It was introduced from Yunnan, China, by Forrest in 1913 and becomes a shapely little evergreen bush, rarely more than 4ft. in height, but smothered with small bright, lavender-blue flowers. Rh. virgatum, shown by Colonel L. C. R. Messel, O.B.E., Nymans, Staplefield, is a lovely little species, re-introduced from Tibet. It, also, is an evergreen and has narrow leaves of healthy dark green colour. Although the blush pink flowers are produced singly in the axils of the leaves, they are sufficiently numerous to give the effect of a compact, elongated truss. When fully grown the bushes are only 3ft. in height, but the flowers are quite 2ins. across. Although botanists have recently classed the Japanese azalea Kurume as a rhododendron, most garden lovers will prefer the older generic name. The newest variety, Azalea Kurume Kirin, which was shown by Messrs. Robert Veitch and Son, is a beautiful little erect, evergreen, suitable for a warm corner of the rock garden or to be grown as a pot plant for the cool greenhouse. The hose-in-hose flowers are of fascinating soft salmon colour.

Magnolia salicifolia, shown by Mr. Lionel de Rothschild, Exbury, Hampshire, is a graceful tree, up to 20ft. in height, which bears plenty of pure white flowers on the bare branches. The flowers are somewhat suggestive of those of the dwarfer M. stellata (syn. M. Halleana), but are larger, more substantial and do not become pinkish with age. Rehmannia hybrida alba, which was shown by Sir William Lawrence, Burford, Dorking, does not differ much in general characteristics from R. kewensis. It is a useful cool greenhouse plant bearing white flowers which have pale lemon-coloured tubes. Primula Runnymede Gem is, to all intents and purposes, a double-flowered P. malacoides of squat habit and bearing compact whorls of bright mauve flowers. It was shown by Captain Symons-Jeune, Runnymede House, Old Windsor. Saxifraga Coombe White is a desirable alpine. It is a seedling from S. Rocheliana, bearing larger pure white flowers on short stalks. It was shown by Mr. Frank Lloyd, Coombe House, Croydon. Caltha Palustris alba is a useful white marsh marigold for a moist position. It was shown by Mrs. Garnett-Botfield, Beamish, Albrighton, Salop.

Shows and Meetings for the Month.

April 1st.—Accrington Chrysanthemum Society meets.

April 2nd.—Paisley Florists' Society Exhibition. Blackburn Horticultural Society meets.

April 4th.—Romsey Gardeners' Association meets.

April 5th.—Royal Horticultural Society's Show (lecture), two days. Horticultural Club Dinner and Lecture. Royal Caledonian Horticultural Society meets. Wimbledon Gardeners' Society meets.

April 6th.—Brighton, Hove and Sussex Horticultural Society Exhibition (two days). Royal Horticultural Society of Ireland Spring Exhibition, two days. Falmouth Spring Flower Show, two days. Pangbourne Horticultural Society Lecture. Littlehampton and District Show.

April 7th.—Manchester and North of England Orchid Society meets.

April 8th.—Royal Horticultural Society of Ireland meets.

April 9th.—L.C.C. Staff Horticultural Society's Spring Show.

April 11th.—United Horticultural Benevolent and Provident Society meets.

April 12th.—Royal Horticultural Society Daffodil Show, two days. Jersey Gardeners' Society meets.

April 13th.—Glasgow and West of Scotland Society meets. Sheffield Chrysanthemum Society meets. East Anglian Horticultural Society meets.

April 14th.—Ipswich Gardeners' Association meets.

April 19th.—Winchester Horticultural Society meets.

April 20th.—Herefordshire Spring Flower Show. Royal Gardeners' Orphan Fund meets. Pangbourne Horticultural Society meets.

April 21st.—North of England Horticultural Society Exhibition, two days.

April 22nd.—National Rose Society Spring Show. Manchester and North of England Orchid Society meets.

April 25th.—Harrogate Horticultural Association meets.

April 26th.—Royal Horticultural Society Show (lecture), two days.

April 27th.—Sheffield Chrysanthemum Society meets.

April 28th.—Paisley Florists' Society meets.

Garden Scheme on Behalf of Queen Alexander's Memorial

A LARGE and interesting scheme to garden lovers is being inaugurated by the Women's Committee of the National Memorial to Queen Alexandra all over England and Wales.

In other hands, the scheme has spread to Scotland and to some parts of Ireland.

During the Whitsuntide holiday, from May 30th to June 11th, inclusive, garden owners are being asked to open their gardens at a small charge.

The owners are responding most generously, and we are in a position to say that nearly all notable gardens are to be opened. In a short time, it is hoped to announce a full list of these gardens, and the facilities for visiting them.

Railway Station Gardens.

Interesting Competition on the L.N.E.R.

THE London and North Eastern Railway Company announce a competition for prizes to be given by the Directors for the best-kept stations throughout their system. Many prizes and certificates will be awarded, and an inspection will be held in July and August this year.

In awarding the prizes, the judges will take into consideration the situation of the station and the space available for flower and shrub displays, apart from the general condition and cleanliness of the station premises.

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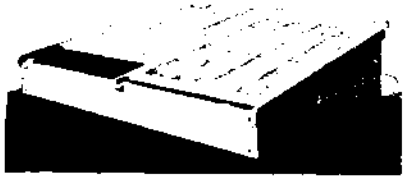

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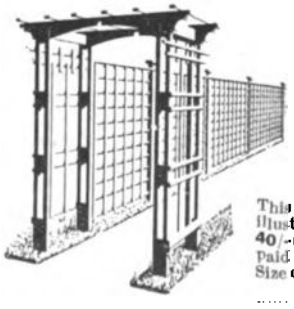

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Publications Received

Most amateurs are interested in their lawns, and at this time of the year there is a great desire on the part of everyone to learn of measures which can be undertaken to improve and renovate the lawn and keep down the weeds which quickly make their appearance with the spring weather. Amateurs will find many, if not all, their questions answered in a small booklet which has been published by Messrs. Carters of Raynes Park, entitled "Lawns and Weeds." It is written by Mr. Reginald Beale, a well known authority on lawns, and the information given in its pages will be found of the greatest use to all amateurs at this time. The construction of a new lawn is dealt with, while copious notes and hints are given on the upkeep and care of a good lawn, with special reference to renovation of old turf and to weeding. It is an excellent publication, well illustrated, and should be in the hands of every amateur. Copies can be obtained, free of charge, on application to Messrs. Carters, Raynes Park, London, S.W.20.

"The New Dictionary of Gardening," by T. W. Merton. (W. Foulsham and Co., Limited, London, E.C.4, 2s. net.) A simple dictionary of plants and gardening terms.

Tree and shrub lovers will find two recently published volumes of some little interest. The one, "A Manual of Cultivated Trees and Shrubs," by A. Rehder (Macmillan and Co., 42s.), is a scientific treatise, while the other, "Trees," by Dr. Macgregor Skene (Williams and Norgate, 2s. net), is a popular handbook on the subject.

Mr. Rehder is well known to all tree and shrub enthusiasts by reason of his work at the Arnold Arboretum, and this volume is largely the outcome of his researches conducted at that institution during the last few years. It is an excellent work in all respects, and makes a fine companion volume to Dr. Bailey's "Manual of Cultivated Plants" published two years ago. It presents in small space due to the excellent printing a systematic account of all the trees and shrubs hardy in North America, including sub-tropical species. Each genus is dealt with separately in its respective family, and some account is given of every individual species, including an accurate botanical description. This work brings our knowledge of trees and shrubs absolutely up to date. All the recent introductions to our gardens collected in the various expeditions to the East are described in detail. It is a volume which all keen gardeners who are interested in trees and shrubs, both professional and amateur, will welcome, as it clears up many doubtful points as regards relationship and description of many of the lesser known species. It is, moreover, a valuable contribution to horticultural literature, and will undoubtedly stand as the chief work of its kind for many years to come. Although it deals with trees and shrubs hardy in North America, there are not many omissions which will be likely to make the work of less value to the keen gardener in this country. It is certainly worth possessing as a work of reference and will be found an invaluable guide on this specialised branch.

The Home University Library is probably well known to many of our readers, and it suffices to say that "Trees" is one of the new volumes to be added to the list. It is a most interesting book. The author has treated the subject both in a skilful and fascinating way, and has yet retained accuracy and sequence in the presentation of his information. It makes a most interesting story, and certainly all gardeners will do well to read and digest much of what Dr. Skene has to say. The various chapters on the physiological aspects of the tree make instructive reading, while the later chapters on the trees of Britain and enemies

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of trees bring out the author's fine descriptive powers to the full. A bibliography which will be found very useful to all tree lovers is given at the end of the book.

CATALOGUES RECEIVED.

Messrs. W. Hopwood and Son, the horticultural advisers, of 58, High Street, Cheltenham, have sent us their most useful catalogue of nursery stock. It is well classified and contains careful descriptions and selected lists of rock and border plants, flowering and foliage plants, standard ornamental trees, climbers and hedge plants.

Mr. George Whitelegg, who has constructed many fine gardens in different parts of the country, has just issued a new catalogue of hardy plants. Careful descriptions and cultural notes and the various plants are well classified into groups, and among these will be found plants suitable for the rockery, the moraine, crazy paving, wall garden, the herbaceous border, bog garden and shrubbery.

Messrs. Little and Ballantyne, Royal Seed and Nursery Establishment, Carlisle. Standard varieties of flowers, vegetables, as well as seed novelties and specialities, and a long list of seed potatoes, which have been grown on their own farm. By constant re-selection this firm keeps all their flower and vegetable strains at a very high standard.

Interesting and curious cacti will be found in the catalogue of Mr. F. E. Cooper, who grows at his nursery at Shanklin, I.O.W., a most representative collection of these curious plants.

Messrs. D. T. Brown and Co., Poulton le Fylde, Lancashire. A useful garden seed list is issued by this firm. The descriptive notes will prove helpful to those who are unacquainted with some of the more modern varieties. Good strains of double-flowered larkspurs and long-spurred aquilegias are offered by Messrs. Brown.

Mr. F. Baker, The Nurseries, Spalding Road, Holbeach. Roses, fruit trees, ornamental trees and shrubs. Hedge plants at reduced rates for large quantities are listed.

Messrs. C. S. Daniels and Son, Northfield Nurseries, Wymondham, Norfolk. Antirrhinums and summer bedding plants are two of the special features in this list. Garden seeds and strong autumn sown transplanted seedlings of hardy plants, such as lupins geums, aquilegias and hollyhocks, are also included.

Mr. H. Hanchet, the Orchid Grower and General Nurseryman, of Nutfield Nurseries, Crab Hill Lane, South Nutfield, Surrey, sends us his 1927 seed catalogue. Flower seed novelties and seed of Salvia splendens Harbinger, the fine new bedding salvia, are noted.

Floral novelties and a general list of flowers and vegetable seeds has been received from Mr. Alfred Dawkins, of 408, King's Road, Chelsea, London, S.W.10.

FOREIGN.

Cherry Meadow Gardens, Framingham Centre, Massachusetts.—A list of annuals and perennials for present planting.

Mr. Frank W. Campbell, 7521, Dunedin Street, Detroit, Mich.—A catalogue of rare plants which should interest the specialist. Uncommon shrubs, trees and new irises are included.

TRADE NOTE.

"Lefco" garden ornaments, which have been seen at Birmingham Show, the Ideal Home Exhibition and elsewhere are most attractive. The material of which they are made does not crack or flake; in fact, they will give lasting service. The colour of these ornaments is speckled russet brown, a shade which blends well with its surroundings. They are manufactured by the Leeds Fireclay Company of Wortley, Leeds, but can also be obtained from a number of agents, including Messrs. P. and F. Smith, Robin Hood, Hall Green, Birmingham.

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FRUIT AND KITCHEN GARDEN

Some Good Vegetables for the Little Garden.

IN the case of the little garden, a failure of an important crop is felt seriously. Of course, cultural details and the ability to carry them out have much to do with success or failure. In the little garden, maincrop potatoes, for instance, may be left out of the list, as the ground which they would occupy could be devoted to other kinds of vegetables, such as carrots, onions, garden swedes, beet, parsnips and celery. All these will be very useful during the winter months and would cost more to buy than maincrop potatoes. If the soil is shallow in the little garden, grow more celeriac; it is hardier than celery; turnip-rooted beet and stump-rooted carrots. In the shallow soil these vegetables can be grown to full size. Cabbage lettuce are preferable to cos, and French and turnip-rooted radishes to long-rooted ones. The dwarf and medium height peas are better than the tall growers because more rows can be grown, as they will be closer together. The dwarf French beans are extremely economical in the little garden.—G. G.

Current Work in the Vegetable Garden.

AT this season every day brings its special duties in the vegetable garden: seeds must sown and plants planted. The maincrop be potatoes should be planted now—that is, the planting of the tubers must be finished without delay. Wrinkled or marrowfat peas may be sown freely in all but absolutely cold, clayey soils; if celery trenches ave not been formed, they should be, forthwith, and the ridges between them cropped with lettuce, radishes or early turnips. The trenches for runner beans, too, should be opened out, manured and made ready for seeds to be sown in them in the course of the month or very early in May. Late in May box-raised runner beans must be planted. In the meantime, raise salad plants on the low ridges. Succession round-seeded peas should be sown fortnightly; another sowing of broad beans will be useful, especially where soils are very heavy and retentive. Intermediate and long carrots should be sown to form the maincrop, and a small sowing of stump-rooted varieties will produce good roots for early pulling. Beet, both long and turnip-rooted, should be sown now for the main crop, and onions for late pulling and pickling. Transplant cabbage, cauliflower and Brussels sprouts in nursery beds rather than allow them to become drawn and weakly in their seed beds.—HANTS.

Well Grown Swedes.

ALTHOUGH swedes are never sown before the month of May, the ground must be prepared for them now and seed obtained. A first sowing may then be made early next month and successive sowings are possible until the middle of June. A maincrop sowing, however, should be made about the third week in May. The border for swedes should receive an average dressing of field manure, if possible, or a dressing of artificials, applied three days before sowing, scattered on a 6in. breadth along the line. Lime during winter is also distinctly beneficial. If this has not been applied, dress some on the ground at once. When the seeds are sown—and they ought to be sown when the ground is moist or before rain—rake the surface into a nice tilth, then sow thinly; seedlings will appear in three or four days. Keep the seedlings growing by dewing the plants overhead nightly if necessary, and no pests will cause worry. Thin when the true leaves appear; thin roughly at first, then carefully a week later and give the plants a light sprinkling of nitrate of soda or a good watering immediately after.—CLYDESDALE.

The Grape Vine in the Greenhouse.

Work to be Done Now.

THERE are many vines grown in greenhouses where the owners only possess one structure, and, in addition to flowering and fine foliage plants, wish to have a grape vine. Of course, in the circumstances, it is difficult to manage the structure so that all the contents grow satisfactorily. While the vine may need a moist atmosphere, the flowers on the pot plants will require a dry one, and when the pot plants are watered a certain amount of water falls through to the border just when it is necessary to keep the soil of it dry. So compromise must be the rule. Matters are made easier when suitable varieties of vines are grown. There are four that will do fairly well, namely, Black Hamburgh, Madresfield Court, Foster's Seedling and Gros Maroc. A fifth may be included —Black Alicante. The most suitable of all is the first-named one. The last requires heat to finish, and Madresfield Court and Foster's Seedling give trouble through their berries splitting when the colouring stage is reached. The young shoots of the vine will be growing nicely now, and directly the small bunch of grapes can be seen, select the best placed and strongest shoot for training to the wires and rub out the others. Warmth and atmospheric moisture will be very beneficial at this stage. Do not, however, syringe the vines When the young shoots are about 1ft. long, carefully examine them and pinch off the end at two joints beyond the point where the bunch of grapes is growing. If, however, there is ample room and to fill up a certain space is the aim of the cultivator, three, or even four, joints may be left, and, of course, as many main leaves on each young branch. The extreme ends of the shoots should be tied down, a little at a time, before they touch the roof glass; but the final tying should not be done before the vines are in flower. The border soil must be kept moist enough, right through to the drainage; but constant dripping of water from pot plants on the stage should be avoided as much as possible, also cold draughts directly on the young foliage.—CHRISTCHURCH.

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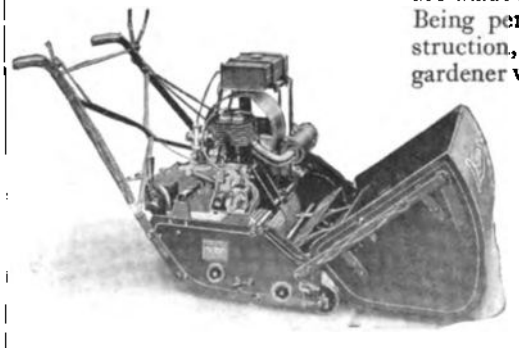

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OUR SERVICE BUREAU

Though so many subjects are dealt with in each issue of THE GARDEN, *it must constantly happen that readers seek information which is not immediately available. In such circumstances they should make use of our Service Department. Through its medium each reader's own particular enquiry can be dealt with. No matter what the question is, there is always information available from a staff of expert contributors and consultants; and there is no charge for this. It is one of the additional means of service which* THE GARDEN *is glad to render to its readers.*

Also, there is the further convenience which the Service Department affords of supplying readers with data about anything that is advertised in the pages of the paper. Thus, on receipt of an enquiry, particulars will be sent of, say, half a dozen things about which the reader seeks information. The only stipulation is that a stamped addressed envelope and the coupon, that will always befound in each issue, shall be sent with the enquiry. We would point out, however, that we cannot undertake to supply readers with plans and designs of gardens, but will willingly assist in giving suggestions for planting.

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Treatment of Bay Trees in Tubs.

I have just purchased two bay trees in tubs which, I understand, come from Belgium, and I want to know how they should be looked after, the method of treatment, etc., for they are expensive things, and I do not want to lose them through lack of attention. I propose to place them one each side of my front door, which faces north, and consequently gets no sun, although sheltered to some extent from winds. They are tall, and stand something like 6ft. in their tubs. At present their stems are bound with straw three parts of the way up. I suppose this is for protection?—T. K., Southfields.

The straw on the stems of your bay trees was, no doubt, used for protection in transit. It should now be removed, if you have not already done this. It is essential not to allow the soil to get dry, especially in summer, for, even though we may get plenty of rain, the foliage will prevent most of it reaching the soil. On the other hand, see that all surplus water drains away readily. Stand the tubs on thin pieces of tile or slate, so that they are not standing on a damp, close floor, stonework or gravel and so become waterlogged. A little weak guano or cow manure applied in summer will prove beneficial to the trees.

Training a Hedge of Cupressus macrocarpa.

I should be grateful for advice about the management of a hedge of Cupressus macrocarpa which I planted two years ago. It has now reached the desired height—at least, it is now about 10ins. too high—and what I wish to know is: Can I cut out the leading growth 10ins. at the present time, or must I wait until later in the spring? Also, is it best to tie in the side branches a little to make it thick? And when is the best time to clip it?—L. H., Somerset.

In reply to your enquiry, we suggest that you cut down the Cupressus macrocarpa to the required height at the end of April. Shorten the side branches at the same time to induce bushy, short growth. This is usually preferable to tying in the shoots. It may be clipped at the end of July.

Potatoes for Heavy Soil.

I shall be obliged if you will furnish me with the names of an early and a maincrop potato suitable for growing in my soil, which is exceedingly heavy, with clay subsoil. Last year I planted Sharpe's Express and King Edward, but with poor result. The land was built on in late 1925 and trenched forthwith, so I cannot think the soil is impoverished. Would a dressing of lime help at all?—C. H., Surbiton.

Midlothian Early and Tinwald Perfection, early and late respectively, would be two suitable potatoes for your soil. We advise you to apply a light dressing of lime now, and more next autumn. Potatoes, to yield heavily, must be grown in well manured ground. Autumn manuring, in your case, would be the best.

Bedding Plants for a Shady Border.

Facing north and immediately opposite my front windows, and separated from the house by a narrow lawn, I have a wide border of shrubs. The border is also partially shaded in most of its length by a large elm tree. During the early part of the summer, wallflowers and forget-me-nots flower well in the front of this border, but I have been unable to find any bedding plants for the later part of the season, except calceolarias (which I loathe), which will thrive. I have tried antirrhinums, calendulas and violas. Can you suggest a suitable subject for this border? The soil is stiff and clayey.—H. W., Gatley.

From the description of your border, we should think that some of the modern charm or mignon dahlias would succeed well. These comparatively new types of dahlias are very floriferous, neat in habit, and most attractive. They grow to a height of 18ins. Good varieties are Dazzle, orange scarlet; Coltness Gem, crimson scarlet; Kathleen, rich deep apricot; Leonie Cobb, pink; Our Annie, shrimp pink; Picture, orange on gold ground; and Charmer, orange chestnut. There are also many other fine varieties, which can be obtained from advertisers in this journal.

White, Pink and Crimson Rhododendron Hybrids.

I want to plant a row of rhododendrons along the front of my new garden, facing the road, and want the colours (when in bloom) to range in order from whites through the shades to crimson. Can you please inform me the names of these to get this effect, and the order to plant?—P. L., Glasgow.

We think that rhododendron hybrids would be more suitable for your purpose, and of these we suggest the following: Loder's White, pure white in colour; Duchess of Portland, white; Mrs. E. T. Stirling, white; Alice, rose pink; Christmas Cheer, a soft pink and white—this is an early-flowering variety, flowering from February until the end of March; Cynthia, deep rose; Lady Clementina Mitford, pale orange pink with rather darker edge; Corona, all shades of pink; Ascot Brilliant, a reddy crimson; Bagshot Ruby, ruby red; and Earl of Athlone, blood red. We think you will find these suitable for your purpose. The order in which they should be planted should be based on the colours, and we suggest that the effect would be best if you planted them in a border, in which you would have an effective shading from white on the one side to the deeper scarlets on the other. As this is more a question of individual taste, we think that you should plant according to your own wishes.

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SOCIETY NOTES

Kilmarnock Spring Show.

THE reputation of Kilmarnock amateur gardeners as successful growers of spring-flowering bulbs was fully maintained on the occasion of the fifth annual show of the Glenfield and Kennedy Horticultural Society, held on March 26th. Since its inception in 1922 the record of the spring exhibition has been one of rapid and continuous progress, and on the present occasion the number of entries reached a total of 500, which compares with 420 in 1926. Such a large number of exhibits occupied all the available space and only left room for a single trade stand.

There were sixty-six classes, forty in the open and twenty-six in the confined sections. Tulips were a strong class and showed a distinct advance both in the quality of the blooms and the number of entries, the latter of which ranged from eleven to thirteen. Daffodils were also an outstanding feature, and the highest standard of excellence was noticeable in the King Alfred, Sir Watkin, Weardale Perfection and Mme. de Graaff classes; while high-grade blooms of Van Waveren's Giant were prominent in the open section for long trumpet varieties. The best show of hyacinths was to be found in the confined competitions, where spikes of Grand Maître, Jacques, Prince Henry and British Queen were admired for the size and colour of the flower trusses.

Challenge cups for the highest aggregate points were won as follows: Ferguson Hyacinth Cup, W. Winning; Craig Tulip Cup, W. Watson; and Crawford Daffodil Cup, James Cochrane.

Other leading prize-winners were Messrs. J. Dodds, R. Brown, H. Craig, J. Boyd, D. Drummond, J. Highet, C. Barclay, James Smith, J. Gilmour, C. Roxburgh, R. Wilson and J. Currie.

In the non-competitive exhibits Mr. Henry Smith, a local amateur, contributed to the success of the show by staging a collection of forty daffodils, representing newer introductions in the large trumpet, Incomparabilis, Barrii, Leedsii, Poeticus and Poetaz hybrid groups. It was a remarkably fine display, and included well grown examples of Beppy, a large trumpet bicolor; Liberty, a giant yellow self with blooms measuring 5½ins. in length and trumpets 2½ins. long and 2ins. in diameter.

Mr. J. Montgomery Crawford of Highfield Bulb Farm, Barassie, decorated the platform with a choice collection of daffodils which included modern varieties such as Santa Maria, Decorator, Brilliancy, Gaiety, Golden Gate, Spring Glory, Elaine, etc.; while the Scottish Wholesale Co-operative Society's nurseries at West Kilbride were represented by an attractive exhibit of cyclamen, azaleas, hyacinths, tulips, daffodils, etc.

Messrs. John Cairns (of Austin and McAslan) Glasgow; J. Montgomery Crawford, Barassie; Henry Smith, Kilmarnock; and James McGran, Coodham, officiated as judges; and Mrs. Ball, wife of one of the directors, formally opened the show.

The British Gladiolus Society.

THE British Gladiolus Society is holding its second national exhibition at Taunton on Wednesday and Thursday, August 10th and 11th this year in connection with the local Taunton show. Judging from the success of the inaugural exhibition held at Burton-on-Trent last year and from the extensive schedule of prizes for the present show, this Society seems assured of still further enhancing its reputation.

There are five groups in the schedule, and of these three are specially for amateurs. Handsome cups and cash prizes are offered for award, and it is to be hoped that sufficient entries will be forthcoming to make the show

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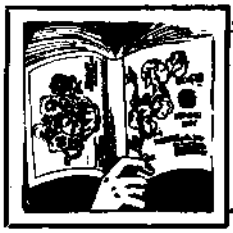

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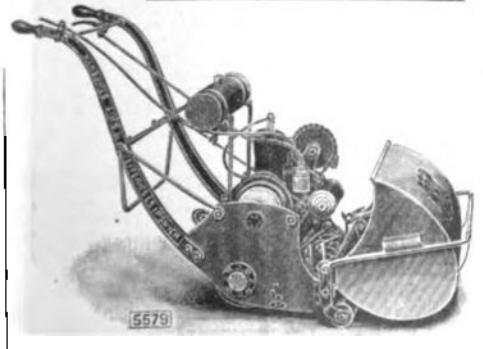

the success it should be. The Society exists for furthering the interests in and the cultivation of the gladiolus. Every year an annual is published, and if they all live up to the reputation of the first one published this year, then the membership is certainly worth while. In its pages are to be found instructive articles on all phases of gladiolus culture, with notes on the history of the flowers and a survey of present-day varieties and their use in the garden. It is a booklet which should be in the hands of everyone who is growing the flower in their gardens. Further reference to this show will be made in these pages later on, but we call the attention of amateurs now so they can set to and grow a few flowers for exhibition at Taunton. Entries close by August 3rd, and should be sent to the secretary, Mr. A. E. Amos, 10, Bergholt Road, Colchester, from whom all other particulars can be obtained.

Auricula and Primula Society.

ANY of our readers interested in the auriculas should procure the small booklet recently issued by the National Auricula and Primula Society (Southern Section) at a cost of 1s. to cover printing expenses. It contains the fiftieth annual report of the Society, and in addition cultural and descriptive notes on the numerous varieties. Reference is also made to the Society's show, which is to be held at the Royal Horticultural Society's Hall, Vincent Square, on the 26th and 27th of this month. Any further information of the Society's activities will be willingly supplied by the treasurer, Mr. A. S. Hampton, 63, Tilehurst Road, Reading.

A Carnation Show.

ON Thursday, March 29th, the British Carnation Society held a most successful show at the R.H.S. Hall, Vincent Square. The leading perpetual carnation growers staged excellent groups, and these, together with a number of amateur exhibits and a few stands of horticultural sundries, filled the hall. Messrs. C. Engelmann excelled in many classes, Sunny, Hebe, Vesta and Citron were four of their novelties which showed great promise. This firm's group contained well grown specimens of the best varieties. Messrs. Allwood Brothers also staged a large and imposing collection, including a number of their famous Allwoodii pinks. A fine trade group was put up by Messrs. Stuart Low and Co. Such varieties as the vivid scarlet Spectrum and the deep red Philip Sassoon were conspicuous on their stand. Red Laddie and Improved Ward were two of the best varieties shown by Messrs. Keith Luxford, who brought a representative collection. Lady Margaret Boscawen, a soft salmon pink carnation, exhibited by Messrs. Low and Shawyer, received an award of merit.

The *Daily Mail* Cup (value £100), given to the best scented carnation not in commerce prior to 1925, was awarded to a deep glowing red variety named Mrs. A. J. Cobb, shown by Mr. A. F. Dutton. The most successful amateur exhibitors were Lieutenant-Colonel Sir R. Baker, Mr. R. Chetwynd Stapylton, Mr. S. J. Hose and Mr. E. W. Bishop. Two fine groups of seedling carnations were exhibited, one by Mr. W. Hemus and the other by Mr. W. H. Page.

One of the features of the show was an exhibit of carnations and other florists' flower staged by the British Florists' Federation in order to demonstrate the value of the best plants and flowers for decorative purposes.

On Thursday, April 14th, the Tewkesbury and District Flower Society are holding in the Town Hall, Tewkesbury, a daffodil and spring flower show. Narcissi of every type, spring flowering shrubs and greenhouse plants will be among the exhibits.

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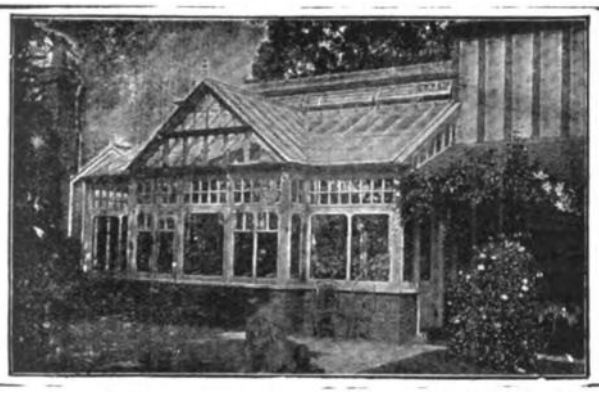

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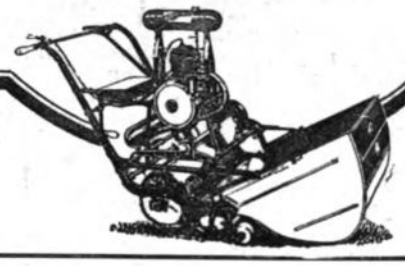

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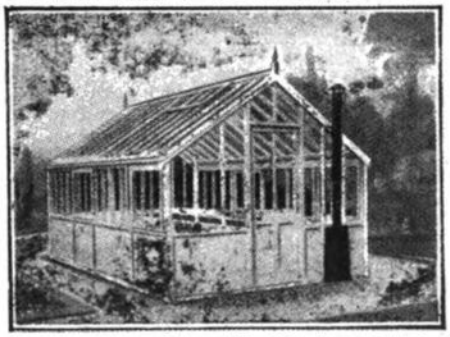

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No. 2	6 0 0	10ft.	8ft.	16 10 0
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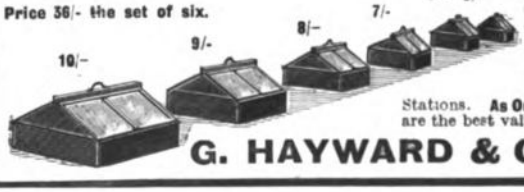

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GREENHOUSE NOTES

On Potting Gloxinias

THOSE of you who have started gloxinia bulbs in boxes will probably find they will be of a suitable size to pot about the middle of April or a little later. Pots about 5ins. to 8ins. across the top are the size to use. See that they are scrubbed, washed and dried before using. In filling the pots, first place a good-sized crock in the bottom, then some of the most granular of the potting compost, including a little decayed turf. As a compost use a mixture of two parts fibrous loam, one part leaf-soil, half a part of fine sand and a half part of well rotted manure. Instead of cow dung, well rotted pig, poultry or rabbit manure may be used if mixed with an equal quantity of fine, dry garden soil. It is best to sift the soil when mixing it. Reduce the material to a fine powdery condition. Lift the plants carefully from the box and pot lightly. The plants may be shaded from the sun when put in the greenhouse, where the temperature is a few degrees over 65 Fahr. Water very carefully until the plants take root. Gloxinias must not be allowed to become dry.

When they have begin to make fresh growth, give them a copious watering. An occasional dose of weak liquid manure will be beneficial.

More air should be admitted when the plants begin to flower, or they may be stood in a somewhat cooler place and well shaded from the sun.

The seedlings raised in January or February may be put in 3in. pots if scarcely large enough to go into the 5in. ones. A shift to larger pots may be made later on, if necessary to afford them a full root room to flower this season. When transferring the plants from 3in. to 5in. or 6in. pots, remove the lump of soil unbroken and place it in the larger pot, filling up with the potting soil, both under, around and a little also on the top. Water before repotting and the soil will adhere much better to the roots of the plant.—J. W.

Growing Cinerarias.

A VERY fine greenhouse flowering plant for winter and early spring decoration is the cineraria, and we draw attention to the fact that seed-sowing time is again upon us. Also, we would point out that it is not wise to start too early; wait, rather, till the seedlings can be raised without fire heat, and then sow. Fill a box or seed-pan with the usual sandy loam, firm it well, and then soak it with water. After this has been allowed to drain until no more water drips from it, scatter the seeds thinly on top and sift the merest sprinkling of fine soil over all; cover with glass and paper. When the seedlings appear, beware of slugs—a dreadful pest in frames at that time of year. Transplant as soon as the little plants can be handled, using the same compost, but taking care that a fair sprinkling of old mortar in powder is added to it. Water with care, never too freely, and at all times shade the little plants from strong sunshine. The frame, or even a sheltered corner, is an ideal place for the boxes of plants, with that precaution, that direct sunshine must invariably be guarded against. Throughout the hot summer months keep the plants growing in cool quarters, never in hot places; ventilate freely at all times; and, if that pest of cinerarias, green fly, appears on the leaves, spray at once and repeat every second day with soapy water, 1 oz. of soap in half a gallon of water. When the seedlings begin to crowd in the box, transfer them to small pots; and throughout the year they must be potted on without ever being allowed to become pot-bound. It is well to remember that pot-bound plants tend to run to flower: while this may be useful knowledge when specially early blossom is demanded, yet the natural growth and the finest flowers are obtained by keeping the plants always growing on. Never overwater at any time, yet never let the pots get too dry; allow rain to fall on the plants during summer, and do not start feeding until flowers are due next winter.—C.

A Pretty Everlasting Annual.

ONE of the prettiest annuals for greenhouse culture, or for growing in the open border, is Rhodanthe Manglesii. The plant has fine rose-coloured blossoms with yellow centres, and there are both single and double forms. Rhodanthe should be treated as a half-hardy annual, and, if well grown, remains in flower for four months, from July to late October. The plant has an additional interest because it comes under the class of everlasting flowers, seeing that the blooms dry well and, to a large extent, retain their colour. The seeds should be sown in pots during April and the young plants may either be kept indoors or put out as wished later on. Use pots 5ins. in diameter, and, after well draining with crocks, fill with a mixture of 2 parts fibrous loam, 1 part sharp sand and ½ part of thoroughly well decayed flaky manure. Make this moderately firm and scatter the seeds thinly, giving them a slight covering of finely sifted soil. When the seedlings appear, thin them to 2ins. apart and grow on near the glass in a well ventilated structure. Plants for the open may be set out in the border when there is no longer any risk of frost. Transplant with as little root disturbance as possible, and choose a warm open position in which the soil is of a light friable nature. Protect from strong sunshine a few days after setting out. In a favourable season quite good results are obtained by sowing the seeds of rhodanthe on a warm border in May. If the weather is dry, water should be given or the seeds may remain dormant for weeks and much time be lost. Other species of rhodanthe, all of which are worth growing, include R. maculata, with a deep crimson ring enclosing the eye of the flower; there is also a white variety of this species. R. atrosanguinea is a dwarf plant bearing enormous numbers of magenta-coloured blooms.—P.

Present Treatment of Perpetual-Flowering Carnations.

IT is surprising how well these carnations will do throughout a severe winter if the atmosphere of the structure can be kept fairly dry. Of course, plants that are wintered under glass are more liable to injury by frost than those remaining outside all the time. It is only necessary to keep the air of the structure nicely buoyant, then more artificial heat is not needed. Just now, there are signs of a more vigorous growth in these plants; they soon respond to the increasing power of the sun-heat. The amateur cultivator should very carefully loosen the surface soil without disturbing any roots, remove all weeds found and begin to feed the plants judiciously. If the pots are placed on a bed of ashes, the latter should be neatly raked over and more ashes added if necessary. The object should be to make everything about the plants sweet and clean. The pots should be washed if they are grimy, then there will be more porosity. Cuttings, inserted in frames in the house last autumn, should all be rooted now and transferred, ingly, to small pots, if this work has not already been done. To retain them in the sand a day longer than is necessary unduly weakens them. This early potting-off will be time well spent.

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Potatoes Potatoes Potatoes

10/- per cwt. **5/6** ½ cwt. F.O.R.
Cash with order.

Quotations given for larger quantities.

LAST YEAR'S GOOD SCOTCH SEED CERTIFIED SOUND AND FREE FROM BLIGHT.

Varieties :— **King Edward, Arran Chief, Great Scot** and **Kerr's Pink.**

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FOR SALE BY PRIVATE TREATY.

THE very desirable residential property of Ochilview, Bridge of Earn, belonging to the Estate of the late Mr. Robert Brough, with large garden, including fine rock garden, a great variety of alpine and other plants, flowers and trees of great botanical interest, also vegetable and fruit garden, with greenhouses, garage and other offices. These subjects cover an area of about 2 acres 63 poles. The Dwelling-house of Ochilview, situated four miles from Perth and within half a mile of Bridge of Earn Station and Post Office, contains three Public Rooms, five Bedrooms, Bathroom, Kitchen, Offices and Servants' Accommodation. All modern conveniences, telephone, etc.
Feuduty **£14 13s. 7d.**

The adjoining houses and ground known as Heughfield, containing two Dwelling-houses, at present occupied by the Gardener and Chauffeur respectively, may be sold either along with the above or separately, as may be desired.
Extent 92 poles. Feuduty **£5**

The purchasers may have the option of acquiring the respective feuduties if desired.
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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, 20, Tavistock Street, Covent Garden, London, W.C.2.

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Plants for a Sunless Border.

Will you kindly send me a list of plants which would do well in a very sheltered bed which gets no sun? It faces north, but is sheltered by a wall. The soil is very good. Last year I had a good many marigolds in this bed, but found they were terribly eaten by slugs and caterpillars. In fact, nearly all the plants (except the antirrhinums) were badly eaten all over the garden. Is there anything that will prevent this? Also, could you supply me with the names of some rock plants that would thrive in a very sheltered rockery which gets very little sun?—K. C., Westcliff.

The following are plants which will succeed fairly well in a sheltered bed such as you have, which gets no sun: Funkias; the œnotheras, evening primrose with yellow blossom; phloxes in variety; golden rod (solidago); Trollius europæus, the globe flower; Trillium grandiflorum; Viola cornuta; the periwinkles Vincas minor and major. Among shrubs, Olearia Haastii and Spiræas Aruncus and japonica are both suitable; but for spring-flowering bulbs bluebells, Scilla nutans, tulips and muscari could be tried. There is one annual which thrives particularly well in a shady position in a rockery, called Ionopsidium acaule. Ramondia pyrenaica and Haberlea rhodopensis both do well in a sheltered position. A few primulas, such as denticulata and japonica, might also be tried in sheltered positions in the garden, provided it is moist, and also a forget-me-not, Myosotis alpestris. A large-leaved drop flower might be Saxifraga megasea. This is too large for the rock garden, but it would thrive in such a position as you describe. Most of these plants can be planted now, except the spring-flowering bulbs, which are best planted towards the end of August. To get rid of slugs, we advise you to put a ring of sifted ashes or soot and lime round the plants, or trap them by means of pieces of orange peel. If these are placed at regular intervals along the beds and examined night and morning, the slugs will be found underneath them and can then be destroyed. Proprietary brands of slug killers and insecticides such as are advertised in THE GARDEN, should be used.

Overgrown Heath Plants.

We have some very big heath plants that have become overgrown. Is it possible to separate or divide them in any way at this time of the year, to make little plants for a border?—A. R., Leicester.

On the whole, heaths do not divide well, and it is better, if it is desired to increase the stock, to rely on taking cuttings. Cuttings should be made in July and August of moderately ripened twigs about 1in. long. The small, lateral twigs springing from the main stems of the plant make the best cuttings. The small leaves should be removed from the lower part of the cutting, which is then inserted in sand, with perhaps a little peat added, in a frame. As an additional protection, a bell glass should be stood over the plants. They will root in a few weeks, but need not be disturbed until the spring, when they can be planted out in the border.

Renovating a Lawn.

Would you kindly tell me a good way to get the grass to grow on a small grass plot having many small bare hard spots? Last summer I loosened some of the places with a hand fork and sowed lawn seed, with little or no success. There are also some patches of moss at the edge of the borders. The plot, being small, is a good deal trampled on, to keep the surrounding borders in order and in using the lawn mower—A. G., Ryton-on-Tyne.

Your small lawn is patchy as the soil is lacking in plant food. The bare patches should be dug up and the top few inches of soil removed. The hollows should be then filled up with good compost, and the whole lawn covered with a dressing of this same compost. Equal parts of good fibrous loam, leaf mould and well decayed manure and a little sand, and a small portion of complete grass fertiliser, all passed through a ½in. sieve, would form a suitable dressing. The soil in the hollows should be made firm and, after scattering a thin covering of fine soil over the surface, grass seed should be sown. Protect these patches of newly sown grass from birds by means of fine nets or strands of black cotton. Use only good grass fertilisers, such as those supplied by one of the leading grass specialists. Work this top-dressing into the lawn by means of a brush. Keep the lawn well watered during the summer months, and in the autumn feed again with fertiliser and give a winter top dressing.

Pruning of Gooseberries and Raspberries.

Will you give me some advice on pruning gooseberry and raspberry bushes? The former are growing in rows and are almost meeting. Must the thorny stems be cut right back—G. A., Herts.

When pruning the gooseberry bushes, the plan is first to cut out growths that crowd the centre of the bush. Also cut back to about two or three bottom buds all growths that cross or touch one another. Then all long and ill placed shoots of last season's making should be cut back to two buds, and only those stocky shoots that are well placed and which have plenty of room should be left long. These just shorten by about a couple of inches. The leading or extension shoot on the end of each branch should never be cut hard back, but should be shortened by about half if weakly, or by one-third if fairly strong. The aim is to get an open-centred bush, with evenly spaced branches radiating, cup-shaped, from the top of the short stem. The pruning required to the raspberries is to cut out at the ground level, now, every cane that fruited last year—that is, every old cane—and leave in only the long young canes that were made last season. Just take the top few inches off each of these.

Culture of Incarvilleas.

Some time ago I became possessed of some small tubers of Incarvilleas grandiflora and brevipes. I started these in a similar manner to begonias and they are now well rooted and showing the beginning of leaves. I want to pot them up for greenhouse growth. Will you please advise me as to cultural details and compost, etc., also when I may reasonably expect them to flower?—W. L. C., Birmingham.

Incarvillea grandiflora and I. brevipes should be grown in a perfectly cool greenhouse, or even in a cold frame. They should do well in any good potting soil, such as that in which you would grow geraniums or fuchsias. After potting up afford water carefully at the root until they have made fresh roots and are growing freely, when more water may be given. The size of the flowering pots will depend on the size of the original roots, but generally they can be flowered in 5in. or 6in. pots. They will probably flower during early summer, but a good deal depends on the weather and the temperature in which they are grown.

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SOCIETY NOTES

Many New Plants at Vincent Square.

THERE was a galaxy of new plants at the Royal Horticultural Hall, Vincent Square on April 5th and 6th last. Although it is now the heyday of the daffodil season, there were not many novelties and only two received the award of merit. These were Eskimo and Suda, two particularly good trumpet daffodils. Suda, which was shown by Messrs. H. Chapman, Limited, has a nearly transparent perianth and a creamy citron trumpet, lightly edged with pinkish salmon. Eskimo, a Donard Nursery Co.'s novelty, has a white perianth and a long, shapely pale lemon tube.

The general flowers which received award were of a very pleasant variety. Mr. James Douglas had two of his well known strains of auricula. The Duchess of York is a handsome alpine variety with rich, crimson-maroon flowers, which pale at the edges and have a pale yellow zone. Prince Henry is a show variety and has the characteristic mealy leaves. The flowers are of uncommon satiny mauve shades and have white zones.

Two almost flaming coloured arctotis were among the successful new plants. These South African plants are not hardy, but they are very showy subjects for the cool greenhouse and for summer flowering in the borders. There seems to be a certain amount of confusion in the names of most of the genus, so the names must be accepted with reserve. Last July an award was given to Arctotis breviscapa, when shown by Mr. T. Hay, and now a fine variety, named Durns, and shown by Messrs. P. Ladhams, Limited, has an award. It is more vigorous than the species. It has really handsome, pinnate leaves and throws up gorgeous flowers, like immense, deep cardinal coloured daisies. On the present occasion Mr. Hay showed a large bunch of another arctotis, raised from seed sent him from South Africa as A. speciosa, but so different from A. speciosa as grown at Kew that it has been named A. scapigera. Mr. Hay tells us that the plants are easily raised from seeds and that the seedlings show considerable variation, but all flower almost continuously in the greenhouse.

The brilliant greenhouse carnation, Mrs. A. J. Cobb, which won the *Daily Mail* gold cup at the previous week's show of the British Carnation Society, as the most fragrant new variety, received an award of merit. It is very pleasantly scented, but to us its great value was in the size of its shapely flowers and their rich crimson colouring. It was shown by Mr. A. F. Dutton. A bright pink carnation shown by Mr. W. H. Page and named after himself, is a very useful variety.

Five awards were given to shrubs or small trees. Camellia Lady Clare, sent by Mr. Lionel de Rothschild, from Exbury, Southampton, is a gorgeous pink, semi-double flower, equally as large as C. reticulata and it is evidently a vigorous grower. Mr. Lionel de Rothschild also received an award for Rhododendron carneum, a beautiful specimen from the Shan States of North Burma, which bears large flowers of delicate flesh pink colouring. It is a dwarf shrub and the ovate leaves have small greyish spots on the upper surface and are silvery below.

There were two flowering cherries. Prunus incisa, a dwarf Japanese species, is more attractive out of doors than the cut sprays suggest. It bears clusters of pendulous white flowers which open out almost flat. Prunus serrulata Yoshira (Yedoensis) is a graceful little tree, bearing clusters of rounded, pale blush flowers. This was shown by Mr. R. C. Notcutt and the former was shown by Mr. C. Ingram. The Director of the Royal Botanic Gardens, Kew, sent graceful

George G. Whitelegg

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sprays of Acacia fibriata, which received an award. This mimosa, or wattle, as the Australians prefer, has narrow leaves and short spikes of bright yellow flowers.

Paisley Florists' Society.

Features of the Spring Show.

INSTITUTED in 1782, some twenty-seven years before the premier body known as the Royal Caledonian Horticultural Society came into being, Paisley Florists' Society is not only the oldest organisation of its kind in Scotland, but its annual record of activities has no equal. Exhibitions are held in spring and autumn and the interest of the members is maintained in the interval by a series of monthly competitions, which continue from April 28th to October 27th.

At the Spring Show on April 2nd a distinct improvement was notable in the quality of the blooms. An outstanding exhibit in the hyacinth section was a pot containing three grand specimens of the pink variety Jacques from the garden of Mr. Alexander Robertson. The length of the flower trusses measured 9ins., 10ins. and 11ins. respectively and the judges awarded the grower a special cultural certificate, together with the first prize in its class. In the single pot class an example of myosotis, with a 9in. flower, was also prominent. King Alfred and Van Waveren's Giant were the pick of the large trumpet daffodils and there was an excellent display of flowering plants in pots which included cinerarias, primulas, azaleas, deutzias, spiræas and dielytras.

A novelty consisting of twin blooms of King Alfred daffodils on a single stem, the result of fasciation, attracted considerable attention. It was discovered in the gardens at Ardencraig, Rothesay, and was staged along with a collection of twenty-five varieties by Mr. John Davidson.

Other non-competitive exhibits were a meretorious collection of plants by the Corporation of Paisley, a group of hyacinths by Mr. D. W. Kerr; ericas, forsythias and valerians by Mr. John A. Holmes, and trade exhibits by Mr. John McFee and Mr. James Laidler.

The Cornwall Spring Flower Society are holding their twenty-third show at Truro, on April 26th and 27th. Numerous classes for rhododendron hybrids and species, azaleas primulas, tulips, and flowering shrubs are included.

The annual show of the Midland Daffodil Society will be held on Thursday and Friday, April 21st and 22nd. Schedules will be sent on application to the secretary, Mr. Herbert Smith, 19, Tenby Street North, Birmingham.

CATALOGUES RECEIVED.

Messrs. Austin and McAslan, the well known Glasgow firm, have issued a general seed catalogue, a number of pages of which are devoted to horticultural sundries and bulbs and tubers, such as gladioli, begonias and lilies. This firm's stock of Scotch seed potatoes is selected with the utmost care.

Messrs. Blackmore and Langdon, Bath. This firm of specialists who have done so much for the horticultural world, have sent out their new 1927 catalogue, in which they offer their fine strains of begonias, delphiniums, cyclamen, phloxes, etc. Some exceeding fine begonia novelties are noted.

Mr. T. Smith, of Daisy Hill Nursery, Newry, is offering seed of hardy plants suitable for the border and wild garden, some of which are uncommon, and as well seeds of all kinds of trees and shrubs. A number of the Daisy Hill brooms and berberis are included.

Messrs. Cooper, Taber and Co., 90, Southwark Street, London, S.E.1. A wholesale price list of flowers and vegetables.

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At Chelsea Show the King said—"That red Broom is certainly very striking." This was the new crimson Broom Dorothy Walpole, which received Unanimous Award of Merit from the Royal Horticultural Society and, although the variety is quite new in colour, it is as vigorous as any common Broom and requires no special treatment nor any kind of protection—just a hardy shrub for ordinary garden soil in any part of the British Isles, however far north. Plants have been sent to all parts of the world.

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THE LONDON DAFFODIL SHOW

IF any doubt existed as to the popularity of the daffodil as a British national flower, a visit to the Horticultural Hall at Westminster last Tuesday, April 12th, would have rapidly disillusioned the most sceptical. The display was little short of bewildering, the great hall being filled from corner to corner with serried ranks of flowers in countless thousands.

This year the committee introduced a number of new classes, which proved exceedingly popular, widening the scope of interest to exhibitor and public alike.

Perhaps the most striking feature of the show was the astonishing size and colour of the new varieties, which so far outclass the nodding, if somewhat flimsy, favourites of former years that one might almost be justified in describing them as a new race of flowers, the beauty and importance of which can scarcely be overestimated.

A satisfactory feature of the show was the visible proof that British raisers are well holding their own in the production of new flowers of the highest merit. This is further evidenced by the interest of Dutch buyers—keen critics to a man, and ready purchasers of varieties likely to prove of outstanding commercial merit.

Messrs. R. H. Bath, Limited, of Wisbech, put up a magnificent display of flowers in perfect condition. Their notable novelties are Fenland Gem, a very large incomparabilis with round, overlapping, waved cream perianth with deep yellow eye heavily margined bright orange; Mary Rose, a striking Barrii pure white overlapping perianth, well expanded lemon eye margined orange; Red Delight, a very large Barrii of good form with intense red eye.

Messrs. Barr and Sons' exhibit well merited the attention it attracted from throngs of interested visitors. In addition to a wide collection of standard varieties, a number of new seedlings were shown. Sunblaze, a Barrii of excellent form and colour with pale yellow perianth and bright red eye, was a notable flower. Caedmon, a Poet of very fine quality.

Mr. J. L. Richardson added to his remarkable series of successes by scoring thirteen firsts, seven seconds and four thirds in the competitive classes, in addition setting out a splendid display occupying about 36ft. of wall space, reflecting the highest credit on his cultural skill.

Messrs. Cartwright and Goodwin of Kidderminster arranged a tasteful group of commercial varieties and a few interesting seedlings of merit.

Mr. Guy L. Wilson of Broughsham showed some magnificent flowers magnificently grown. Notable new flowers are a new white seedling trumpet B1919 raised from Conqueror × White Knight. The flower is somewhat similar to Kantara, rather longer in trumpet and with a slightly curling perianth. Tenedos, Beersheba and several seedlings of highest merit were also shown.

The Donard Nursery Company of Newcastle, Co. Down, set up one of the largest exhibits in the show, every variety of all sections being well represented and displayed. Spanish Flag is a colourful Incomp. with cream perianth and widely expanded eye curiously splashed yellow and bright orange. Firetail, Beersheba, Mitylene and a good bicolor Nissa were shown in fine form.

Mr. J. W. Barr of Wimborne showed a representative collection in which Lady Brilliant, a good red-eyed Barrii; Imelda, a large pale bicolor trumpet, and a very large seedling trumpet 5176 were notable flowers.

Taste in setting and arrangement characterised the exhibit of The Welsh Bulb Fields. A well arranged collection of flowers shown in jet black bowls on a green ground added to the effectiveness of the display. Red Guard is a new Poetaz of large size with a distinct flush of red in the perianth. Nannie Netticoat is quite a new break, a graceful Incomp. with hanging head, white perianth with narrow yellow trumpet suffused towards the mouth with a deep rosy flush. Mrs. Watts, Precious and Seedling B60 are notably fine flowers.

Messrs. Pearson of Lowdham put up one of their best exhibits, showing a wide range of flowers in excellent form. Varieties of arresting attention were Nursemaid, a good red-eyed Barrii somewhat after Firetail; Silvanite, a good bicolor trumpet with lemon centre; and Milford Haven, a large cream-backed Incomp. with solid red eye.

Messrs. G. Lubbe and Sons of Oegstgeest, Holland, showed a good collection of numbered seedlings of merit.

Mr. P. D. Williams of Lanarth showed a notable non-competitive collection of his seedlings. The exhibit extended to over sixty vases of flowers any one of which was stamped with the perfection of quality in which Mr. Williams is a pastmaster.

AWARDS OF MERIT.

Mitylene (Engleheart), shown by Mr. J. L. Richardson.—A very fine Leedsii with broad, overlapping perianth and widely expanded plaited lemon eye.

Scarlet Perfection (Mrs. Backhouse), shown by Messrs. R. H. Bath, Limited.—A round Incomp. flower of strong colour, yellow perianth, not quite flat widely expanded frilled eye of solid red.

Mephisto (P. D. Williams), shown by Mr. P. D. Williams.—A smooth, yellow-backed Barrii of medium size, very smooth quality with red cup.

Therapia (Brodie of Brodie), shown by Mr. J. L. Richardson.—A very fine Barrii, cream perianth with broad overlapping, very smooth segments and large yellow eye heavily margined red.

St. Egwin (P. D. Williams).—A very large, regular, smooth, pure yellow Barrii.

Holland's Glory (L. van Leeuwen and Son, Limited).—A very large deep sulphur yellow double of substantial merit.

Turin (P. D. Williams).—A very large Barrii, pure white perianth, flat yellow eye margined bright red.

PRELIMINARY RECOGNITION.

Manora (A. J. Bliss).—A large very pale bicolor trumpet of regular shape. Somewhat after the shape of Beersheba.

Red Sea (Brodie of Brodie), shown by Mr. J. L. Richardson.—A large Barrii of regular shape, broad overlapping segments slightly tinted pale yellow and fluted cup of rich red.

SELECTED FOR TRIAL AT WISLEY.

Penny-come-Quick (P. D. Williams).—A very brightly coloured Barrii, white perianth and pale yellow eye heavily bordered red.

Pride of the Market.—A strong-growing Incomp. with rather ragged lemon perianth and orange eye.

Duddingston (Dobbie and Co.).—A good yellow trumpet daffodil of strong growth. Somewhat like Sergeant Murphy.

Kingsley Fairbridge (Engleheart), shown by Mr. F. A. Secrett.—Pale bicolor trumpet sulphur yellow with paler perianth.

A seedling marked 3804 was very noticeable. It appears to follow Nannie Netticoat (Watts) very closely, and if it will stand in sun will be an undoubted acquisition.

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Prices:—VINE, PLANT AND VEGETABLE MANURE—a Perfect Food—1 cwt., 30/-; 56lb., 16/-; 28lb., 9/-; 14lb., 5/-; 7lb., 3/-; tins, 1/3 and 9d. SPECIAL TOP DRESSING MANURE—an excellent stimulant—56lb., 17/-; 28lb., 9/6; 14lb., 5/6; 7lb., 3/-; tins, 1/3. Carriage paid on 28lbs. and up.

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Produces an abundance of blooms of perfect form and rich colour. Use fortnightly from now onwards. 14 lbs. 4/6; 28 lbs. 7/9; 56 lbs. 14/6; 1 cwt. 25/6.

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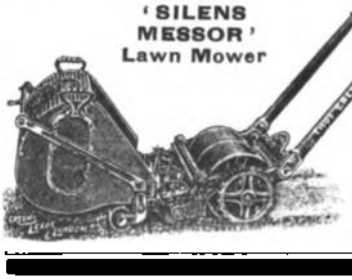

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OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Kerria japonica for a North Wall.

I saw Kerria japonica recommended in THE GARDEN *for a north wall. Can you tell me if this grows really high, as it is a house wall I want to cover and if it grows and spreads quickly. Would a small-leaved Virginia creeper do on a north wall?—V. S., Leeds.*

Kerria japonica is a somewhat bushy shrub which seldom reaches more than 6ft. high. It carries many slender and supple twigs and branches, which form a dense, interlacing mass. It certainly grows fairly quickly, but does not get out of hand. Virginia creeper would certainly do on a north wall, although the tendency would be not to cover the whole wall in such a position.

Ferns to Plant Under Trees.

Can you give me any suggestions for varieties of hardy ferns to plant under trees in a north-west position on chalk sub-soil.—S. R., Sutton.

The best ferns for your purpose are some of the finer foliaged varieties, such kinds as the hardy shield fern, Aspidium or polystichum. These ferns are strong and free growing and prefer shady places under tall trees, but during the summer months they require plenty of water. The prickly shield fern is another sturdy fern, and has many fine garden forms with beautiful crested foliage. Another good sort is Asplenium Filix-fœmina, Nephropium (Lastrea) or Polypodium (Polypody). These are also useful for planting below trees. Then there is the hart's-tongue fern, scolopendrium, which you probably know.

Feeding Chrysanthemums.

Can you tell me the best way of manuring chrysanthemums to get fine blooms on plants in pots? How often is it safe to water with artificial and organic manure? It seems to me that to get the fine blooms one sees at flower shows that there must be no niggardly hand in the way of the giving of stimulants. Some idea of how far one may go in the giving of manures to encourage fine blooms will be welcome.—E. C., Chilwell.

During their growing season, chrysanthemums require manuring several times during the week. Various manures are used, but you can purchase fertilisers specially compounded for chrysanthemums, such as Guano and Clay's Fertiliser, which are both good for the purpose, and may be sprinkled on the surface of the pot, or diluted in water. Dilute farmyard manure and soot water also play an important part in feeding.

When to Plant Daphne Mezereum.

I should be much obliged if you would tell me the best time of year to plant Daphne Mezereum in Scotland. I have consulted two well known nurserymen, one says first week in April and the other the early autumn.—B. F., Budleigh Salterton.

We should certainly say that the best time to plant Daphne Mezereum in Scotland would be in early autumn, preferably about the end of September or the beginning of October. This will allow the plant to become established in its new position before the onset of really hard weather, and if planting is done carefully, there is no reason why flowers should not be obtained the following early spring. If planting is not done in early autumn, it can, however, be held over—as the nurseryman says—until April, but we certainly advocate autumn planting.

The Propagation of Various Shrubs

Would you tell me how to propagate certain shrubs. Would cuttings taken with a heel do outside or should I need a frame, and at what season should I start them?—W. M., Portobello.

The following are the various methods of propagating the plants which you mention: Ceanothus dentatus and Ilex regina, cuttings in August in a cold frame; Ligustrum ovalifolium aureum, cuttings in October and November, in border outside; Olearia Haastii, cuttings in August in a cold frame; Skimmia japonica, cuttings in August in a cold frame or sow seeds from fruits; Viburnum Opulus, it is best to layer shoots; Æsculus of sorts, best to grow from seeds ("Conkers"); Berberis, deciduous, cuttings should be inserted outside in October, but seeds are better; Cratægus rosea, bud or graft on the white thorn; Cytisus Ardoinii, cuttings in August in a cold frame; Forsythia suspensa, cuttings in a frame in July or August and outside in October or November; Daphne Mezereum album, this is best raised from seeds; Prunus Pissardii, cuttings in a frame in July or August, but usually propagated by budding; Lonicera Halliana, cuttings in a frame during August; Pyrus floribunda, bud in July, graft now or layer; Spiræa Anthony Waterer, this is readily increased by division or cuttings in September; Syringa (lilac), single and double, layers are best, but cuttings can be inserted in August in a frame; Laurus of sorts, insert in a frame in autumn; Ampelopsis Veitchii, cuttings in August in a frame. Jasminums officinale and nudiflorum are propagated in a frame during August.

Treatment of Succulent Plants.

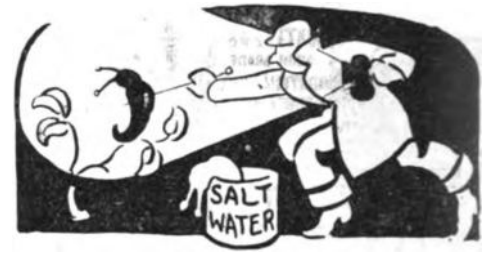
Can you give me advice as to the treatment required at this time of year for succulents. They have been indoors all the winter, and I have no greenhouse, only a cold frame. There are prickly pears, various opuntias, aloes, mesembryanthemums, mamillarias, etc. Some have rather damped off and got thin and limp during the winter. Should the small ones be pulled off or left on the parent plants? How can I find the names of different varieties?—H. T., Hendon.

As you do not give the varietal names of your succulent plants, it is not easy to advise you. For example, some opuntias are more or less hardy, while other species require dry, warm conditions during the winter. In any case most of them should do at this time in a cold frame well exposed to the sun, matting it well up at night to conserve the heat. They must, of course, be very carefully watered. It should not be necessary to pull off the offsets, but not knowing what species you have, it is difficult to advise you on that point. Regarding the names of varieties, a visit to the collection at the Royal Botanic Gardens, Kew, should enable you to identify your plants.

Propagation of Cupressus macrocarpa.

Can you inform me whether Cupressus macrocarpa can be propagated by cuttings, and if so, when is the right time to take them? I have no heated greenhouse.—S. P., Woodbridge.

The best time to take cuttings of Cupressus macrocarpa is in July and August, and insert them in sandy soil in a cold frame. The cuttings would certainly root more easily if you could provide some bottom heat. The tips of the growing shoots should be taken.



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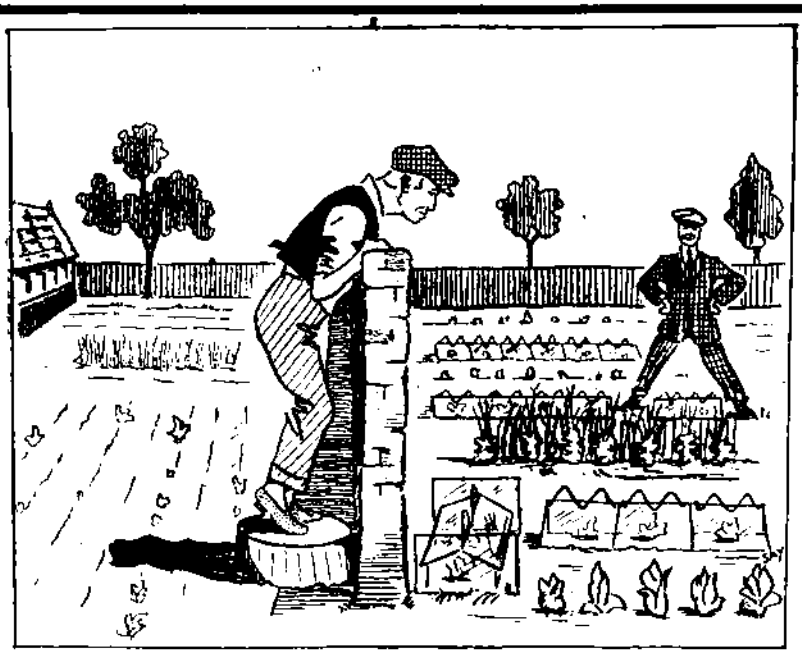

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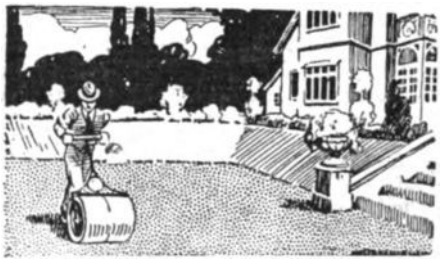

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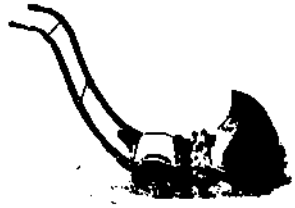

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SOCIETY NOTES

Royal Horticultural Society.

THE Royal Horticultural Society, feeling assured that the mountains of western British Columbia hold a good many plants desirable for our gardens, especially alpines, is promoting an expedition into this region for the purpose of collecting seed. The probable district of principal operations is the mountainous area near the coast, much of which is little known, but from which a sufficient number of interesting plants have come to warrant the hope that many more are probable. The district is one from which only plants hardy in the British Isles are to be expected.

A Committee has been set up to make the necessary arrangements for the expedition, and it has been decided to divide the cost of the expedition into a number of £20 shares so that others besides the Society who may wish to do so may participate in the results of the expedition.

The Society will take a number of shares, and applications for the others are invited from those interested in plants from this district, who should communicate with the Director, R.H.S. Gardens, Wisley, Ripley, Surrey, before Monday April 25th, since arrangements must soon be completed.

The Director of Wisley will be pleased to give further information if desired.

Birmingham Horticultural Society.

IN our issue of March 12th, it was stated that the Birmingham Botanical and Horticultural Society would be holding a three-day flower show on June 1st, 2nd and 3rd at the Botanical Gardens, Edgbaston. We understand, however, that the committee have, unfortunately, been obliged to postpone this show until the spring of next year.

Iris News Letter.

AT the meeting of the directors of the American Iris Society held in New York on December 11th, 1926, the medal of the Garden Club of America, which had been offered to the Society for the best seedling introduced in 1923, was officially awarded to Morning Splendor, a variety raised by J. Marion Shull of Washington, D.C., and no other awards were made for 1923 seedlings or for 1924 seedlings.

A appropriation was voted to the New York Botanical Garden for the purpose of instituting research work in iris breeding between species, this work to be carried out by students working under the direction of Dr. A. B. Stout. An appropriation was also made to the Brooklyn Botanical Garden to further the work in investigation of Japanese iris begun some years ago by Dr. George M. Reed.

It was announced that a new Iris Test Garden was being started at the Missouri Botanical Garden, where already about 900 varieties have been assembled. It is expected that special work on colour classification will be undertaken there in the future.

Announcement was also made of the special study of dwarf iris to be begun this year at the Cornell Test Garden under the direction of Dr. A. H. Wright.

The lantern slides owned by the Society are now in the custody of Mrs. Silas B. Water, Edgecliff Point, Walnut Hill, Cincinnati, Ohio, and they may be rented by garden clubs and other horticultural organisations.

It was voted to hold the annual meeting of the Society at the Brooklyn Botanic Garden on Friday, June 3rd, but subject to change according to season. After the business meeting the irises at the Brooklyn Botanic Garden will be inspected and the research work explained to the members.

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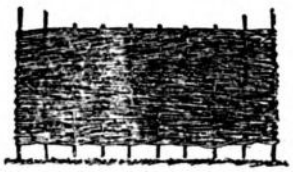

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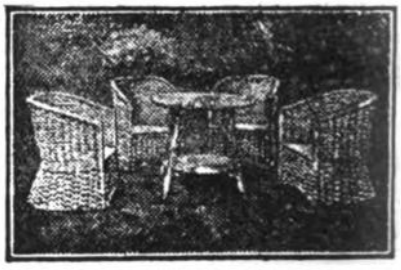

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The British Carnation Society.

THE Floral Committee of the British Carnation Society visited Messrs. A. F. Duttons Nursery at Iver, Bucks, on April 11th, to see the *Daily Mail* carnation, Mrs. A. J. Cobb, growing on the raiser's nursery, and granted the highest possible award, a first-class certificate (taking 88 points, three over the necessary number). In Mrs. A. J. Cobb we have a carnation of exceptional merit.

Lady Margaret Boscawen (Messrs. Lowe and Shawyer's, of Uxbridge), was also inspected, and received a first-class certificate (taking the minimum points, *i.e.*, 85 points).

Mrs. A. J. Cobb was also given an award of merit by the R.H.S. and B.C.S. on April 5th last; while W. H. Page, raised by Mr. W. H. Page, of Hampton, Middlesex, also received 80 points and award of merit.

The judging of the gardens at the Chelsea Show will take place in the following manner: The scale of points used for Formal Gardens in 1926 will be used in 1927 for Formal and Decorative Gardens, other than Rock Gardens, *i.e.*, Design, 60 points; Execution, 20 points; Plants, 20 points. In judging Rock Gardens and Formal and Decorative Gardens, special weight will be given to exhibits in which the design and plants are such as would be practical and permanent for ordinary gardens.

Catalogues Received.

Messrs. Storrie and Storrie, The Nurseries, Glencarse, Perthshire. A comprehensive catalogue of garden seeds and seedling plants. Many gardeners have no greenhouse in which to raise their summer bedding plants and will therefore be interested in this catalogue, which lists numerous young plants which can be planted directly into summer beds and borders.

Mr. Amos Perry of the Hardy Plant Farm, Enfield, is offering special selections of gladioli, montbretias, begonias, Japanese and European lilies.

Messrs. J. Cheal and Sons, Limited, The Nurseries, Crawley.—A catalogue of dahlias. A fine collection is listed, including Mignon, Charm and this firm's well known Star dahlias, all of which make excellent bedding plants, being compact in habit and flowering for many weeks.

Messrs. Carter Page and Co., Limited. 52, London Wall, London, E.C.—Vegetable and flower seeds, roses and garden sundries.

The Briton Ferry Chemical and Manure Company, Briton Ferry, South Wales, from whom every kind of fertiliser, insecticide fungicide, weed and worm killer can be purchased, have just issued a schedule of revised prices.

Messrs. Cooper, Taber and Co., 90, Southwark Street, London, S.E.1.—A wholesale catalogue of agricultural seeds.

Messrs. Maxwell and Beale, Broadstone, Dorset.—Two descriptive catalogues have been received from this Dorset firm. One includes alpine, rock garden and moraine plants, herbaceous perennials, and good collections of lavender and mesembryanthemums. The other is a carefully selected and extensive list of hardy heathers and other peat-loving subjects. Useful cultural directions on the making of a heath garden are given.

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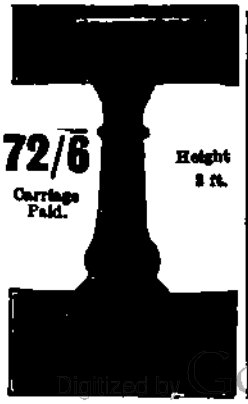

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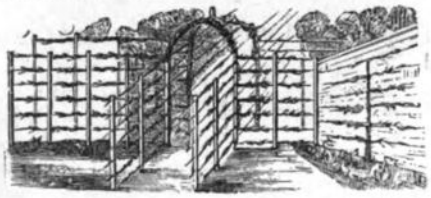

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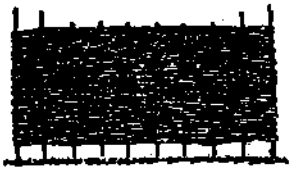

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SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Perennials for Planting Under Trees.

My garden is large, situated about three miles out of the well populated district of Leeds; the soil is heavy, but not clay. There are numerous large trees in the garden, and I should like some flowering plants to grow in profusion underneath them. There is a long wall also with trees planted near. I should like some climbing plant other than ivy to train along the walls. Could you kindly supply me with the informationn I am seeking?—J. M., Leeds.

One of the best plants for growing under trees is Hypericum calycinum (the Rose of Sharon), a low-growing shrub, only reaching from 6–9ins. high, and covered in summer with rich yellow blossoms. It is an admirable plant for a half-shady position under trees. Another low-growing shrub is Mahonia Aquifolium, also evergreen. Sarcococca ruscifolia is still another useful evergreen with white flowers. There are herbaceous plants in plenty, such as foxgloves, which do well in a fairly moist position under trees; Campanula persicifolia; phlox in variety, but these should not be planted too near the roots of the trees, as they are gross feeders; mulleins (verbascum); solidago (the golden rod); Meconopsis Wallichi (the blue poppy); Spiræas Aruncus and japonica (meadowsweet); Epilobium angustifolium (the willow herb) periwinkles (Vinca major and minor); forget-me-nots, such as Myosotis sylvatica; the winter aconite (Eranthis hyemalis); the Christmas and Lenten roses (helleborus). Bulbous plants, such as bluebells, Scilla nutans, grape hyacinths (muscari) and crocuses also might be tried. For the wall we suggest that you try Hydrangea petiolaris, which, although not evergreen, is an exceedingly decorative plant, and does well on a north wall; Cydonia japonica or Pyracantha Lalandi. We hope that this selection will be of use to you.

Pruning of Apples and Pears.

The extension shoots of some of my cordon pear and apple trees, and also the branches of bush apple trees, sometimes terminate in a fruit bud. I take it that this to a large extent prevents the shoot or branch from continuing its growth properly. Is it advisable to cut away fruit buds at the ends of branches in order to keep the branch growing? (Trees about four to five years old, planted eighteen months ago.)—J. A., Dorset.

Where a young shoot is short—about 7–10ins. in length—and bears a fruit bud at its extremity, such a shoot should be left uncut. By pruning such shoots indiscriminately much fruit blossom is cut away every year. Shoots about 2ft. or so in length may result from these in the future, but generally Nature puts matters right.

Camellias in the Open.

Will you kindly advise me if a camellia can be grown in the open in this country?—W. C., Norbury Hill.

On the whole, camellias can be successfully grown out of doors only in the mildest counties in the south, but we should suggest that you try Camellia japonica, which is the common species. It is not adapted for exposed

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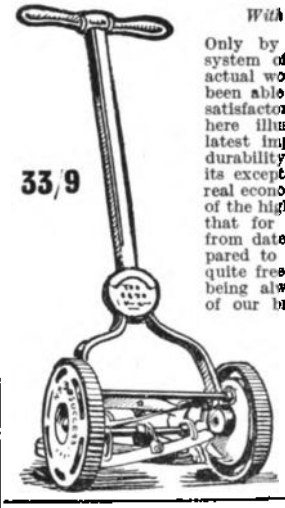

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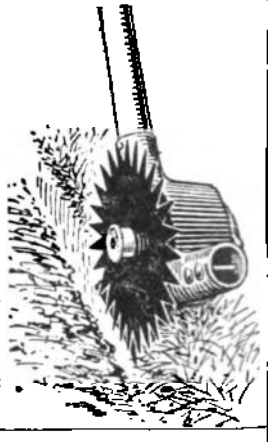

The "Star" has probably done more to abolish the tedious and tiring process of trimming lawn edges with hand shears than any other machine. It works at a much greater speed and the work is actually done better. The great advantage of this Clipper over others is that *it cuts both ways.*

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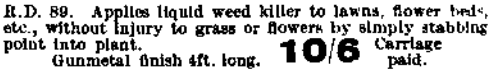

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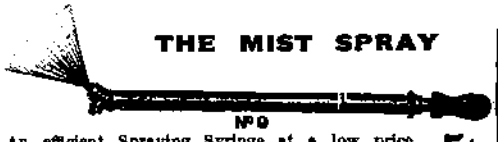

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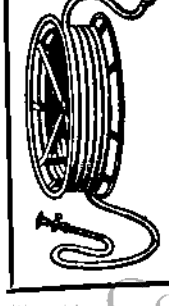

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saves time seed and seedlings.

80 lin. ft. Tent Shape or 30 lin. ft. Barn Shape **55/-** Wire Clips for holding single sheets of glass **3/6** per doz. Carriage Paid England and Wales, and Part Carriage elsewhere.

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and windy situations, but is perfectly hardy in London if sheltered from the north and east winds. It is certainly one of the most attractive of our evergreens, if it thrives. C. sasanqua is another good species, but, although it is as hardy as japonica, its flowers are liable to be injured by frost, as they appear in winter and early spring. C. Thae, the tea plant, is not so hardy as either of the two foregoing species. It really can only be grown out of doors in our south-western counties.

DAFFODILS IN SCOTLAND.

HIGHFIELD, Barrassie, a picturesque spot on the Ayrshire seaboard overlooking the Firth of Clyde with the Island of Arran as a background, was the Mecca of all lovers of daffodils on Saturday last, when Mr. J. Montgomery Crawford's bulb farm was open to the inspection of the public.

In the room used for bunching the flowers for market no fewer than 150 vases of daffodils were staged in exquisite taste. These represented modern varieties in the respective groups and included, among others, The Marquis, a large trumpet self which rivals King Alfred in size but not in refinement; a Highfield seedling, also of the King Alfred type, though lighter in colour; Mrs. Krelage, the most compact of the white group; Lord Roberts; and Treasure. In the Barrii and Leedsii sections the outstanding sorts were Bedouin, Dragon, Rhapsody, Lady Moore, Miss Willmott, Lady Mayoress, Kingdom, Bernardino and Pixie. Poetaz narcissus were a strong class, in which Orange Globe, Sovereign and Laurence Koster were the most prominent. Outside, the beds devoted to novelties naturally attracted most attention, especially the fifteen examples of new Poetaz, Double Sir Watkins, Larissa, Harpagon, Jonquils, Ornatus, and a choice selection of Leedsii.

CATALOGUES RECEIVED.

Messrs. Thomas Gunn, Limited, 30, Fore Street, London, E.C.2.—A very useful illustrated catalogue of garden tools and requisites. Lawn mowers of every type, garden hoses and sprayers, edging tools, garden seats and shelters, and numerous handy tools are included.

Donard Nursery Company, Newcastle, County Down.—This famous firm of bulb specialists have sent us their recent list of new and choice narcissi. Many fine and beautiful new varieties are included, and as the stocks of some of these varieties are limited it is advisable that buyers—particularly those overseas—should place their orders as early as possible.

Messrs. Reamsbottom and Co., Leinster Nurseries, West Drayton, Middlesex.—A catalogue of perennials suitable for present planting, vegetable and flower seeds, and this firm's well known St. Brigid anemones.

A list of gold medal daffodils, including many recent introductions, has been received from the bulb specialist, Mr. J. Lionel Richardson of Prospect Gardens, Waterford, Ireland.

Messrs. Robinson Brothers, Limited, West Bromwich.—A price list of Multiple Engineering Specialities, which includes sprayers, syringes, water-cans, bucket pumps for lime-washing, and Multiple powder machines.

An interesting catalogue, giving a list of rock plants which have been grown at Quarry Orchard, Cleare, Reigate, has been received. In this quarry rock garden, which is situated on the lower slopes of the North Downs, numerous uncommon plants are grown, and those who garden under similar conditions will find in this catalogue a great deal of information which should prove very useful.

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IT'S only the fact that we grow and deliver especially good plants that we wish to advertise. The brightness, the long-flowering life, the wonderful adaptability of Antirrhinums (Snapdragons) are known to everyone. Although our plants are properly grown, transplanted, well rooted, hardened off, in all ways particularly good, as becomes a firm which reckon to do things well, the price is only

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Carriage paid on orders value 5/- and over, otherwise 9d. extra.

And these are the varieties and colours :

Codsall Rose, delicate pink	**Dazzler,** orange scarlet
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Dainty, gold and terra cotta pink	**Melrose,** bright rose
Electra, salmon orange, white throat	**Rose Queen,** rose pink self
	White Queen, pure white
	Yellow King, rich yellow

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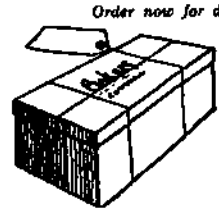

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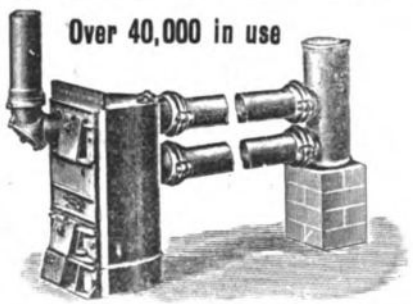

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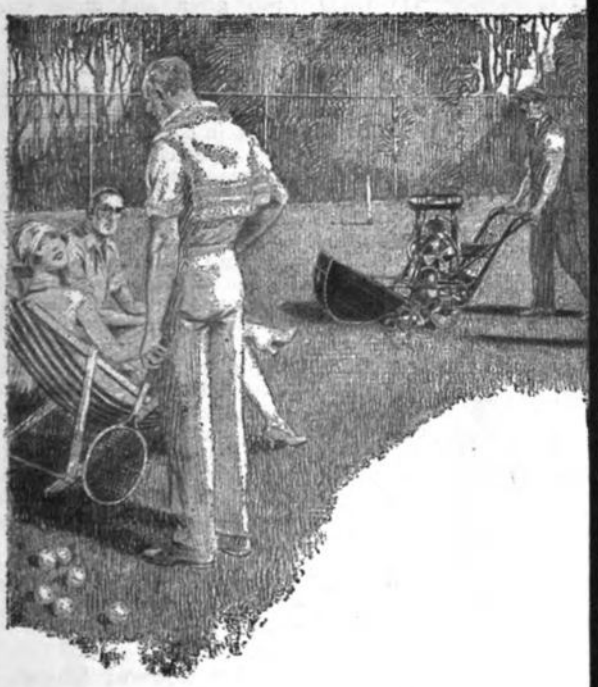

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SOCIETY NOTES

New Shrubs and Flowers at Vincent Square.

THERE were so many novelties submitted to the two sections of the Floral Committee of the Royal Horticultural Society on April 26th last that both had unusually long sittings. There was a considerable variety in the novelties and some of them were of distinct garden value, though a few were scarcely worthy of the award of merit they received and others were far from being new plants. Eritrichium nanum is quite a pretty little alpine producing very bright blue flowers much of the appearance of forget-me-nots. It has a wide distribution in the Alps and was introduced so long ago as 1869. The plant at the hall, shown by Mr. A. J. Sewell, Ronnely, Weybridge, was a tiny little thing, giving no indication of its real rock garden value.

Daphne retusa is another fairly old plant which received an award, but this is rarer, and the publicity is of value in drawing attention to the merits of this sturdy evergreen shrub. In some respects it is like the better known greenhouse Daphne odora, but differs in being of more stocky habit and in bearing smaller and more leathery leaves. The heads of flower are larger, glistening white on the insides and heavily stained with purple outsides. They have an agreeable perfume, suggestive of a good lilac. It was first found at a high altitude in western China in 1889 by Mr. A. E. Pratt, and is illustrated in the *Botanical Magazine*, Fig. 8430. This and Olearia Ramulosa were shown by Sir William Lawrence, Bt., Burford Lodge, Dorking. The olearia is a graceful little shrub producing an abundance of smallish, star-like white flowers and only a few quite tiny, leathery leaves.

Syringa Lamartine is a hybrid shown by the Director of Kew. It bears fairly large trusses of single lilac-coloured flowers of fair fragrance, but, from a garden point of view, it is not superior to many varieties listed by nurserymen.

Two rhododendrons, shown by Lieutenant-Colonel Messel of Nymans, Hayward's Heath, will appeal to those who can grow the more tender sorts but are not for the average midland or the northern gardener. Both bear goodly trusses of large, widely expanded flowers. Linley has beautiful soft pink flowers; while Oliver bears flowers which are a dark shining pink on the outsides and paler within. Cydonia Wisley Salmon is a very free flowering seedling. The flowers open a bright red colour which changes to salmon. It was shown from the Society's gardens.

Three new hydrangeas were of particular interest, as they were from a batch of the first seedling hydrangeas ever raised in this country. In the hall Mr. H. J. Jones had an interesting group of seedlings which showed a good diversity of form and colouring. The three which received awards were H. B. May, J. D. McLeod and Lord Lambourne. All are of pink shades of colour, and H. B. May is lightly edged with pale mauve.

The golden arum of North America, Lysichitum camschatcense, was shown by Messrs. M. Prichard and Sons, and the rich yellow hooded spathes were much admired. This handsome bog plant can be grown out of doors in many places, but is not quite hardy in the north. Primula ninguida of the nivalis series is a beautiful species. The entire, ovate leaves are occasionally powdered, but the flower buds are very mealy. The flowers are about an inch across, of bright purple colour, darker towards the centre, and have a bright golden eye. Anemone pavoniana High Hall strain has a general likeness to Anemone fulgens, but the flowers are larger and are in beautiful shades of salmon, rose and scarlet.

Several very good narcissi either received direct awards as show flowers or were selected for trial at Wisley. Mayflower, a handsome Barrii, was shown by Mr. F. A. Secrett; Snowsprite, shown by Messrs. Barr and Sons, is a beautiful, large, white, semi-double flower with a touch of yellow in the centre; Venetia, shown by Mr. W. B. Cranfield, is another good, nearly double, white narcissus; Nanette, another white, is of similar type, but the exhibitor's name was not given. Papyrus, a splendid Poet's Narcissus, is one of the very many valuable seedlings from Mr. F. A. Secrett.

The Glasgow and West of Scotland Horticultural Society.

MR. E. H. M. COX'S description of his journeyings in Upper Burma in company with the late Mr. Reginald Farrer provided an interesting variation to the subjects usually discussed at the monthly meetings of the Glasgow and West of Scotland Horticultural Society. In emphasising the importance of hardiness connected with the introduction of new plants into this country, the lecturer explained that in several instances the home-raised seeds were more satisfactory in that respect than those brought from Burma, and as this was a particular characteristic of the rhododendrons tested in average gardens he looked forward to the time when many new rhododendrons and other rare plants would be more widely cultivated in this country.

Detailing some of the subjects obtained in their travels, Mr. Cox mentioned a peach tree that flowers and ripens in situations that never gets more than four hours' sunshine. The fruits ripen green and make extraordinarily good eating. One specimen resembles a nectarine, while the other is a clingstone, and both species were being raised in England for hybridising purposes. What was described as the finest primula in the world was sky blue in colour with an orange eye, and in this connection it was stated that a seedling raised three years ago in Edinburgh Botanic Gardens had produced one flower this year. As an indication of the prolific vegetation of the country Mr. Cox informed the audience that in an area covering thirty-five miles in length and six miles in breadth they discovered forty-nine different rhododendrons, twenty-three primulas and eleven magnolias.

Sir John Stirling Maxwell, in the course of a neat little speech, said it was a great privilege to have an expedition of that kind described at first hand; and he also commented on the necessity of taking care of the first generation of plants in order to establish a fine and hardy race. He had been trying some of the seeds in his garden at Pollok, and as it was his wish to distribute them as widely as possible, he announced that he would be very glad to hear from members who had facilities to grow the plants, as there were enough for everybody.

"The Garden" Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xiv, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following publication.

The Blackpool Flower Show.

EXCELLENT progress is being made in the arrangements for the new National Flower Show which is being organised to be held in the New Stanley Park, Blackpool, on Wednesday, Thursday and Friday, July 20th, 21st and 22nd, 1927.

The live interest in this event, which has been shown through the enormous demand for the schedule from all parts of the kingdom, is an augury for the success of this great show, and as the principal horticultural exhibitors are now entering, the prospect of a completely popular and satisfactory flower show on a national scale seems to be assured.

Upwards of forty valuable trophies and a total of £3,500 in value of these with the many gold, silver and bronze medals and cash prizes proves that the committee are determined to induce the best entries for the show, while the scope covered by the 324 classes further emphasises the endeavour to meet the need of every class of exhibitor.

There is no doubt that Blackpool's first annual flower show will help to maintain the reputation which the resort has justly earned for carrying out its many projects on a big and successful scale.

Society Meetings.

May 7th.—Blackburn Horticultural Society meets; National Auricula (Northern Section) Show at Manchester.

May 9th.—United Horticultural Benefit and Provident Society meets.

May 10th.—Royal Horticultural Society's Show (Lecture), (two days); Horticultural Club Dinner and Lecture; National Tulip Society's Exhibition (two days, prov.); Jersey Gardeners' Society meets.

May 11th.—Sheffield Chrysanthemum Society meets; East Anglian Horticultural Club Exhibition.

May 18th.—Royal Gardeners' Orphan Fund meets.

May 20th.—Manchester and North of England Orchid Society meets.

May 21st.—Wakefield and North of England Tulip Society Exhibition (four days).

May 23rd.—Harrogate Horticultural Association meets.

May 25th, 26th and 27th.—Royal Horticultural Society's Chelsea Show, private view.

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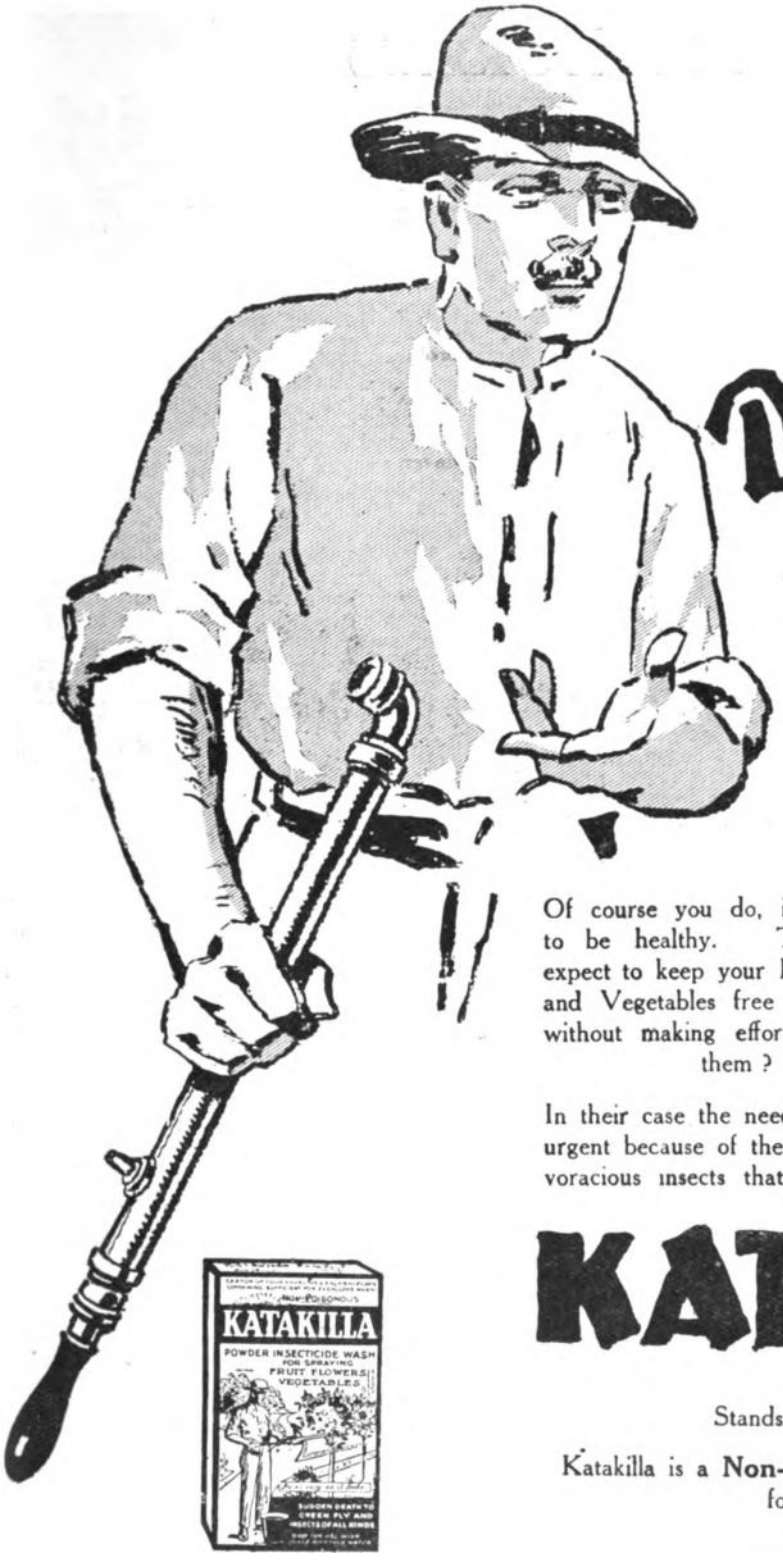

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We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Pruning of Flowering Shrubs.

I planted the following shrubs in my garden last autumn. Would you be good enough to tell me which, if any, require any regular pruning. Andromeda floribunda, Arbutus Unedo, Cornus elegantissima, Daphne Mezereum rubrum, Hammamelis virginica, Liriodendron tulipiferum, Magnolia obovata purpurea, Leycesteria formosa (a bamboo-like species), Pyrus japonica, Spirea Lindleyana, Cotoneaster frigida. I have omitted those dealt with in your recent article on shrub pruning.—F. W., West Bridgford.

None of the shrubs you mention—with the exception of Spiræa Lindleyana—requires definite pruning. Just cut out any old branch or very weak twigs if crowded, and shorten long branches tending to spoil the shape of the bushes. With regard to Spiræa Lindleyana, shorten last year's growths now to within an inch or so of the old wood. Allow a foot or more, if it is desired to increase the size of the bush.

Perennials for a Rockery Border.

Would you advise me as to suitable perennials for a rockery border. It has an ordinary bed of garden soil above and the border is about 10ins. to 12ins. in width. Also, I have a small syringa tree planted in the garden, in the middle of a bed and, unfortunately, I cannot remove it. Nothing will grow either side of it, although the soil is good. Can you suggest any plants likely to grow. The tree has been well pruned either side.—F. V., Crouch End, N.8.

Some suitable plants for a rockery border are: Aubrietias in variety, Sedum acre aureum and S. spathulifolium, Saxifraga hypnoides, Campanula carpatica, armeria, Alyssum saxatile, Iberis sempervirens, Gypsophila repens, Phlox subulata. Under the border beside the syringa tree, Funkia Sieboldii (the plantain lily) and Megasea cordifolia Brilliant are both likely to succeed. One of these plants should be planted round the edge of the border. A light mulch should be given them during early summer.

Saving Seed of Double Begonias.

I have a fairly good collection of double begonias, mostly named varieties and would like to seed them this year again. In the past I have had trouble in procuring pollen from male flowers. I understand plants must be starved. Should the starving process be of a temporary character? Can I starve a large plant in full growth with success, or must I pot on from beginning in inferior compost? Is it usual and advisable when a really good thing is found in a bed of seedlings to pot it up and take it into house? If seed is sown in mid-January and pricked off about the end of February, 1in. apart, when, under genial conditions, should the leaves be touching each other.—F. G., Cardiff.

The begonia plants should not receive any sudden check to growth, or seed pods forming may fall off prematurely. The plants should be grown on from the first in a moderately rich soil. If the plant can be lifted and potted without any serious check, and afterwards kept under glass, there would not be any danger of unsuitable crossing with inferior sorts. A better plan is to place a hand light over the plant. If the seedlings are healthy the largest leaves of each should almost touch each other by this date. Seedlings grow rapidly from now onwards.

Magnolia grandiflora and Its Requirements.

I am about to plant a Magnolia grandiflora against a wall facing west, with slight protection from the north by a projecting chimney. Would you be so kind as to advise me as to the soil most suitable, and if manure should be used? The soil here is loam over chalk. Would it need a great depth of soil? I am very keen on trying to grow it, but the situation is high and rather windy, but very sunny. Would that be detrimental?—G. J., Coulsdon.

Magnolia grandiflora will do quite well in a good deep soil of sandy loam. We should think that it would do fairly well in the soil which you have, provided the chalk is broken to allow the roots to penetrate to a fair depth. After planting, a surface mulch of strawy manure round the base of the plant might be beneficial, but otherwise it does not require any special treatment. It very seldom suffers from cold and makes an admirable wall tree. Once it reaches a fair height, its stout branches generally require some support, otherwise they might be broken by severe gales. On the whole it is a slow grower.

Present Treatment of Border Chrysanthemums.

I have taken a good batch of chrysanthemum cuttings, and am thinking of putting a few of the old plants in the garden for the summer, and hope to pot up a few of the best at the end of the summer, to put inside again for cut flowers. Will it be safe to put them outside any time now, providing I cover them up at nights to protect them from frost?—W. B., Birmingham.

The chrysanthemums will be better outside than under glass or any other protection. Do not stop the shoots after the end of June, and, to be successful in the lifting and potting of the plants, wait until the flower buds begin to form before lifting. Spray the foliage daily for a week afterwards, in addition to very careful watering.

Transplanting Evergreens.

A couple of months ago I planted a hedge of Lonicera nitida, the leading shoots of which, and also a number of the side ones, have turned brown and shed their leaves. Is this to be expected, or is some treatment required, such as digging in some hop manure? Practically the same remarks apply to a number of ramblers and climbing teas planted at the same time, and I should much esteem your advice in regard to both.—W. L., Ealing.

When evergreens are transplanted, it is usually the case that the leaves turn brown for a short period, until the plants become established. Once they are established, however, the foliage generally reverts to its natural colour. It is generally advisable after transplanting evergreens to snip off one or two shoots at the base of the stem, to avoid "browning" as far as possible. We should suggest that you apply a light surface mulch of manure at the roots of the shrubs, being careful not to pack the manure too tightly round them. Some hop manure, such as you suggest, would do very well. We hope that with this treatment your shrubs will come round.

How to Prune Forsythias.

I shall be glad if you will advise me on the pruning of Forsythias suspensa and vitellina. The former I pruned last year after flowering, with excellent results; but the latter, a young plant about two years old, not a flower, although covered with young leaves. Do I prune all the branches right back?—E. D., Forest Hill.

Forsythia suspensa flowers profusely when the young shoots are pruned back in spring immediately after blooming. At the same time, the variety vitellina should only have the very long, vigorous young shoots shortened to about half their length. Short, twiggy shoots should be left unpruned

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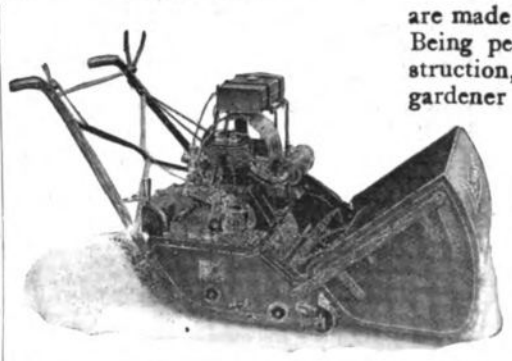

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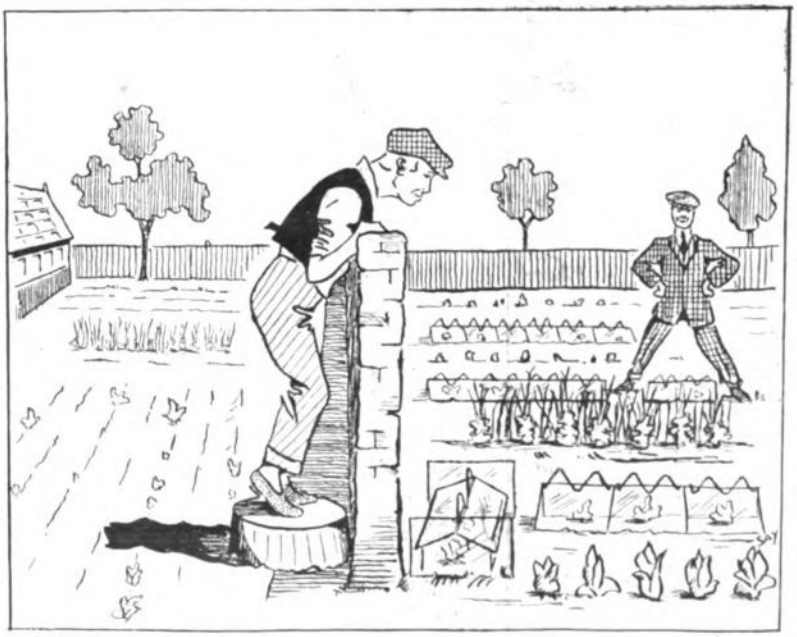

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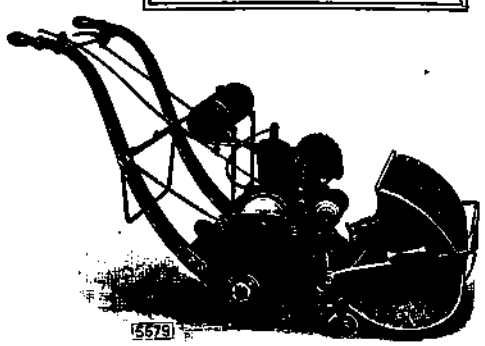

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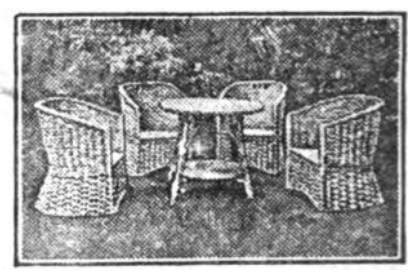

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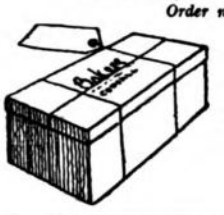

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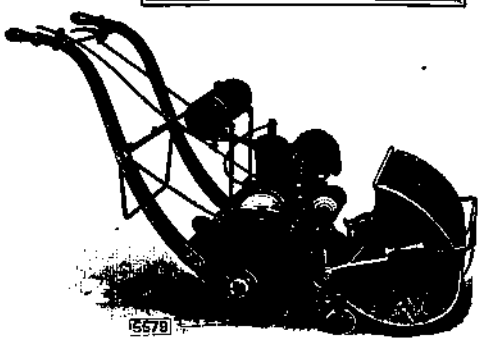

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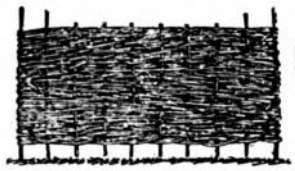

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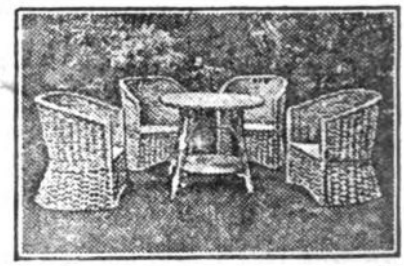

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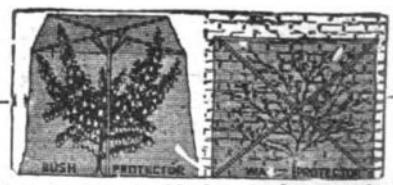

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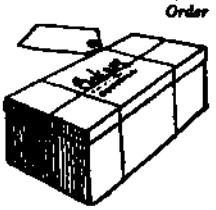

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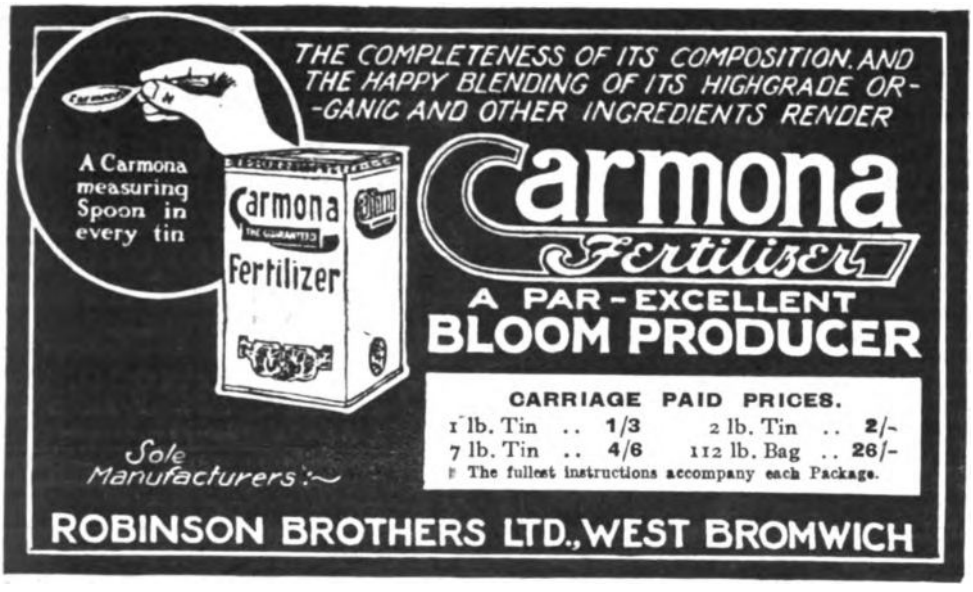

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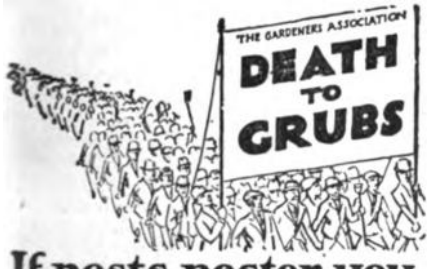

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All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Treatment of a Newly Planted Hedge of Cupressus macrocarpa.

I have planted, February last, Cupressus macrocarpa, 4ft. intervals. I wish to make a wind screen about 12ft. high and 2ft. thick, should I follow advice given to J. L., Keighly, in March 26th issue—cutting back to one-third the side shoots. The soil is sandy loam. Would a mulch of cow manure be beneficial or do you recommend a fertiliser, as I am anxious to obtain a good hedge as soon as possible.—J. T., Paignton.

In addition to cutting back the side shoots of Cupressus macrocarpa, as advised, reduce the height by about one-third to thicken up the base still more. It is easy to get the height, having obtained a solid foundation. Give the mulch you suggest if it is old decayed cow manure, otherwise water with cow manure. Place three or four forkfuls of the manuré in the garden water barrel, stir thoroughly and then apply to hedge, sediment as well being tipped out on to the ground. A mulch of new cow manure is not only too strong, but would make the surface very cold and close for the roots.

Culture of Auriculas.

For some years I have been growing some good varieties of auriculas in pots, but up till now I have not been able to grow them satisfactorily. That may have been due, to some extent, to lack of good housing accommodation. Recently, however, I have had them placed in a brick and cement frame, the floor level of which stands fully 4ft. above the level of the ground on the north side of the house. As this frame has a cement floor, would the auricula plants benefit if I plunged them in coconut fibre refuse during the summer months?—D. C., Stirling.

Plunging the auricula plants in coconut fibre to the rims of the pots will do good if the drainage is kept free. The plants should be kept about 18ins. from the glass. Repot the plants soon after they have flowered, and at that time examine their roots for aphis, Trama auriculæ, and if any are found apply a remedial measure—methylated spirit applied with a soft brush will kill the pests. Avoid cold draughts directly on the plants. An article on "Auriculas and Their Uses" appeared in THE GARDEN, January 2nd, 1926, page 4, containing cultural hints, which we think would be of help to you in the growing of these plants.

How to Propagate Privet.

Could you give me full directions of the best means of increasing golden privet? Also oval leaf green privet. I have a cold greenhouse, if it would be of any use.—J. B., Lincoln.

Cuttings of both the golden-leaved and the oval green-leaved privet should be inserted in a border outside in October or November. They should be about 1ft. long and taken from the vigorous young growths of the year. Cuttings made of half-ripe shoots 4–6ins. long will root if inserted under a bell-glass in a greenhouse or in a cold frame at the end of July or during August.

Climbers for a North Wall.

I shall be much obliged if you will advise me on the subject of suitable quick-growing climbers for a north wall, to be grown in heavy clay soil. Would a yellow clematis be suitable? Also, what would you suggest to grow under roses and on a bulb bed to keep it tidy in late summer?—T. H., Denbigh.

Jasminum nudiflorum, Hydrangea scandens, Rose Gloire de Dijon or Clematis Jackmanii would all be suitable for a north wall. As the soil is heavy clay ground, dig in plenty of old brick and mortar rubble from a builder's yard before planting, raising the border a little above the normal ground level. Bedding violas would be suitable to grow under roses, but they should not be close to the stems. Mignonette or sweet alyssum would furnish the bulb bed quite suitably in late summer.

"The Garden" Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xiv, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following publication.

Pruning Flowering Shrubs.

Would you advise me as to the correct time to prune Buddleia globosa, broom in variety, philadelphus, and berberis in variety?—W. O., Walmley.

The method and time of pruning the four shrubs you mention are as follows: There is no definite system of pruning required for Buddleia globosa. After flowering, shorten long shoots if any are spoiling the shape of the bush or growing into neighbouring shrubs. Should the bushes become tall and leggy or much too large for the position, early in April cut down all the main branches to within 2ft. to 3ft. of the ground. This means sacrificing a season's flowering.

Brooms should be freely topped during the first two or three years' of growth, to form bushy plants, as they will not develop new growths if cut back hard to the old stems. A little shortening of the twiggy branches can be done immediately after flowering.

If there are any old branches crowding the centres of the philadelphus bushes cut one or two of these right out to the ground after flowering. Also cut out old flowering growths back to where there are healthy new shoots on the branches. Cut out weakly twigs where crowded.

Deciduous barberries, cultivated for their attractive fruits, may have a few of the oldest stems cut out to the ground in January or February, when the branches are very crowded. If required, shorten growths of Berberis Darwinii and B. stenophylla immediately after flowering, but nothing definite in the way of pruning is required other than to keep the bushes shapely.

Plants for an Unheated Greenhouse.

I have just been given the use of a small greenhouse. It must, unfortunately, remain absolutely unheated: it does, however, get the benefit of nearly every hour of sunshine. Will you please give me a list of plants I can raise from seed, to give the longest possible successive display of bloom this year, *and also a list of some for next year, when I shall naturally, have an earlier start than I have this and shall want, if possible, something in bloom very early until very late.—O. O., Littlehampton.*

You could furnish your greenhouse during the summer with pelargoniums, both show and zonal varieties; fuchsias, petunias, begonias (both tuberous and fibrous rooted sorts), and to make a start you would have to purchase such plants. There are many plants that you can raise from seed, but they should have been sown at least eight weeks ago. There are, however, many subjects which, if they are sown now, will give a good display towards the end of the summer. They include such things as schizanthus, of which there are many beautiful varieties. Petunias may also be sown now, although you would gain much time if you purchased young plants. Lobelia tenuior, Statice Suworowii, Helipterum Manglesii and many other half-hardy annuals may be used for this purpose. For flowering next year, you should sow now Primula obconica—which flowers during the autumn and winter—P. sinensis varieties (Chinese primulas), the stellata varieties being the most useful. Primula kewensis is also very useful, likewise P. verticillata. Seed of cinerarias should be sown during June, and calceolarias and cyclamen during July. For winter and spring flowering we recommend some of the many bulbous plants, such as narcissi, tulips, freesias, lachenalias, and also several species of bulbous irises. Some of our hardy ferns are also very useful for the unheated greenhouse. Without knowing the size of your house and your personal tastes as regards the plants you wish to grow, it is not easy to advise you, but if you follow the pages of THE GARDEN closely from week to week you should glean many valuable hints.

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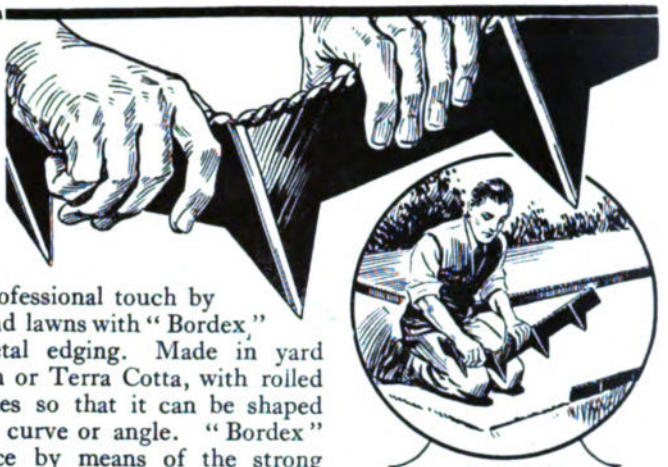

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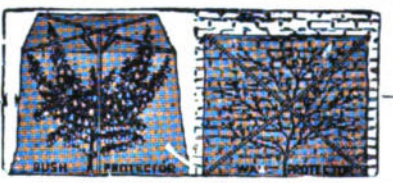

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THE EDITOR'S TABLE

WE have received from Mrs. Barnard, Duncote Hall, Worcester, a few polyanthus primroses of a special strain, which is the outcome of many years' selection. The flowers are of a particularly good dark crimson colour. The petals are of a fine velvety texture and do not show that trace of white which is to be found in many of the coloured polyanthuses. In a few flowers there is a shading of colour which approximates to a "shot" effect, which is most attractive and which with continued selection may become a fixed character. The small eye is also a feature of the strain. The flowers are well bunched and strong of stem. A few anemone blooms of particularly good colouring in blues, rose pinks and purples were received and these also appear to be of a good strain. The flowers are large and well formed; while the velvety texture of the petals and the absence of a white inner ring are decided improvements on many of the old-fashioned types.

SOCIETY NOTES

Croydon Horticultural Society.

THE Croydon Horticultural Society is to be congratulated on the 1927 issue of its Show Handbook. It is packed full of information needful for local gardeners, and should induce many to enter for the show, to be held on July 6th, 1927, in the Park Hill Recreation Ground. Valuable trophies and cups are to be won, besides medals and money prizes. Professional and amateur classes are catered for, and there are sections for roses, sweet peas, cut flowers, table decorations, plants, fruit and vegetables. There is a local gardens competition, and prize winners will compete in the All London Gardens Championship, promoted by the *Daily Express* in conjunction with the London Gardens Guild. The local secretary is Mr. W. E. Bream, 2, Courtney Road, Croydon.

National Union of Allotment Holders, Limited.

ACTIVE preparations are going forward for the annual conference of the National Union of Allotment Holders, which is to be held at Bridgwater, Somerset, on June 18th. Delegates of allotment societies in all parts of the country will attend, and the Bridgwater and District Allotment Holders' Association, in co-operation with the Mayor, Aldermen and Council of Bridgwater, are making preparations to welcome them. These include a complimentary dinner, at which the Mayor will preside, on June 17th, and a concert on June 18th. A number of very important matters affecting allotment holders throughout the countryand the future of the allotmentt movement are to be considered at this "Plotholders' Parliament," at which it is hoped that a representative of the Government may be able to attend. The annual report of the Union, to be issued shortly will show that there are over 750 allotment societies affiliated to the Union, and that in the first three months of 1927 the Union increased its membership by over 5,000.

Southern Railway Central Garden Plots Committee.

THE above committee desire to announce the following special competitions to be held in London, and open to all members of the Company's staff at all stations:

(1) *Team Competition*, Wednesday, August 31st.—Between teams of five men for the best collection of twelve vegetables for the Challenge Shield and money prizes offered by the Directors.

(2) *Potato Competition*, Wednesday, October 5th.—No entry fees. All exhibits will be sent, after the Show, to the Southern Railway

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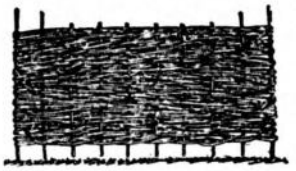

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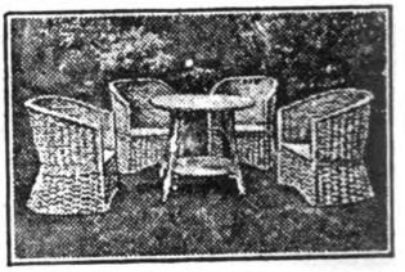

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Full particulars will be given on request, by the Hon. Secretary, Mr. F. Gilbert, General Manager's Office, Waterloo Station, S.E.1.

The British Carnation Society.

THE British Carnation Society are holding their thirty-third Show in conjunction with the Fourth Annual Southport Great Flower Show, on August 24th, 25th and 26th next. The schedule for this show is now issued and includes upwards of fifty classes, the majority of which are open to amateurs. The prize list is an extensive one and includes the award of the *Daily Mail* £100 Gold Challenge Cup for the best scented carnation. An interesting feature of the Society's activities is the holding of an essay competition among its members, on the subject of "My Favourite Carnations—and Why!" Handsome prizes are offered to the successful competitors, and the prize winning essays will be published in the Society's Year Book. Full particulars can be obtained from the Hon. Secretary, Mr. P. F. Bunyard, 57, Kidderminster Road, Croydon.

New Carnations.

Registered by the British Carnation Society.

Evelyn Townley.—Very bright cerise. Raised by Mr. Chetwynd-Stapylton, Headlands, Great Berkhamsted.

Mrs. J. L. Mills.—Rosy salmon pink. Raised by Mr. J. L. Mills, Tanson Court, Peterborough.

Clarice Page.—Scarlet. Raised by Mr. W. H. Page, Tangley Nursery, Hampton.

Wivelsfield Blush.—White overlaid pink. *Fragrant Lady.*—White overlaid claret. *Cottlea Pink.*—Mauve pink. *Edward Allwood Improved.*—Scarlet. *Wivelsfield Purple.*—Purple. *Clayton Cerise.*—Cerise. *Clayton Pink.*—Salmon pink. These seven were raised by Messrs. Allwood Brothers, Wivelsfield Nurseries, Hayward's Heath.

Gem.—Salmon pink overlaid pink. Raised by Mr. E. Martin Smith, Codicote Lodge, Welwyn.

Magnum.—Light salmon pink. *Phœnix.*—red. These two were raised by Mr. H. T. Mason, Hampton Hill.

Mrs. A. Swann.—Apricot ground flushed and flaked crimson. Raised by Mr. A. Swann, Colwood Gardens, Haywards Heath.

Ileriskit.—Salmon pink. Raised by Mr. Walter Hemus Recotts, Hampton.

Sunny.—Orange slightly marked pink. *Spes.*—Scarlet cerise. *Babs.*—Light rose pink. These three were raised by Messrs. C. Engelmann, Limited, Saffron Walden.

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A reliable cycle can now be obtained by any of our readers, as the Mead Cycle Company, Inc., of Birmingham are willing to supply a high-grade cycle to anyone for 2s. 6d. down. The buyer pays the balance in small monthly instalments while riding the machine for business or pleasure purposes. Intending purchasers should write for the Company's latest catalogue, which gives interesting descriptions and beautifully coloured illustrations of twenty-eight new season's models.

Correction.

In "Suggestions for Summer Bedding," page 274 of THE GARDEN, April 30th, Omphalodes *verna* is a slip of the pen, for which the writer apologises. It should read Omphalodes *linifolia*.

NARCISSUS NANETTE, which was recently selected for trial at Wisley by the Daffodil and Tulip Committee of the R.H.S., was submitted by Mr. H. G. Longford, bulb grower, Abingdon, who holds the stock of this variety.

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Crimson King, rich dark crimson
Dainty, gold and terra cotta pink
Electra, salmon orange, white throat
Dazzler, orange scarlet
Firefly, scarlet
Glow, orange apricot
Melrose, bright rose
Rose Queen, rose pink self
White Queen, pure white
Yellow King, rich yellow
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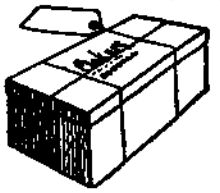
Order now.

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All communications should be addressed to the Service Department, THE GARDEN, 20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Water Lilies for a Small Pond.

Would you be good enough to give me some hints regarding a lily pond. What lilies you recommend and would gold fish be sufficient to keep the pool clean? I thought of planting lilies in a basket or would a box be better, more frost proof? Should be glad if you would help me in this matter.—M. R., Hambledon.

The gold fish may not keep the water quite clear unless there is a fairly good stream of fresh water entering regularly. Water snails would do much in the way of cleansing the water. A single water lily would require, at least, a square yard of surface. This should guide you as to the number of plants to put in. Although the lilies may be planted in baskets, the soil contained in the latter is not sufficient to maintain them. Each plant requires three barrowloads of fibrous turf and a small proportion of half rotted manure. The following varieties would all be suitable to plant in May: Nymphæa Gladstoniana, large white; N. Leydekeri purpurata, rosy crimson; N. Lucida, rosy vermilion, and Sulphurea, yellow.

Repotting Aspidistras.

May I have your advice on the following. I have repotted my aspidistras with potting soil from a florists (after washing pots and putting crocks at the bottom for drainage). Now there always appears a white and green mould on the surface; I have tried taking it off and putting some sand on, but that is no use. I have grown aspidistras for years, but have never had this experience. My method of watering, when dry, is to soak the plants in water for a quarter of an hour and leave to drain.—B. C., Palmers Green.

No doubt the soil in which your aspidistras are planted is sour and needs sweetening. If it appears to be quite unsuitable for the plants to root in, turn out the aspidistras and procure some good, sweet fibrous loam, two-thirds, and half decayed leaf-mould, one-third. Be careful to provide sufficient drainage. Sand on the surface would not help matters, but some old mortar, crumbled, might do a little good.

Perennials for a North Border.

I have a north border, 40ft. long by 2ft. wide, heavy soil, clay subsoil. Can you suggest some flowers that would make a good show in that position? I should prefer fairly tall plants to cover up the fence.—C. P., Barnet.

The following would be suitable plants for your north border: Anemone japonica; campanulas, columbines, delphiniums, spiræas, hemerocallis and Michaelmas daisies, also a few September-flowering chrysanthemums. Several clumps of sweet peas would answer your purpose too.

Treatment of a New Garden.

I am about to take over a new house and the rear garden is land untouched, but, sad to say, entirely clay, with no top soil. Not only will it be too late to plant in May until the land is dealt with, but it will need first, I suppose, much preparation. Will you kindly advise me what to do with the soil. My thought is to attend to this during the spring and summer, meanwhile planning the design of the garden, and then plant in the autumn. The ground is 100ft. wide, 80ft. long on left side, narrowing to 40ft. on right side. Looking out upon the garden from the house we face the south-west. The garden is somewhat overlooked at the back, as the gardens beyond are short. I should like trees as a screen that will not spread out too much. Would poplars be suitable?—C. F., Thornton Heath.

What you propose to do is the right way to deal with the ground. When the autumn comes we think it will be advisable to trench up the soil roughly: scatter two pecks of lime per square rod on the surface and leave it to weather during next winter. In the spring the soil will "work" more kindly and crops planted then will do better than any planted this autumn—except such as fruit trees. Poplars would not answer as a screen; they are bare of leaves in the winter and their roots would soon occupy two-thirds of the soil of the garden. We suggest that you procure small plants of Cupressus macrocarpa, planting them about 3ft. apart. These can be trimmed and will form a fine screen. They should be planted from pots.

Present Treatment of Oleanders.

I shall be obliged if you will inform me what I should do with two oleanders I have had given me; they are about 4ft. high in 12in. pots, are very straggly and did not flower well last autumn. Should they be pruned now? I am putting them into large tubs. Is there any particular fertiliser to be used or would hop manure do any good? I kept them in a cold greenhouse in the winter. As I have seen them abroad growing in dry river beds, I suppose they may be kept fairly damp?—L. F., Lymington.

Nerium oleanders should not be pruned until after flowering. Hop manure, added to the potting compost would be very beneficial. They should be kept fairly damp in the summer and rather dry in the winter. Flower spikes grow in the ends of the strongest shoots. New growths which push just below the flowers should be picked out, as if they are allowed to develop they spoil the flowers.

Plants for a Living-Room.

Will you kindly give me the names of half a dozen plants suitable for growing in a living-room, say from May 1st through the summer months. Flowering and non-flowering, aspidistras excluded. I am desirous of growing a few in a window with a north aspect, and there is one gas jet at a distance of 7½ft., which would, of course, be little used during the period mentioned above. Every care would be taken to secure the best results.—H. B., Lee, S.E.13.

For a sunny position zonal pelargoniums and double-flowered petunias would be very suitable; for more shady parts, fuchsias, tuberous begonias and ferns. Anthericum variegatum forms a very effective foliage plant and is easily managed. We advise you to start at once with well rooted little specimens in pots.

Rock Plants of Easy Culture.

I have just made a small rockery and would be obliged if you would give me names of suitable plants to grow in it. I would prefer plants of a trailing or carpeting nature, of quick growth and of easy culture. The soil is rather heavy and the aspect is south-west.—F. R., Stamford Hill.

We should suggest that you grow the following plants, all of which would be suitable for your purpose: Aubrietias, Alyssum saxatile, Achillea umbellata, Androsace sarmentosa, Campanula garganica, C. Portenschlagiana, Dianthus plumarius, Erodium corsicum, Gentiana acaulis, Saxifraga lingulata, S. cochlearis, S. hypnoides, Acæna microphylla, Cerastium Biebersteinii, Gypsophila repens, Iberis sempervirens, Lithospermum prostratum, Phlox subulata varieties, Saponaria ocymoides, Sedum spurium.

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Cottage Maid, pale coral pink, white throat
Electra, salmon, maize, and orange
Fascination, deep flesh-pink; A.M., R.H.S.
Golden Monarch (new), golden yellow, of splendid habit
Madonna (new), fine large-flowered white
Mauve Beauty, lovely rosy-mauve
Melrose, rich coral-pink
Scarlet King, brilliant scarlet
Vesuvius, vivid flame, very striking

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Treatment of Daffodils which have not Flowered.

I have in my garden a large number o daffodil and narcissus bulbs which flowered well last year (in most cases their first or second year), but this year bear no flowers at all. Is there any means by which they can be made to flower next year or are they no further use, but should be discarded? I may mention that they are left in the ground all the year Their situation is sunny and the earth light, inclined to be sandy.—A. D., Merton Park.

We advise you not to move the narcissus bulbs now. When the tops have matured naturally, lift and grade the bulbs. Replant the largest bulbs by themselves in some duly prepared, deeply dug ground. The small ones replant, also by themselves. In both cases they should be replanted in new quarters. They will probably do well next year. The month in which to lift and replant is early July.

Azaleas after Flowering.

I have an azalea which is at present one mass of splendid bloom, with a great number of buds to come out. It is a pale pink, but one bunch of bloom is deep pink. It is about 16ins. high in a pot about 8ins. high. I have it indoors, and I am most anxious to keep it alive. Can you tell me what precautions I should take? Is it necessary to manure it or cut off the blooms as they die? Any information regarding the culture of this would be appreciated. Also, why are there two distinct colours on one plant?—E. S., Highgate.

We advise you to pick off all the old flowers as they fade, including the stalks. If the pot is small for the size of the plant, move into a size larger after flowering, using a peaty compost. Azaleas do not require much manure; in fact, strong manure is harmful. The best stimulants are soot water and a little weak guano. Some varieties of azaleas are the result of sports. Yours is evidently a sport, and one of the branches or sprays has reverted or sported back. This is not at all uncommon in azaleas.

Pruning a Myrtle Hedge.

I have charge of a myrtle hedge which is about 9ft. high, straggling in growth and bare at the base. If pruned hard, say to 3ft., would it break well and furnish the lower part? When should the operation be performed, and what after-treatment would be required so that it will blossom without getting too high?—A. P., Instow.

We advise you to cut down now to within 3ft. to 4ft. of the ground the myrtle hedge. Fork over and clean the surface soil, take away all rubbish and poor soil, giving a top dressing of rich fibrous loam and a little very old decayed manure or bone meal. Dress all the cut stems with tar to prevent decay and attacks by fungi.

Pruning of Forsythias.

I have two forsythias. One variety is F. suspensa, which is a large bush. It is in a border where it gets a considerable amount of sun and in rather heavy soil. It required thinning three years ago and has been regularly pruned after the flowering period. I do not understand why it flowers slightly and so late. The other variety is, I believe, F. intermedia. It needs very little pruning, but here, again, it flowers very sparingly. I see other forsythias in full flower in my neighbourhood; they seem to make much less growth and they flower profusely. Is it possible that this variety is F. viridissima? Can you advise me as to treatment and time of planting?—A. M., Ilkley.

Early November is the best time for lanting forsythias. Plant a bush of the best variety, F. spectabilis, next November. Shorten the strong shoots of F. suspensa to within 2ins. or 3ins. of the old wood as soon as the flowers fade, about mid-April. The small twigs do not matter, as they produce flowers without pruning. It is possible that the other bush is F. viridissima, but this flowers very well under favourable conditions. This and F. intermedia should have the strong new shoots shortened now to half their length.

Eelworm in Daffodils.

My daffodils are not doing nearly so well this year as previously, and I am afraid the bulbs may be diseased. I am sending four of the worst, and should be very grateful for advice on the action to be taken. They are planted in light sandy loam, getting leaf mould a little phosphate, basic slag and bone-meal. The climate is damp.—W. S., Belfast.

On examination two of these were badly infected with eelworm. The third had a slight infection, but also bore the appearance of having been damaged, either by frost or being trodden upon while the stem was in growth. However, the eelworm is the root of the trouble. We advise you to sterilise the bulbs in water at 110° Farenheit for three hours in July or August, when the bulbs are entirely dormant. The pest will live in the soil surrounding the bulb for a distance of 2ft. to 3ft. for three or four years, during which time it would be unsafe to plant daffodils. If space is limited, the soil should be removed 18ins. deep for a radius of 2ft. from the affected bulb and burnt. The hole can be filled with fresh soil and new bulbs planted.

Our Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xiv, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following publication.

Unsatisfactory Grape Hyacinths.

We took over a garden in August last and a rockery facing south-west found a great quantity of grape hyacinths growing very densely with leaves 12ins. or 13ins. long. They did not die down in winter and are now blooming quite satisfactorily. Their appearance is, however, spoilt by the long and untidy foliage. I should be glad if you could tell me what we ought to do with them, whether they should be moved to a different position or divided up. I have seen other grape hyacinths with only four or five leaves of moderate length.—M. B., Maidstone.

The vigorous foliage growth of your grape hyacinths is no doubt partly due to the fact that the position where they are growing is not suitable. The muscari on the whole do best in a half-shady position under trees, and in such a situation the leaves do not become so vigorous. Personally, we do not think that the foliage spoils the look of the plants unless, as you say, it makes an untidy appearance. We should certainly suggest that if the plants are becoming overcrowded it would be better to lift them after flowering, dry, and replant in late July or August.

Low-Growing Hedges of Cupressus.

I shall be much obliged if you will advise me on the following points. I have a hedge of Cupressus Lawsoniana planted two years ago and now about 3ft. high. Will this stand being kept to a height of 3½ft.? I have been told that it will get bare at the bottom and is only suitable for tall screens, say, over 8ft. high. If this is so, would Thuya Lobbii or Cupressus macrocarpa be suitable?—H. H., Malvern.

Provided the Cupressus Lawsoniana is kept cut and trimmed regularly, there is no reason why it should not be kept to a height of 3ft. or 4ft. Cutting over the top of the plant undoubtedly assists bushy growth at the base, and in this way it can be made to furnish quite a useful hedge. We think, however, that C. Lawsoniana is not one of the best conifers for the purpose. Cupressus macrocarpa is undoubtedly better and submits to cutting better than Lawsoniana. C. macrocarpa, however, also reaches a fair height unless kept cut back. Since you only want a 3ft. or 4ft. hedge, Lonicera nitida might be more suitable. It is an exceedingly rapid grower, of neat habit and can be kept trimmed with great ease. It is a fairly bushy grower and is not inclined to be "leggy" and leave bare spaces at the base of the hedge. You will find it advertised in the pages of THE GARDEN.

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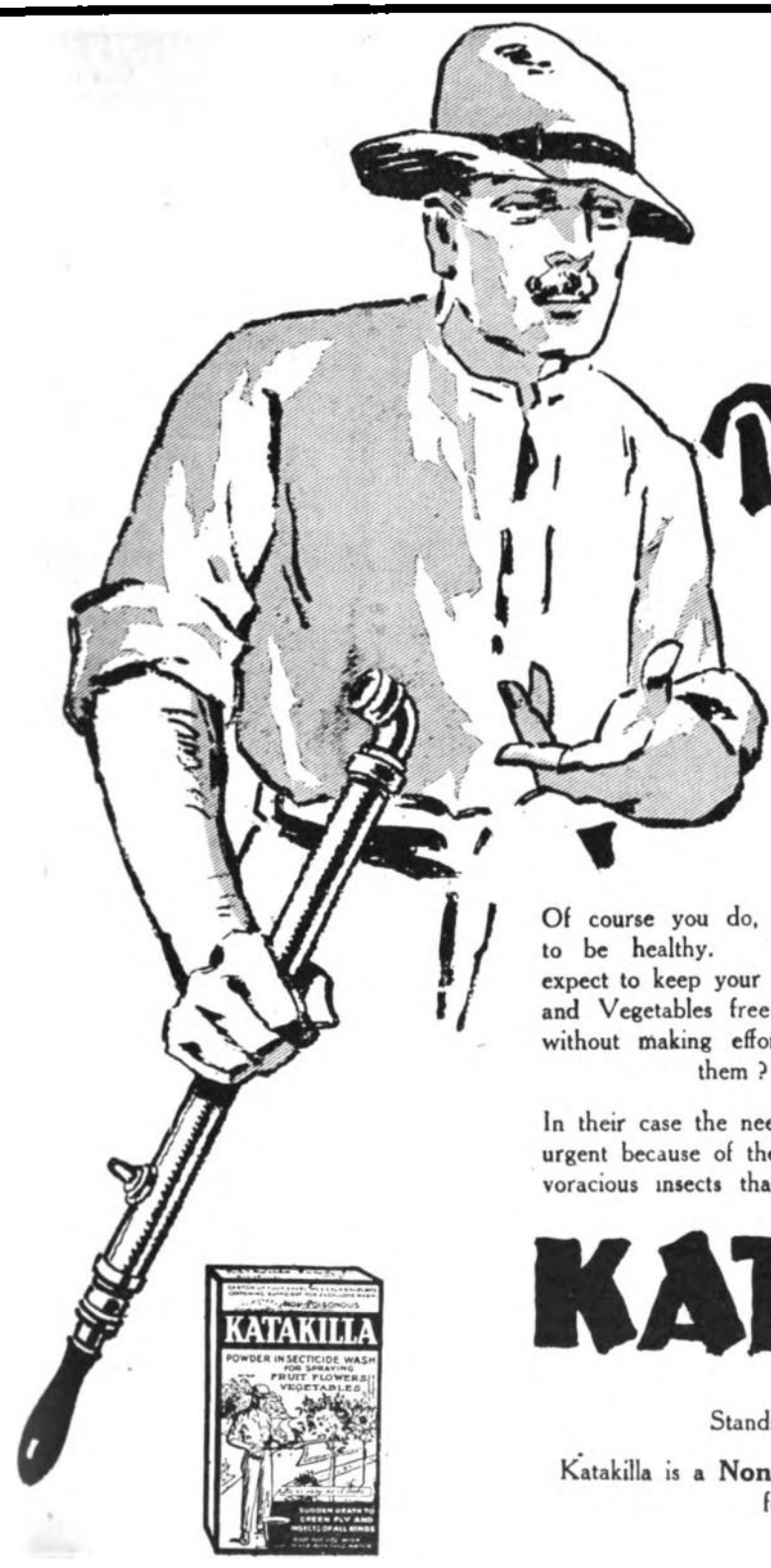

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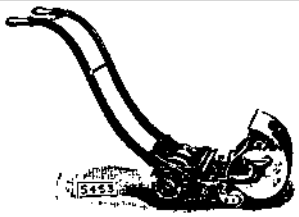

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SOCIETY NOTES

New and Rare Plants.

FLOWERING shrubs predominated among the new plants at the Royal Horticultural Hall, Westminster, on May 10th and 11th last, when awards of merit were given to two staphyleas. Staphylea Coulombieri was certainly worthy of the honour; but its variety Hessei might well have been passed over, for it appeared dingy and uninteresting in comparison. Both were shown by Lieutenant-Colonel Messel, Nymans, Hayward's Heath. There is a certain amount of mystery attached to the parentage of S. Coulombieri, but it is generally supposed to be a hybrid between S. colchica and S. pinnata. In general appearance it is a more vigorous S. colchica, bearing larger panicles of slightly smaller individual white flowers and pink-tinged flower buds. It is pleasantly aromatic. Dipelta floribunda is a goodly bush, with the leaves of a diervilla (weigela) and the flowers of a fragrant catalpa. It is a native of central and western China, and, although discovered in 1875, was not introduced till 1902. Myrsine africana is an interesting rather than beautiful little shrub. The small, stiff leaves are like those of the evergreen box. The flowers are so tiny as to escape the notice of the casual person, but the little bush had myriads of minute purplish flowers set in the axils of the leaves. On female plants some of the flowers are followed by rounded fruits nearly as large as edible peas and stained with blue-black colour. Fothergilla major is an old shrub which, somehow, became lost to this country and had to be re-introduced. It is a native of the mountains of Virginia to South Carolina. An unusually good form was shown, and the branches were studded with erect round spikes of flowers which have no petals, but the clusters of white stamens with long pinkish stalks are very attractive. This also was shown by Lieutenant-Colonel Messel.

Two more of Mr. H. J. Jones' fine seedling hydrangeas received award. Both have large shapely heads of pink flowers. King George has the brighter colour, but Queen Mary is a lovely soft shade of pink. Carnation Brilliant Improved, Page's variety, has an ungainly name, but it is a beautiful flower of perfect form and of an attractive glowing scarlet-cerise colour. It was shown by Mr. W. H. Page.

Dianthus Allwoodii Ann also received an award. The flowers are fully double, white with crimson lake blotches at the base, but the petals had curled up and the flowers were not very attractive at midday. Meconopsis grandis was in the excellent collection shown by Mrs. Walter Jones. It is one of the beautiful "blue" or Himalayan poppies, but it is, unfortunately, only occasionally that they are seen in real beauty. A large blue flower with reddish purple veining, on a tall stem, was on the healthy plant. Gentiana pyrenaica, also shown by Mrs. Walter Jones, is a comparatively old alpine. The shining blue flowers, borne singly on short, erect, leafy stems, are very beautiful. Messrs. Watkins and Simpson received an award for their selection of the Palestine strain of Ranunculus asiaticus. The round flowers have much the appearance of double begonias on stems about a foot long, and they are of many very beautiful colours.

A great many tulips were submitted and the committee rightly "turned down" most of them promptly. But Sir Daniel Hall showed two which received award. Mars is a splendid Darwin tulip of rich crimson colour, flushed with deep cardinal, and the flowers have a golden base. Bronze Wing is an uncommon variety. The rosy purple flowers are pointed and the flowers are feathered with bronze on the margins of the segments.

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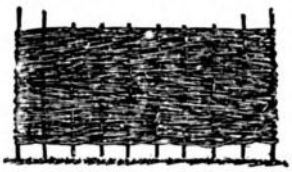

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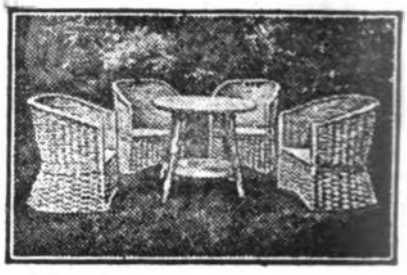

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Conference on Labels and Labelling.

A CONFERENCE on Labels and Labelling will be held in the Conference Tent at the Chelsea Show on Thursday, May 26th, at 2.30 p.m. Mr. Mark Fenwick, J.P., will preside and Mr. H. Gilbert-Carter, M.A., the Director of the University Botanic Garden, Cambridge, will open the discussion, followed by a contribution by Mr. A. Bruce Jackson, A.L.S., and Mr. A. Grove, F.L.S. A discussion will take place and visitors attending the Conference will be allowed to express their views within the limitation of the time at the disposal of the Chairman. A small representative exhibit of labels will be in the tent.

THE Royal Horticultural Society invites growers to send varieties of fuchsias, both hardy and for growing under glass, to its Gardens at Wisley for trial during the present season. Three plants of each variety should be sent to reach the Director (from whom the necessary entry forms may be obtained), R.H.S. Gardens, Wisley, Ripley, Surrey (Horsley Station, Southern Railway), on or before May 31st, 1927.

TRADE NOTES.

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PUBLICATION RECEIVED.

"Successful Gardens for Every Amateur," a popular guide to the economical use of fertilisers on flowers, fruits and vegetables, has just been published by the direction of the Chilean Nitrate Committee Friars House, New Broad Street, London, E.C.2. In this useful little illustrated booklet up-to-date cultural hints are given, and the beginner will find in its pages a great deal of information on manures and their uses.

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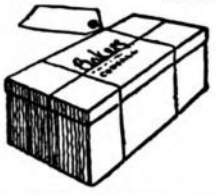

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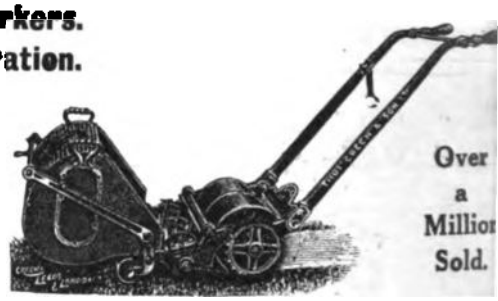

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Plants for a Small Rockery.

Would you kindly send me a list of about half a dozen rockery plants that I can get for a small rockery which I have just constructed? It is about 2ft. by 2ft. and 4ft. high, and I would like about half a dozen plants not too large but that will give the best effects in this corner, which is in a very sunny place.—A. G., Bermondsey.

The following plants would be very suitable for the position mentioned: Alyssum saxatile, Aubrietias Fire King (red) and Prichard's A 1 (purple), Phlox amœna, Dryas octopetala, Phlox subulata, Campanula carpatica and Dianthus plumarius.

Treatment of Iris stylosa.

Having had a largish clump of Iris stylosa given me which has flowered very well in my wind-swept garden, I am desirous of increasing it. Will it be right to divide it into single plants, or is it best to leave it in a clump? If you advise division, should I do it in April or early September?—A. M., Cross-in-Hand, Sussex.

Iris stylosa may be divided either in April or September. It is best to fork it up into small pieces and plant again firmly, keeping them well watered until they become established.

Soil for Gentians.

I shall be very much obliged if you can tell me what soil Gentiana macrophylla and G. cruciata will grow in. Do they need peat? My soil is loam.—M. Y., Newton Ferrers.

Gentianas macrophylla and cruciata will grow in loam if plenty of leaf-soil is added to it. They do best in a half-shady, moist situation.

Plants for Crazy Paving.

Kindly give me the names of two or three creeping plants, preferably flowering and rapid growers, suitable for planting in the cracks between crazy paving. The soil is rather poor and the position shady during mid-day. Also, could you please give me some hints as to laying crazy paving?—G. H. L., Greenford.

The following kinds of plants would be suitable for the positions you mention: Thyme, aubrietias, Ajuga reptans, sedums, Antennaria tomentosum, Achillea umbellata and santolina. In laying the crazy paving the soil should be loosened to a depth of 6ins. before the stones are laid. Break up the soil and firm it by treading, leaving a suitably formed surface for the stones. This is necessary where plants are to be grown. Put down a layer of fine sand and lay the stones. The layer of sand will enable you to fix the stones evenly and provide a firm "tread."

Checking Black Fly on Broad Beans.

Will you kindly advise me what to do to protect my broad beans from the much-dreaded black fly? I have three double rows about 12ft. long each. They are some distance away from the house, and a 3ft. 6in. high fence 4ft. away is between them and open green fields.—J. W., Enfield Wash.

As soon as you see a few black aphides on the tips of the plants, pinch off the tips and syringe at least once a week with a weak solution of quassia extract made according to directions given with the material.

A Hedge for an Exposed Position.

I should be grateful for your advice about a hedge for our garden. The house faces south-west, and is in a very exposed situation on high ground, there hardly being a day even in summer when there is not a fairly strong wind—generally south-west. When we came to the house last year we planted a privet hedge, but this is as yet only about 3ft. high and gives very little shelter. I thought of supplementing it with a hedge of either Lombardy or Canadian poplars 7–8ft. high and placed 3ft. apart. Would these be suitable, and is it too late to plant them now? If you do not think they would be satisfactory, would you be so kind as to suggest an alternative? I do not wish to plant evergreens, as those we have do not seem to have done very well.—M. L., Bradford.

We should certainly suggest that you try Cupressus macrocarpa for the purpose of forming a shelter hedge 7-8 ft. high. This is an evergreen conifer and is excellent for your purpose. It is a fairly quick grower, and once it becomes established does well in the majority of situations. It should be planted about 2ft. 6ins. apart, and planting can be carried out this month in showery weather. You will find a short article in the "Busy Man's Page" in our issue of April 9th dealing with the method of planting. Every care should be taken in the actual planting, as a check may result to the plants, but if one is careful to spread out the roots and provide a good root run there will be no difficulty in their becoming established. Although Lombardy or Canadian poplars would serve your purpose perfectly well, we feel sure that you will obtain a better hedge by planting Cupressus macrocarpa. Plants can be obtained from any of the advertisers in our journal, and are generally quoted at a cheaper rate if purchased in quantities of fifty or a hundred.

Tree Peonies.

I have a tree peony which is getting very tall and straggly. Can you tell me whether it will hurt the peony to cut it back hard? If it will not, when should it be pruned?—A. D., Norwich.

It is not usual to prune tree peonies, but after flowering cut down one or two of the oldest stems to within 2ft. of the ground. If this induces new shoots to grow from the base, cut down the remainder of the stems after flowering next year.

Treatment of Box Trees in Tubs.

Can you tell me the best way to take care of ornamental box trees in tubs? Those I have were purchased some two years ago and were then in perfect condition; but there is a great deal of dead wood now on them and the shape is entirely spoilt. Do these trees need any special soil?—H. B., West Hampstead.

Evidently the soil in the tubs has been allowed to get very dry, and the roots of the box trees have shrivelled for want of water. Cut out all dead growth, and apply a little weak soot water and liquid cow manure or guano. Fibrous loamy soil is the best for box, but as you have only had the plants two years, the soil should not require renewing.

Bulbs after Flowering.

Will you kindly tell me the best treatment after flowering for the following bulbs grown out of doors: St. Brigid anemones, ixias, Darwin tulips and hyacinths? Should these be left in the ground or dug up and dried off on shelves or in a covered heap?—M. B., East Finchley, N.2.

In reply to your enquiry, St. Brigid anemones should not be lifted after flowering. These should be planted in really well drained soil and then left undisturbed. Ixias only do well in the open on light, loamy soils and in a sheltered position. They should not be lifted after flowering. Hyacinths and Darwin tulips should both be lifted. The former can be taken and placed in a trench in the reserve garden to ripen off, but the latter should not be dug up until late May or early June. Full particulars on this subject appear in

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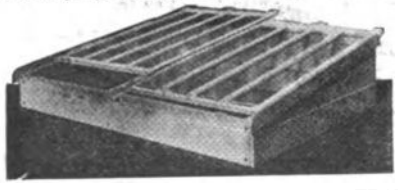

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Publications Received.

"The Low Road," by W. Fyfe Maxwell. (Sweet and Maxwell, price 6s. 6d. net.) In every way a sound and admirable treatise on hardy heathers illustrated with coloured plates executed by Miss Winifred Walker. It is both descriptive and cultural, a rare combination in a gardening book, and throughout its pages the information given is accurate and clear. It brings our knowledge of the species of hardy heaths and their many varieties up to date, and the remarks on culture, planting and propagation will be found of the greatest service to all who are interested in the heath family. It is a volume which can be thoroughly recommended.

"Plant Autographs and Their Revelations," by Sir J. C. Bose, F.R.S. (Longmans, Green and Co., Ltd., price 7s. 6d. net.) Prominence has already been given in the Press to many of the experiments with plants carried out by the author of this work and on that account many readers may be interested to read this book, a summary of his research experiments on the physiology of plants. These experiments have been pursued for the last twenty-five years, applying much the same methods to plants as has been successfully accomplished in investigations of muscle and nerve tissue in the animal. According to the author, the plant has been made to record directly, without artificial interference, by means of highly

Our Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sown, or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page xxiii, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will not be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following date of publication.

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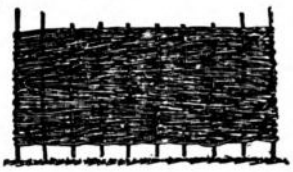

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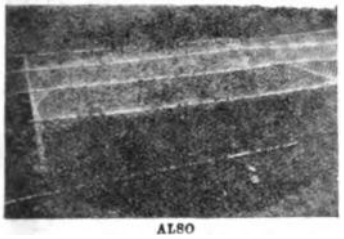

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sensitive apparatus, the normal course of its actions and its susceptibilities to changes in the environmental conditions. There would seem to be throughout the experiments much assumption which has no basis of scientific fact. Broad generalisations on the construction and activities of the plant are apt to overshadow the fundamentals at times and cover up the real issue. There is a great deal, too, that demands further controlled experiment and research before sweeping conclusions can be come to. To the botanist the book may be interesting and suggestive as indicating further avenues for physiological experiment, and to the lay reader it will make an appeal by reason of the fascinating and popular style in which the author unfolds so easily many of the manifold and mysterious wonders of the life of plants. The book is well printed and fully illustrated with diagrams of the author's experiments.

"My Town Garden," by Lady Seton. (Nisbet and Co., Ltd., price 6s. net.)

"Gardening in Town and Suburb," by Doreen Joad. (The Labour Publishing Company, price, cloth, 2s. 6d. net; paper, 1s.)

There would appear to be a spate of works on town gardening at the present time. Whether the supply is in keeping with the demand we cannot say, but one feature of such volumes which we consider necessary is that they should be severely practical. The town gardener as a rule has a desire to grow plants for their beauty and effect, and demands strictly cultural information so as to attain success in cultivation. It seems to us that information in books dealing with this aspect of gardening should first and foremost deal with the difficulties of the town gardener and how these may be overcome. It is an important point, and it is interesting to note that Lady Seton in her book commences with a list of these drawbacks. "My Town Garden" is quite a useful practical book, covering all phases of gardening and giving descriptive lists of plants suitable for growing under these conditions. The information given is tempered by personal experience, which makes it the more valuable. The book has numerous illustrations, although many of them do not convey very much to the reader. The line drawings help in explaining diagramatically many of the points in the text. Town gardeners will find it a serviceable little volume. The second volume, "Gardening in Town and Suburb," is for the man with limited means at his disposal. It covers the essential details, setting forth the usual time table and rule of thumb programme for carrying out gardening duties, and in addition gives a descriptive list of plants, including shrubs, trees and flowers which thrive in the town or suburban garden. In these lists it would probably have been more helpful to have indicated the plants for the purely town garden as distinct from those for use in the suburban garden. One can never be too simple and practical when writing for the beginner in gardening, for whom this book is evidently intended. It will be found a handy and cheap book on the subject, simply written and easily understood.

"The Journal of the Edinburgh Royal Botanic Garden Guild." Vol. I, Part III. 1927.

All past members of the staff of the Edinburgh Botanic Garden should make a point of getting into touch with the secretary of the Guild. The Journal is interesting in that it gives a record of the past and present members of the staff with their names and present addresses, and thus serves to keep old members in touch with one another. Items of news are given and also an appreciation of the president of the Guild, Professor A. W. Smith, Regius Keeper of the Garden.

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	White Queen, pure white
	Yellow King, rich yellow

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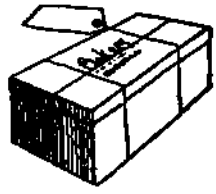

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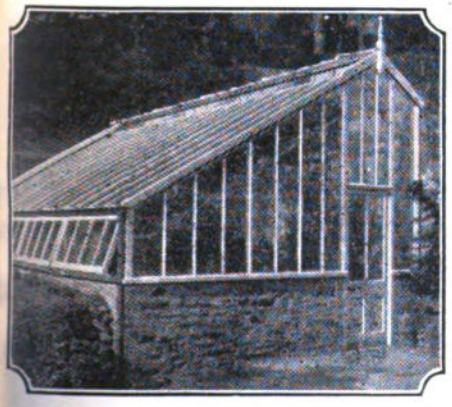
FOR SCOTTISH GARDENS

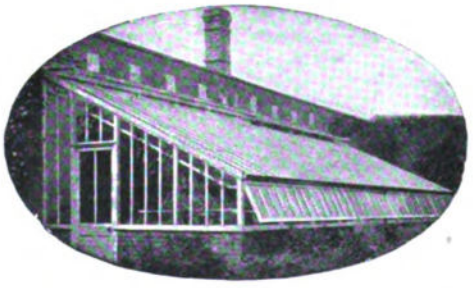
Notes Practical and Critical for Amateurs, by a Scottish Expert.

A BEGINNING may now be made with planting the various members of the dahlia family in their flowering quarters. Plants raised from cuttings are best, but pot-grown roots are well adapted for ordinary garden culture. One of the secrets of success is the treatment of the soil, and it is here that many amateurs err by digging in a too generous supply of organic manure. Ground that is too rich produces soft and over-abundant growth; whereas good quality flowers and continuous bloom are obtained by judicious applications of liquid manure. This treatment should commence when the flower buds are beginning to show colour, and the more you feed the greater will be the display throughout the season. Of the various types in commerce the collarette is the most popular of the tall-growing group in small gardens. Two new introductions—Marion McLay (pale lavender pink) and Brunette (crimson with straw collar)—are exhibition varieties and while several of last year's novelties, such as Dunara (sulphur yellow and white tipped collar), Dunottar (vermilion scarlet) and Dunrobin (violet rose) deserve a place in an up-to-date collection, the following are representative of the older sorts which find favour with amateurs for general garden purposes: Clyde, claret and yellow collar; Clock, lilac and sulphur collar; Arran, deep rose pink; Tuskar, crimson tipped rose and white; and Iona, orange and orange scarlet collar.

Coltness Gem, still reigns supreme among the dwarf single bedding dahlias, and so far none of the new sorts can rival it in brilliancy of colour or displace it from the high position which it holds in the world of gardening. This season the demand for the crimson form is as great as ever. Dinkie is the best yellow Coltness, and the cultivation of the Newer Paisley Gem (orange scarlet) is only limited by the price and the inadequate supply. Peter Pan (cardinal red) is a pleasing and free-flowering bedder; and I would put in a good word for Moonbeam, whose habit approximates closely to the type and is most effective when grown as an edging to a mixed flower border. The colour, which may be described as sulphur yellow, flushed and edged with pink, is distinct from any other dwarf dahlia and gives the flower a dainty appearance.

At this season all those people who till the soil for pleasure or for profit are confronted anew with the problem of controlling the miscellaneous army of insect pests which are a constant menace to plant life. Some subjects are more susceptible to attack than others, but few, if any, escape the attention of the winged creatures in the air or their progeny in the soil, whose presence is generally known by the devastation they create. The wise gardener, however, does not wait until there is evidence of the toll levied by the marauders, but will adopt preventive measures which to a large degree check their movements and thus render his crops less liable to attack and injury. It is a sound principle in such warfare to assume the offensive, as it holds out reasonable prospects of success. Begin the campaign by operating on the carrot bed, where a tiny dark-green fly with brown head and legs may be lurking unseen among the young foliage prior to depositing its eggs near the roots. The progeny, in the form of yellowish white maggots, bore into the carrots, and the cavities thus formed are reflected in the withering of the foliage. So great is the destruction caused by this pest in some gardens that the owners have given up the cultivation of carrots altogether, while others only succeed with the aid of "Clubicide." Sprinkling the soil with equal quantities of old soot and lime or sand saturated with paraffin is helpful in keeping the flies away, and as an additional precaution spray the leaves with paraffin emulsion, which is made by diluting 3 pints of paraffin and ½lb. of soft soap in a gallon of hot water and afterwards adding 6 gallons of cold water. It frequently happens that the activities of the grubs only begin after the carrot crop has been thinned, and as a loosening of the soil accelerates their movement care should be taken to make the ground quite firm. Although the onion fly is a distant species, its method of attack is identical, and the same preventive measures are applicable. Early attention should also be given to rose bushes, which will require to be syringed at intervals with a solution of quassia extract and soft soap if the foliage is to be kept free from green fly and the maggot which secretes itself in a fine web on the under sides of the leaves. By thus keeping the bushes clean you are less likely to be troubled with mildew and black spot later in the season. Then the claims of the fruit garden must not be overlooked, for coral and leaf spot are common among black currants, and American mildew and maggots are a frequent source of trouble on gooseberry bushes, necessitating syringing with "Cyllin" soft soap, which may be safely used when the fruit is hanging, as it is non-poisonous. For a number of years I used nothing but "Clensel" as a spray for my roses, and I can confidently recommend it to the amateur





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"The best laid schemes o' mice an' men gang aft agley." Messrs. Storrie and Storrie, Glencarse, had space booked at Chelsea, where it was intended to stage a collection of tiny seedlings and plants for which the firm have acquired a first-class reputation; but Miss Roberts informs me that, owing to the severe loss resulting from the recent frost, she had no alternative but to cancel the engagement.

If you are in search of a beautiful and useful novelty, try a few plants of double tropæolum, which can only be raised from cuttings. Up till recently only a vivid scarlet form was available, but a bright companion in Storrie's Yellow has now been introduced. They may be grown as upright staked plants, and are ideal subjects for a hanging basket or vase.

ST. MUNGO.

June in the Fruit Garden

BUSH FRUITS.—Strawberries, raspberries and currants when colouring should be protected against the ravages of birds by netting thrown over the bushes or suspended from the walls or placed over the beds.

Apples.—Cordons should have the new growths pinched back to 5ins. and summer pruning commenced. Look out for the apple blossom weevil, and control by jarring on to tarred boards at the beginning of the month. Apple leaf spot may be controlled by spraying with summer strength Bordeaux in the middle of the month. Thin the fruits with caution.

Pears.—Thin the fruits where necessary. Guard against the pear midge by dressing the ground with kainit under the trees. Pinch new growths not required for extension to about 5ins. Water wall trees if necessary.

Cherries.—Morellos: Tie in the young shoots. Watch for the appearance of black fly and control by spraying with quassia extract. Water the trees if necessary. Sweet: Pinch growths not required for extension to admit light and air.

Apricots.—Tie in shoots, mulch and water with manure water, especially if the crop is a heavy one.

Currants.—Black: These will repay a good watering with manure water if there is a good crop. Red and white: Pinch shoots not required for extension.

Gooseberries.—Continue thinning. Watch for sawfly and dust with hellebore powder as a preventive. Keep a look-out for American gooseberry mildew, and control by spraying with lime sulphur, summer strength.

Plums.—Continue thinning where necessary. Spray with lead arsenate, summer strength, early in the month if the plum sawfly is found.

Peaches and Nectarines.—Disbud shoots not required for extension or as next season's fruiting wood. Thin fruits where necessary. On hot days syringe wall trees with water in the evening. On no account allow the borders to become dry.

Raspberries.—Thin the canes of the autumn-fruiting varieties and tie in new canes. Mulch with strawy manure where not already done. Spray with arsenate of lead to check weevils.

Loganberries.—Lay in new shoots and cut out the weaker ones. Leave only enough to cover the space. Give a watering with manure water to obtain the best fruits.

Strawberries.—Layers required for new beds should be taken from now onwards. Select the best runner on a plant, remove the rest and peg the selected runner into a pot.

H. D. B.

SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Plants for Tubs.

Would you please say what is a good collection of plants, etc., to plant in tubs in order to give a show through the summer?—J. G., Buckie, N.B.

For planting near the centre of the tub, fuchsias are ideal subjects. Immediately surrounding the central plant zonal pelargoniums, petunias, tuberous begonias would be suitable; and for the edges, heliotrope, alyssum, Gazania splendens. If blue is favoured, use lobelia; and if foliage plants are required, put in abutilons.

Cucumbers in Frames.

I wish to grow cucumbers in the open and, if possible, some frame sort. I have a cold frame and hand lights, otherwise no convenience.—E. S., Hythe, Kent.

If you have grown vegetable marrows you may successfully grow cucumbers. The latter require a little more care, but if you make up a bed of rich soil, place hand lights and frame on, then plant the cucumbers, water, syringe daily at closing time in the afternoon, ventilate a little early in the morning, pinch out small, surplus shoots, and shade a little when the sun is very bright, you should succeed. Grow, in the frame, frame varieties, and under the hand lights ridge sorts. Hints are also given from time to time in the pages of THE GARDEN.

Apple Trees which do not Flower.

I have in my garden three cordon apple trees, viz., Ellison's Orange, Charles Ross and Blenheim Orange. I have had these three years, and they were three years old when I bought them. Up to the present, none of them has bloomed or fruited. I have pruned them as recommended for cordons both summer and winter. I have also in the same plot Worcester Pearmain (bush), Cox's Orange and Bramley's Seedling (cordons), and these bloom and fruit. Can you please tell me why the cordons mentioned do not bloom? Are they shy bloomers, or do I not treat them properly in the pruning?—A. G., Eltham.

The varieties Ellison's Orange, Charles Ross and Blenheim Orange should do well as cordons. We cannot account for your trees not flowering. They are old enough and, with the exception of Blenheim Orange, the varieties are by no means shy croppers. The cordons should require no special treatment and, if correctly pruned in summer and winter each year, ought to come into bearing before the bush trees. There is a tendency for cordons to grow too vigorously in their early days, and this should, where

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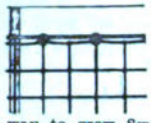

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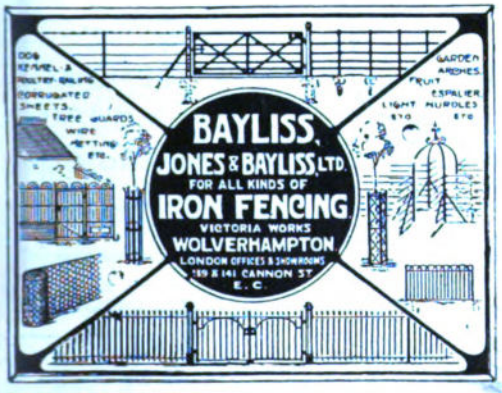

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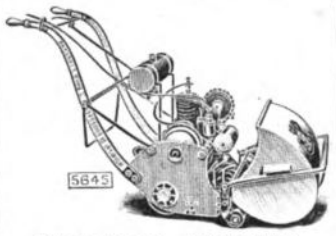

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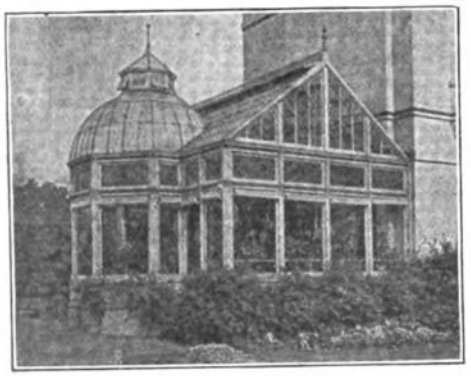

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necessary, be corrected by pruning the roots in October. They should not be grown in too rich a soil, and do not require rich manures until they are cropping heavily. We cannot comment upon your pruning methods, for you do not state what these are.

Diseased Tulips.

Is the mark on my tulip leaves what is known as "fire"? If not, what is it? On the under side of the mark a fine mould (grey) forms. In some instances the stem of the flower decays as shown in the specimen sent. I have some thousands of bulbs and some of them are affected as seen in specimens. I am anxious to know whether it is "fire" or not, as I think "fire" is apt to become virulent. If it is "fire," what measures shall I adopt to stamp it out. Will picking off the affected parts and spraying the plants with a fungicide be successful? What fungicide could I spray with? Could you suggest a preventive "dip" for the bulbs before planting?—V. H., Cradley, Staffs.

The tulip leaves sent for our inspection are badly affected with "fire." Some varieties are more subject to infection by this complaint than others. The fungus spreads with great rapidity, particularly under conditions of poor ventilation, overcrowding and damp atmosphere. If the infestation is serious it is most difficult to check at this season. Dead flowers should not be allowed to fall on to the leaves as they set up decay. If possible all affected leaves should be picked off and burnt. Spraying with Bordeaux mixture is useful, but, of course, it is next to impossible to do this thoroughly, as the spray does not reach the under sides of the leaves. The trouble does not enter the bulb, so the new bulbs formed this year would not be affected internally although the spores of the fungus may adhere to the outer skin. The bulbs should be stored in flowers of sulphur and the outer skin peeled off when they are planted in October to November.

Yellowing of Tomato Plants.

Will you please give me information as to why my tomato plants are all turning yellow in the lower leaves, also how often is it necessary to water them?—R. P., Blackpool.

You do not give any particulars as to heat, potting, soil or size of plants. A sudden check—from over watering or the plants being subjected to cold draughts—would cause the loss of the lower leaves. Now the weather is warmer no doubt the plants will be more satisfactory. When the soil is getting dry, water thoroughly. Do not frequently merely wet the surface soil.

Unhealthy Pear Trees.

The advice that on my request you have already been good enough to send me has proved to be so valuable that I thought of applying once more to you for the following trouble. Last year, about March, I planted a pear tree (Beurre Hardy, four years old when planted), which soon after planting developed leaves of a silvery, fluffy look. On my gardener's advice, I sprayed it with a lime-sulphur solution. As a result, the leaves fell off, but soon after new ones shot out but were hardly looking healthier. This year this pear tree had no flowers, though similar trees planted last year at the same time were covered with blossom; moreover, the leaves have again the same sickly look, as you will be able to see by the leaves I send you herewith. I do not know what to do to this pear tree and I shall be very much obliged if you will kindly advise me on this point.—E. J., Wembley Park.

There is nothing at all the matter with the pear leaves you sent for inspection. The "silvery" appearance is simply due to the natural "down" or fine silky hairs with which the leaves are covered. It is characteristic of the variety. Not all pears have these

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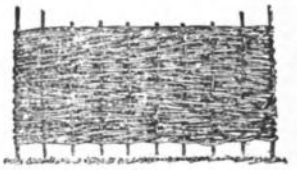

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In natural grown Brown Willow. The Suite 54/6, or Chairs 12/6 each, Tables 15/6 each. Carr. Paid English and Welsh stations. Scotland 10 per cent. extra.
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"The Manures I had from you last year were all I could wish for as to results. I have no heated house so that it is a surprise to many of my friends that I can grow Tomatoes, Pumpkins, Cucumbers, etc., so well as I have done. I found the 'Ferry' Manure very useful."—From a recent letter.

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"FERRY" products can be obtained from Seedsmen, Florists, etc., throughout England and Wales, or in cases of difficulty, carriage paid from the Manufacturers.

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destroys weeds and moss in grass and fertilizes the lawn. No other manure necessary. 14 lbs., 4/-; 28 lbs., 7/-; 56 lbs., 13/-; 1 cwt., 25/-. Carriage paid on 1 cwt.

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Please mention THE GARDEN *when writing.*

"silky" leaves, of course, but several varieties do. No doubt the fact that the lime sulphur brought off the leaves last year has had something to do with the tree not flowering this spring, but treated normally the tree will probably settle down to fruitfulness in due course.

SOCIETY NOTES

Forthcoming Events.

June 2.—Iris Society's Exhibition at Royal Horticultural Society's Hall.
June 3.—Accrington Chrysanthemum Society meets.
June 4.—Blackburn Horticultural Society meets.
June 7.—Royal Caledonian Horticultural Society meets.
June 8.—Royal Horticultural Society's Show (Lecture) two days; Sheffield Chrysanthemum Society meets; East Anglian Horticultural Club Monthly Exhibition.
June 10.—Royal Horticultural Society of Ireland meets; Manchester and North of England Orchid Society Annual Meeting.
June 11.—Dundee Horticultural Society's Outing; L.C.C. Staff Horticultural Society's Show.
June 13.—Romsey Gardeners' Association meets; United Horticultural Benefit and Provident Society meets.
June 14.—Jersey Gardeners' Society meets.
June 15.—Royal Gardeners' Orphan Fund meets.
June 20.—Harrogate Horticultural Association meets.
June 21.—Royal Horticultural Society's Show, Strawberries (Lectures) two days.
June 22.—Wadhurst Rose and Sweet Pea Show.
June 25.—Wallington Horticultural Society's Exhibition.
June 28.—Royal Horticultural Society's Amateur Show.
June 29.—Royal Norfolk Agricultural Association's Exhibition; Littlehampton and District Horticultural Association's Show.
June 30.—Newport (Mon.) Horticultural Society's Rose Exhibition; Paisley Florist's Society meets.

London Allotment Show.

THE catholicity of politicians is well illustrated in the schedule and handbook of the London Allotment Show. This event, which is also announced on the Fellows' tickets of the R.H.S., takes place in the Royal Horticultural Hall, Vincent Square, on September 2nd and 3rd. In the handbook appear messages from politicians of all three parties—the Right Hon. Walter Guinness, Minister of Agriculture; the Right Hon. David Lloyd George; and the Right Hon. J. Ramsay Macdonald—another instance of the universal appeal which gardening makes.

The schedule provides sections for groups from allotment societies and individual classes for vegetables, flowers, fruit, honey, and for children's exhibits: over sixty classes in all. A copy will gladly be sent to those interested by the Hon. Secretary, H. A. Treganowen, 20, Broxholm Road, West Norwood. Threepence in stamps should be enclosed to cover cost and postage.

TRADE NOTE.

Price Reductions.

ONE of the pleasantest things in business is when the demand for a high-class article becomes so great that, by making it on a larger scale, prices to customers can be reduced. The popularity of the greenhouses made by the firm of Boulton and Paul, Limited, whose name in the gardening world is a synonym for reliability and good workmanship, has been so great that they are enabled to announce reductions in their lean-to greenhouses from £15 to £14 5s., and in their span-roof greenhouses from £18 10s. to £17.

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1/3 doz. 2/6 100.

Carriage paid on orders value 5/- and over, otherwise 9d. extra.

And these are the varieties and colours:

Cedself Rose, delicate pink	Dazzler, orange scarlet
Cottage Maid, pink, white throat	Firefly, scarlet
Crimson King, rich dark crimson	Glow, orange apricot
Dainty, gold and terra cotta pink	Melrose, bright rose
Electra, salmon orange, white throat	Rose Queen, rose pink self
	White Queen, pure white
	Yellow King, rich yellow

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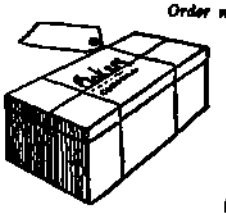

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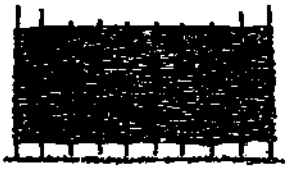

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Carr. Paid English and Welsh Stations **20/-** *Carr. Paid* Scotland **22/-**
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Pruning Flowering Shrubs.

A short time back you were good enough to inform me that the time to prune a number of shrubs (planted last autumn), was as soon after flowering as I conveniently could. I observe, however, that Philadelphus Lemoinei and Viburnum Opulus have made little or no growth on the lower part of the stems. This is far more pronounced on the latter shrub, the stems of which for a considerable way up are quite bare of any shoots. Should they have been cut back? In the absence of any instruction, I have refrained from doing so and both plants are quite 5ft. high. The shoots on the viburnum are far more advanced than those on the philadelphus. In the case of the latter, however, although the shoots are far more numerous, they are still very small and far behind the viburnum in size. Will you please advise me whether the plants should be cut back to induce them to break lower down and if so, when and to what distance from the ground. To start the operation now, would I imagine, unless it was made a very gradual process, prove disastrous, as it would deprive them, especially the viburnum, of most of the foliage.—P. T., N. 15.

Your previous letter did not indicate that the shrubs were tall and leggy, also newly planted. Had we have known this we should have advised pruning the viburnum down to within about 2ft. of the ground and the philadelphus, 1ft. from the base in February, sacrificing a season's flowering. In order not to remove the leaves entirely from the bushes, cut down half the growths to the lengths suggested above, picking out in both instances the most bare looking stems. Water the plants during dry weather and syringe the tops. Give a mulch of old decayed manure or liquid manure. If in the course of five or six weeks new shoots grow freely from the base, cut down the remainder of the stems, otherwise defer cutting until February.

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1/3 doz. 8/6 100.
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And these are the varieties and colours:
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Cottage Maid, pink, white throat
Crimson King, rich dark crimson
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Electra, salmon orange, white throat
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Rose Queen, rose pink self
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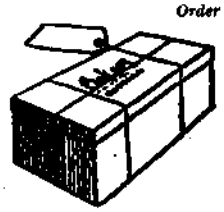

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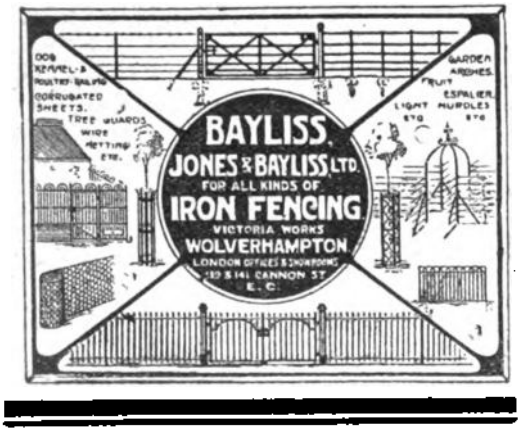

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BOOK REVIEW

MOST gardeners are interested in flower colours and in the fashioning of colour schemes in beds and borders; but there are few who are really accomplished in the art of arrangement. The wealth of flowers at our disposal has made this fascinating task a difficult one. Amateurs require some classification or list of flowers giving simple details about each, so that arrangement and grouping can be carried out if nothing much is known about the plants. This demand has been met by the publication of an excellent little book, "The Gardener's Colour Book," by John Fothergill (Alfred Knopf, 5s.), which should satisfy every need in the direction of colour grouping in the garden. The book is interestingly written in the form of a schedule that is thoroughly practical. It shows at a glance the right colour and size of flower to select at any time in any scheme a gardener has in mind. No set colour scheme is given, but the advantage is that the gardener can tell by looking at the guide what flowers should be selected for any month of the year and where to plant them with regard to their height. The colour, months of flowering and height of most of the popular herbaceous plants and annuals of our gardens are tabulated, so that the classification can be simply and easily worked out by even the most inexperienced. It is the outcome of practical experience, and for that reason should prove of great help to all amateurs who are interested in the working out of colour schemes in their garden.

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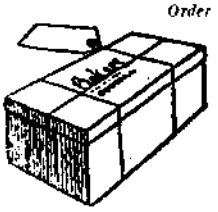

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RHODODENDRON ASSOCIATION

A FURTHER meeting of those interested in the formation of a RHODODENDRON ASSOCIATION will be held in the Lecture Room of the Royal Horticultural Hall on *Tuesday, the 5th July, at 5 o'clock,* to consider the report made by the Committee appointed at the meeting held on the 3rd May.

Copies of the report may be obtained on application to Mr. LIONEL DE ROTHSCHILD, New Court, St. Swithin's Lane, E.C.4

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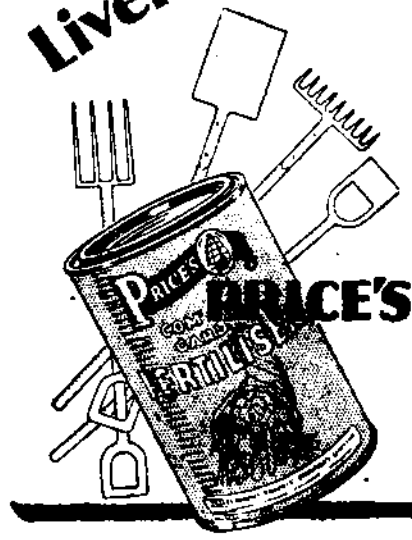

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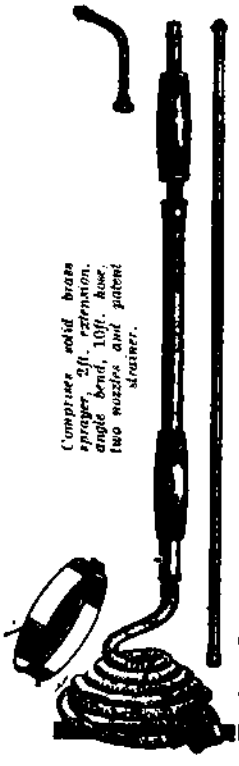
Glasgow Gardens—Prize Competition

THE Proprietors of the "DAILY RECORD" have again arranged to offer **£100** in Prizes for the best kept gardens connected with the Glasgow Corporation Housing Schemes, together with a Championship Trophy valued **£25**. The members of the Glasgow Seed and Nursery Trade are also presenting Eight Special Prizes.

Entry forms and full particulars may be had from the Gardening Editor, "DAILY RECORD," 67, HOPE STREET, GLASGOW.



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Striking Carnation Cuttings.

Can you suggest the best way to strike cuttings of tree carnations. I have tried them in sand round the side of pots, but I find they keep green for weeks, but scarcely any of them strike. Can you take them any time of the year? I put the pots in a box with glass over to keep them close, but I have to buy rooted cuttings every year.—J. P., Purley.

Propagate cuttings of tree carnations from October to March, inserting them in pure sand, first washed, then dried. In early autumn and late spring make use of a box in a cold frame. In mid-winter use a box in a greenhouse. Select side shoots about half-way up the flower stem, cut off, when preparing them, just below a joint. Keep the sand uniformly moist and nearly all air excluded.

Replanting Lilies of the Valley.

Can you give me full instructions for replanting my lily of the valley bed. It has become absolutely choked with bishop's weed, and also the lilies are so thick that it is almost impossible for them to flower. I can make an entirely new bed in another part of the garden, so it is not necessary to use the same ground. I would like to know what month is best to do this, if it is advisable. What can I do with cyclamen plants now when they have just finished flowering. Are the corms dried, or are they kept growing all summer?—I. W., Haddington.

Lily of the valley will grow and flower in some gardens without any special care, but in others the plants cannot be flowered. In your case, take out the soil on a north border, then fill up with a compost of light, sandy loam and rotting leaves, in equal proportions. Grade the roots and lay them 3ins. apart all over the firmed surface, and cover with 2ins. of soil. February is a good time to plant, but the bed should be prepared in autumn. Place the cyclamen plants outside, and gradually withhold water. When the leaves shrivel cut them off low down—do not pull them. Repot the plants in August when young leaves begin to grow.

Pruning Flowering Currants.

I have in my garden two small bushes of flowering currant—Ribes sanguineum about 4ft. high, and Ribes aureum about 5ft. They are both healthy young plants and have flowered well. I have not attempted to prune them yet, being inexperienced and fearing to do damage.—A. J., Notting Hill.

No definite system of pruning your flowering currant trees is required. Any long ends should be shortened now to keep the bushes shapely. In a few years time, however, it may be desirable to cut out some old stems to thin the bushes.

Remedies for Gooseberry Mildew.

I am enclosing a spray of gooseberries covered with mildew, and should be much obliged if you will tell me if anything can be done now to avoid the loss of the crop, also how to prevent it in future. I also enclose a leaf of apple tree which has curled up, presumably owing to caterpillar. The apple trees were sprayed in the winter with lime and sulphur, and sticky bands were put round them early in November. I usually spray them with Burgundy mixture as soon as the blossom is finished.—S. S., Southampton.

The gooseberries sent for examination are attacked by the American Gooseberry Mildew. It is late now to save the berries if the attack is severe, although a part of the crop may come through all right. At this late stage the measure to take is to spray the bushes with the ammonium poly-sulphide wash—commonly known as the A.P.S. wash. This does not harm the foliage or spot the berries as lime-sulphur sometimes does. The caterpillar in the apple leaf is that of the winter moth. Spraying with Burgundy mixture will not check this pest. The best remedy for this is to spray at once with arsenate of lead.

Taking Cuttings of Rose Excelsa.

Will you please inform me exactly how to take cuttings of Excelsa rambler roses?—H. P., Bradford.

Cuttings of Rose Excelsa should be made of this season's growths of medium thickness, neither very thick nor thin and weak. Remove from the parent plant with a very thin heel, or skin, of old wood. Remove the top of the shoot, so that when ready for insertion it is 9–12ins. long. Insert in a sheltered border outside during October or early November, the bottom of the cutting should reach to a depth of 4ins. or 5ins., and be made firm.

Our Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
3. Prints need not be mounted and negatives must not be sent.
4. The name and address of the sender must be clearly written on the back of each photograph, together with a few explanatory words, such as the names of the flowers, where grown, when planted or sow , or anything which gives point or lends interest to the picture.
5. Each photograph must be accompanied by a coupon, to be found on page lxi, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
6. A stamped addressed envelope must accompany all photographs. The Editor will endeavour to return those which are considered unsuitable. If this rule is not complied with, prints will n t be returned.
7. The Editor will not hold himself responsible for photographs lost or damaged in the post or otherwise.
8. No correspondence can be entered into.
9. All photographs published will become the copyright of THE GARDEN.

To the reader who sends in the photograph which the Editor considers the best of the week a prize of 21s. will be awarded. For all other competition photographs published 5s. will be paid. Payment will be made about the 7th of the month following date of publication.

Hollyhock Rust.

Will you tell me what pest it is that has attacked the enclosed leaf of a hollyhock plant? I have already cut off and burnt many large and small leaves.—M. M., Sevenoaks.

From the appearance of the hollyhock leaf sent for our inspection, your plants are evidently suffering from the hollyhock disease. This is caused through a fungus known as Puccinea malvacearum. There is no cure, and all affected plants should be destroyed. If there are any healthy side shoots they may be severed and grown separately. Procure new, healthy stock and grow the plants in a different part of the garden.

Plants for a Cement Tank.

What water plants would be suitable to grow in a cement tank 17ft. by 9ft. by 18ins. deep in centre and 12ins. deep at sides? If water lilies would grow, please state the most suitable kinds for this depth of water, also method of planting. I do not wish to cover the whole bottom of the tank with earth, but presume pockets would do for the other plants. If so, what depth should the earth be from surface of water? W. K., Dalry, Ayrshire.

There is no reason why you should not grow water lilies in your tank, especially in the centre, as long as you have 10ins. to 15ins. of water above the crown of the plants. You can either plant them on mounds of soil or plant them in wicker baskets about 2ft. across, filled with soil. The compost should consist of good loam three parts, and one part of rotted cow manure and leaf-soil. A few of the smaller growing nymphæas, which should be suitable for the purpose are:—N. Laydekeri purpurata, N. marliacea ignea, N. odorata alba, maxima, minor and sulphurea grandiflora, N. tetragona alba (pygmæa) and tetragona helvola, and N. Vesuve. Aponogeton distachyon (water hawthorn), is also an excellent plant for a small tank; also Menyanthes trifoliata (bog bean), a beautiful native plant, which should prove suitable for the edge of the tank. It spreads quickly, but can easily be kept within bounds.

A Correction.

IN our report of Messrs. Watson's exhibit at Chelsea Show, a mistake was made in stating that the new broom that was shown was a sport from Cytisus Andreanus. We learn that it is a new seedling. The address of Messrs. Watsons is Killiney, Co. Dublin, Ireland.

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T. G. W. Henslow, Esq., M.A., M.H., F.R.H.S., the well known authority on horticulture, tested Lypticide unknown to us and wrote a long enthusiastic letter:

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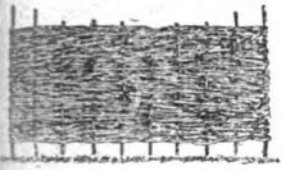

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Seat 20 in. wide × 38 in. total height.

Leg Rest 30 in. long × 18 in. wide.

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LIQUID.—1 gal. to 50 gals. water. 1 gal., 5/-; 2 gals., 9/6; 5 gals., carriage paid 20/-

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For destroying worms in lawns, putting greens, bowling greens, &c. 14 lbs., 2/9; ¼ cwt., 9/6

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Send for Price List.

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SOCIETY NOTES

New Plants at Vincent Square.

THERE were many interesting novelties before the Floral Committee of the R.H.S. on June 8th last. A first-class certificate was awarded to Meconopsis Baileyi, the beautiful "Blue Poppy" which received an award of merit on April 7th of last year. On both occasions it was shown by Lady Aberconway from Bodnant, North Wales. There are some divergences of opinion concerning this species and to the gardener the chief concern is its nature. Captain F. Kingdon Ward, who collected the seed, and should know, says it is a perennial, and from the plants now shown we feel he is correct. The species is somewhat variable and although of a slightly different shade of colour, the flowers on both plants were a beautiful blue.

Of the plants which received awards of merit, the most attractive to the lover of hardy shrubs was Deutzia discolor stellata, shown by Lieutenant-Colonel Messel, from Nymans, Sussex. This bears graceful sprays of beautiful, bright pink flowers. It is, of course, quite hardy. Gaultheria oppositifolia is quite distinct from the better known G. Shallon. It is a New Zealand evergreen, growing to 8ft. in height. The ovate acute leaves are only a little more than an inch in length. The waxy white, bell-shaped flowers are borne in dense terminal clusters and are said to be followed by bright red berries. It was shown by Mr. Gerald Loder, from Wakehurst Place. Erica Tetralix mollis is a true heath and has plenty of pure white flowers. The leaves are soft and the whole plant is so covered with white down that it has a frosted appearance. It was shown by Messrs. D. Stewart and Son. Cæsalpinia Gilliesii is a shrub which, except in very warm places, requires greenhouse culture. It has much divided leaves and the chief beauty of the flowers lies in the long, bright red stamens.

Two very pretty lilaceous plants were shown. Zephyranthes Rose of Burford is a delicately beautiful wind flower which has pale pink flowers. It was shown by Sir Wm. Lawrence, from Burford. Nomocharis is a new genus of Eastern lily-like plants and the species now shown has yet to be named. It was shown by Lady Aberconway and has a widely opened pink flower, with a brownish-green centre and upstanding, green stamens. Iris Margot Holmes, shown by Mr. Amos Perry, is a pretty little hybrid bearing royal purple flowers which have golden lines on the base of the falls. Mr. Hubert Robinson had awards for two new pyrethrums, Marjorie Robinson is of good medium pink colour, while Scarlet Glow is a vivid rosy crimson. Messrs. Kelway and Son had two splendid delphiniums selected for trial at Wisley. Sir Austen Chamberlain has medium lavender flowers with blue outer petals and Wedding Bells is a delightful pale lavender with an occasional touch of sky blue.

TRADE NOTE.

The Latest in Hand Sprayers.

THE appearance of a new sprayer is timely now that the "annual offensive" has begun. This latest addition—called "Solo," because one person can use it easily—is claimed to be the first sprayer to be built on really simple lines. It is made of solid brass and supplied, complete, with 2ft. extension, angle bend, two different nozzles, 10ft. hose and patent strainer. Its price is exceptionally low—28s. 6d.—and there are no extras.

Though so easy to work, it is powerful enough to throw a 40ft. jet, and will, in addition to all garden spraying, do lime-washing, creosoting and disinfecting. It is obtainable, post free, from the F.N.P. Manufacturing Co., Limited, of 80, Gracechurch Street, London, E.C.3, on satisfaction-or-money-back terms.

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And these are the varieties and colours:

Codsall Rose, delicate pink
Cottage Maid, pink, white throat
Crimson King, rich dark crimson
Dainty, gold and terra cotta pink
Electra, salmon orange, white throat
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Firefly, scarlet
Glow, orange apricot
Melrose, bright rose
Rose Queen, rose pink self
White Queen, pure white
Yellow King, rich yellow

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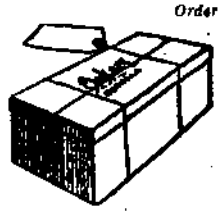

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The new official handbook of the London Gardens Guild, with 96 pages and 15 illustrations very fully tabulated.

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HORTICULTURAL FIXTURES

July 4.—Romsey Gardeners' Association meets; P.O. Savings Bank Horticultural Society meets.

July 5.—Royal Horticultural Society's Show (Lecture), Roses (Clay Cup) and Cherries; Royal Agricultural Society of England's Exhibition (five days); Royal Caledonian Horticultural Society meets.

July 6.—National Rose Society's Provincial Exhibition, in conjunction with Cheltenham Spa Floral Fête (two days); Brighton, Hove and Sussex Horticultural Society's Exhibition (two days); Croydon Horticultural Society's Exhibition.

July 7.—National Sweet Pea Society's Show.

July 8.—Bath Horticultural Society's Exhibition (two days).

July 9.—Windsor, Eton and District Rose Society's Exhibition.

July 12.—Royal Horticultural Society Committees meet; Wolverhampton Floral Fête (three days); Peterborough Agricultural Society's Exhibition (three days); Roundhay (Leeds) Horticultural Society's Exhibition (two days).

July 13.—Sheffield Chrysanthemum Society meets; Guildford Gardeners' Association's Exhibition; Liverpool Horticultural Association's Exhibition (two days); East Anglian Horticultural Club's Exhibition.

July 15.—National Rose Society's Exhibition (New Seedlings).

July 16.—Dundee Horticultural Society's Outing; L.C.C. Staff Horticultural Society's Flower Show; Ingatestone and District Horticultural Society's Show.

July 19.—Royal Horticultural Society's Show, (Soft Fruits); National Carnation and Picotee Society's Exhibition; National Pansy and Viola Society's Exhibition; Hillingdon Court Horticultural Society's Flower Show.

July 23.—Hamble Horticultural Society's Show; Sundridge and Brasted Horticultural Society's Show.

July 26.—Dorset Horticultural Society's Exhibition (two days).

July 28.—Royal Lancashire Agricultural Society's Exhibition (four days); Paisley Florists' Society meets.

July 29.—Royal Welsh Agricultural Society's Exhibition (four days); Peel Park Flower Show, Salford (two days).

The Dulwich Horticultural Society

The Summer Show is to be held on July 14th, and the Autumn Show on November 10th.

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Dazzler, orange scarlet
Firefly, scarlet
Glow, orange apricot
Nairose, bright rose
Rose Queen, rose pink self
White Queen, pure white
Yellow King, rich yellow

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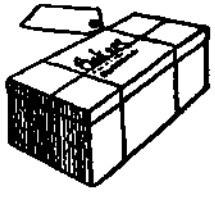

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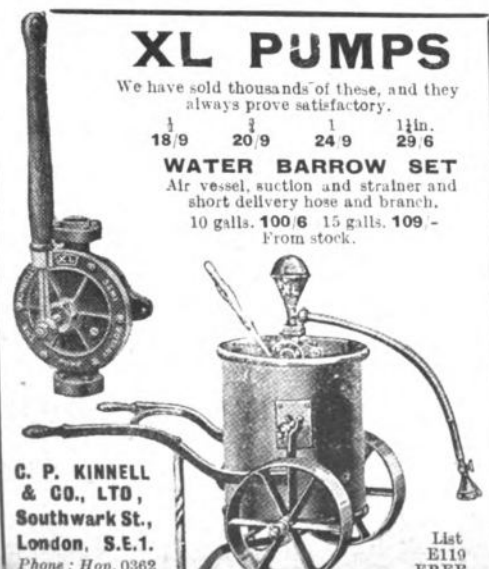

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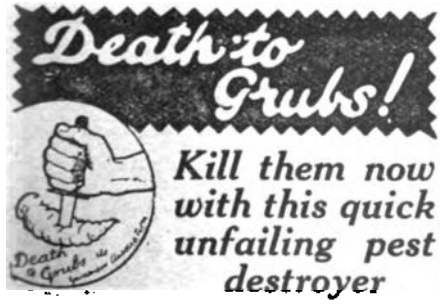

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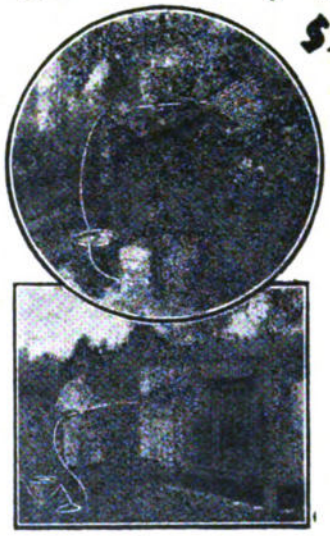

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SOCIETY NOTES

New Plants at Vincent Square.

Begonia Mrs. Ward.—A very handsome double tuberous-rooted variety. The large flowers are of a bright rose colour. Award of merit.

Begonia Sir Philip Sassoon.—Another large-flowered variety which also has handsome foliage. The flowers have waved petals of vivid crimson colour. Award of merit. Both were shown by Messrs. Blackmore and Langdon.

Delphinium Howard H. Crane.—A stately spike of large deep blue and mauve flowers. The inner petals are blue and there is a white eye. Award of merit. Shown by Messrs. Blackmore and Langdon.

Delphinium Mrs. Foster Cunliffe.—The flowers of this beautiful variety are double and of mauve colour shaded with sky blue. It is of medium height and graceful habit. Award of merit. Shown by Messrs. Blackmore and Langdon.

Mutisia retusa var. glaberina.—The mutisias are handsome evergreen climbers, but, unfortunately, only hardy in very warm districts. This variety has stemless, stout, undulated leaves on which the midrib extends into a thin tendril which twines around any available supports. The flowers are single and daisy-like, about 3ins. across and of blush colour. Award of merit. Shown by Sir William Lawrence, Bt., Burford, Dorking.

Nuttallia cerasiformis.—When in fruit, as were the branches shown, this hardy, deciduous Californian shrub is very handsome. It is a monœcious shrub and in early spring bears pendulous little racemes of white flowers, which have a very pleasant almond-like perfume. The fruits are oval and in clusters of two, three or four. At first they are yellowish and soon become deeper in colour, Award of merit. Shown by the Cambridge Botanic Gardens.

Onosma Hookeri.—This is a dwarf borage from China. The whole of the plant, including the flowers, is covered with stiff hairs. The tuft of foliage has lanceolate leaves and the flower-stems have cymes of pendulous purple, tubular flowers. Award of merit. Shown by Lieut.-Colonel Messel, Nymans, Sussex.

Phlox argillacea.—A dwarf and attractive species. The lanceolate leaves are small and the spreading heads are well furnished with small pale lilac flowers which have deeper coloured tubes. Shown by Mr. T. Hay, Hyde Park, London.

Rose Abol.—A fully double H.T. variety. The perfectly formed flowers are white with a flesh pink heart. It is deliciously fragrant and was awarded the Clay Cup, which is offered for the best new rose of good form and habit, possessing the old rose scent. Shown by the Chalk Hills Nursery.

Rose Atalanta.—A very fascinating free-flowering variety raised from Paul Ploton, an old Wichuraiana variety, and William Allan Richardson. The double flowers are of paler salmon colour, becoming a very pale rose at maturity. It is a fragrant summer-flowering rose suitable for pillars and as weeping standards. Award of merit. Shown by Dr. A. K. Williams.

Rose Everest.—This is the splendid white H.T. variety which received the gold medal of the National Rose Society. Award of merit. Shown by Messrs. Walter Easlea and Sons.

Rhododendron Society.

A MEETING of those interested in the new Rhododendron Association was held at Vincent Square on Tuesday, July 5th, at five o'clock, at which the rules of the Association were formally adopted, and it was decided that all present at this meeting, together with those who attended the first meeting on May 3rd, should be Founder Members.

The following were elected to form the first Council of the Association: Mr. Lionel de Rothschild, President; Vice-Admiral Heneage-Vivian, Vice-President; Mr. J. B. Stevenson, Treasurer; Mr. J. J. Crosfield, The Marquess of Headfort, Mr. G. W. E. Loder, the Hon. H. D. McLaren, Mr. Peter Veitch, Mr. F. Gomer Waterer, Mr. E. H. Wilding and Mr. P. D. Williams, members of the Council.

It was decided that any subscriptions received during 1927 should carry full membership until December 31st, 1928.

As a secretary has not yet been appointed, any communication concerning the new Association should be addressed to Mr. Lionel de Rothschild, New Court, St. Swithin's Lane, E.C.4.

It is hoped to have a book of rules printed and membership forms prepared shortly.

The Cheltenham Show.

THE Cheltenham Floral Fête and National Rose Society's Show, which was held on July 6th and 7th last, was in every way a most successful exhibition. There were many attractive exhibits, all well arranged, while the quality of the individual blooms in the exhibits was particularly high, despite the bad season.

Roses were prominent among the exhibits, and Messrs. Dobbies staged a very fine display. They showed four of their novelties, all of which are assured of a great future. These are Royal Scot, Elizabeth of York, of which an illustration appears in connection with the report of the National Rose Show; Duchess of Atholl; and Mrs. F. H. Howard. Royal Scot was awarded a certificate of merit; while Messrs. Dicksons were also awarded a certificate for Rose May Wettern. Mr. Elisha J. Hicks won the Jubilee Challenge Cup. Included in their display, Mabel Morse was in particularly good condition.

Sweet peas were not well represented, but Mr. W. L. Payne of Bath showed some fine blooms of Youth and Mrs. Tom Jones.

The Cheltenham Silver Challenge Cup went to Messrs. Cypher and Sons for the best exhibit in the Show. Their display was of their usual high standard, well arranged, and the individual greenhouse plants and orchids, which were present in great variety, showed to advantage. It was a meritorious exhibit, fully deserving of its high award.

Messrs. Bowell and Skarratt staged a well designed table rock garden, which was awarded a first prize. Quite a wealth of alpines and rock plants were included, while the water lilies were most attractive and created no little attention.

A very fine show of gloxinias, providing a vivid splash of colour, was staged by Messrs. Suttons. The plants were all well grown and the blooms were of good quality. Among the many varieties shown, Duchess of York and Her Majesty were outstanding.

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Mr. W. Wells, jun., was showing his new double Gypsophila Bristol Fairy, which looked very fine; while his splendid exhibit of delphiniums was also greatly admired. All the leading varieties were to be seen in the group.

All the amateur classes were of a particularly high order. Many of the individual exhibits were fully equal to those staged by the commercial growers. The table decorations were especially fine, and the amateur exhibitors deserve congratulation for their excellent display.

Wadhurst Rose and Sweet Pea Show.

THE Wadhurst Gardening Association held their second rose and sweet pea show on June 22nd. Started last year in the Memorial Hall, the exhibits this year filled, in addition, a large marquee. The increase in quality was as marked as the increase in quantity, and won congratulatory comments from the judges. The Courthope Perpetual Challenge Cup for Roses was won by Mrs. A. V. Drummond of Bassetts, Mark Cross; the Sharp Perpetual Challenge Cup for Sweet Peas was won by Mrs. Wellington Williams of Shernfold Park, Frant. The National Viola and Pansy Society's bronze medal was won by Captain and Mrs. Norman Snelgrove, Marling Place, Wadhurst.

Among other prize winners were: Mrs. Ll. K. Jones, first for rambler roses arranged on miniature pillars and first for table decoration; Mr. F. W. Franks of Tonbridge, first for sweet peas in vase; Mr. G. H. Shakerley Akers of Doddleswell Manor, near Uckfield, first for hardy flowers; Sir Austin Chamberlain, K.G., M.P., first for lupins and third for violas; Mr. John L. Reid of Maplesden Ticehurst, first for irises; and Sir Derrick Watson of Burwood, Groombridge, second for irises and third for rambler roses. Many fine exhibits were staged by Messrs. Allwood (carnations), Bunyard and Charlton (miscellaneous groups), Fielden and Crouch (rock garden), Hollamby (campanulas and an outside exhibit of ornamental shrubs) and Whitelegg (rock garden) which added greatly to the interest and beauty of the Show. There were some good exhibits of sundries.

The Wallington Horticultural Society.

THIS Society held their annual summer show at Carshalton on Saturday, June 25th, and it was pronounced on all hands as a very great success, having regard to the lateness of the season. The judge for the roses, Alderman E. J. Holland, J.P. expressed himself as very pleased with the excellent quality, and observed that each year the Wallington Society reached a higher standard. Mr. W. H. Divers, who judged the flowers and vegetables, also congratulated the Society on the all-round excellence and the quality of the exhibits, especially the sweet peas.

Excellent exhibits not for competition were staged by Messrs. Chaplin Brothers (roses), Cheal (dahlias), Wells, jun. (herbaceous plants), Sargeant (pansies), and a new composition garden paving made by the Rhymney Quarries, and "Bordex," and these attracted attention throughout the afternoon and evening.

New Pansies and Violas.

Two First-class Novelties.

THE members of the Scottish Pansy and Viola Association held their first meeting of the season at Glasgow on July 2nd. Major R. S. Milne presided. In consequence of the unseasonable weather, there were fewer new introductions exhibited than is usually the case; but what was lacking in number was made up by the outstanding qualities of the flowers.

Pansies.—First-class Certificate: Dan Cochrane, raised by Alexander Cochrane, Fauldhouse. *Certificate of merit:* Bill Smith raised by T. W. Wilson, Neilston.

Violas.—First-class Certificate: Jean Lister, raised by Alexander Lister and Sons, Rothesay. *Certificate of Merit:* Mrs. George Gibb, raised by Quinton McFadyen, Carluke; Mrs. John Douglas, raised by John Douglas, Uphall; and David Stevenson, raised by D. Stevenson, Barrhead.

Jean Lister is a really good viola, considered to be the finest introduction of recent years. The colour is pure white banded heliotrope blue which deepens towards the edge, and it possesses all the points of merit desired in a viola, *viz.*, form, size, smoothness and a clear eye.

The outstanding pansy was Dan Cochrane. This is a giant flower, measuring 4ins. across, with dense black blotches edged cream on the lower petals and brightening to violet on the upper part.

Glasgow and West of Scotland Horticultural Society.

ON the occasion of their second outing of the season, the members of this Society visited Ballochmyle House, where an hour was devoted to the inspection of the gardens. Thereafter they proceeded to Barskimming estate, the residence of Mr. Robert J. Dunlop, shipowner, Glasgow. It is a most picturesque place, surrounded by broad lawns and pleasant woodlands and the gardens are approached by an ancient bridge, under which the river Ayr, 90ft. below, winds its way to the sea between massive rocks and banks studded with rhododendrons.

The gardens have long been noted for their attractive features. In the earlier years of the present century, Barskimming was occupied by three accomplished sisters, daughters of the late Sheriff Anderson. One devoted her time to the garden, another specialised in the breeding of ponies, while the third achieved success in the artistic world as a designer of ironwork. A proof of the latter's capabilities is to be seen in the handsome gate which forms the main entrance to the garden. Since the estate has been in the possession of Mr. Dunlop, the gardens have been in charge of Mr. Currie, who has maintained their characteristic features and introduced or developed others which are more in keeping with modern tastes.

The first thing which impresses the visitor is the long stretch of herbaceous borders which flank the broad grass path. Here are to be found a choice and numerous collection of plants provided with a background of rambler roses trained over rustic framework. Lupins and delphiniums in variety, poppies, catmint, verbascums, etc., contributed to the colour display, and by making a slight deviation at the end of the border, a bed of seedling primulas was disclosed. Amid the brilliant array of colours a single plant was distinctive by reason of its deep orange pink flowers and when it was explained to be a naturalised hybrid increased interest was taken in the group. Beds of meconopsis, seedling delphiniums, etc., filled the side borders of the walk leading at right-angles to an inner garden containing sweet peas and strawberries. The kitchen garden adjoining was well furnished with vegetables, and fruit trees and bushes seemed to be none the worse for the late frosts and summer gales.

Without a doubt the prettiest bit in the whole garden is the bank with its neatly designed beds cut out of turf and approached by an expanse of grass which slopes down gently from the walk opposite and rises again towards the flower beds. It was too early in the season to see the various subjects in bloom, but it was not difficult to visualise the gay beauty of this partially secluded spot in the course of the next few weeks.

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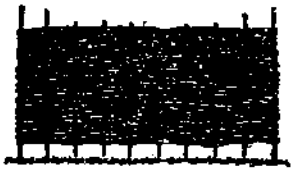

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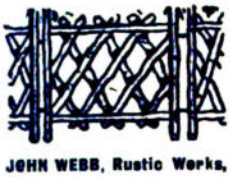

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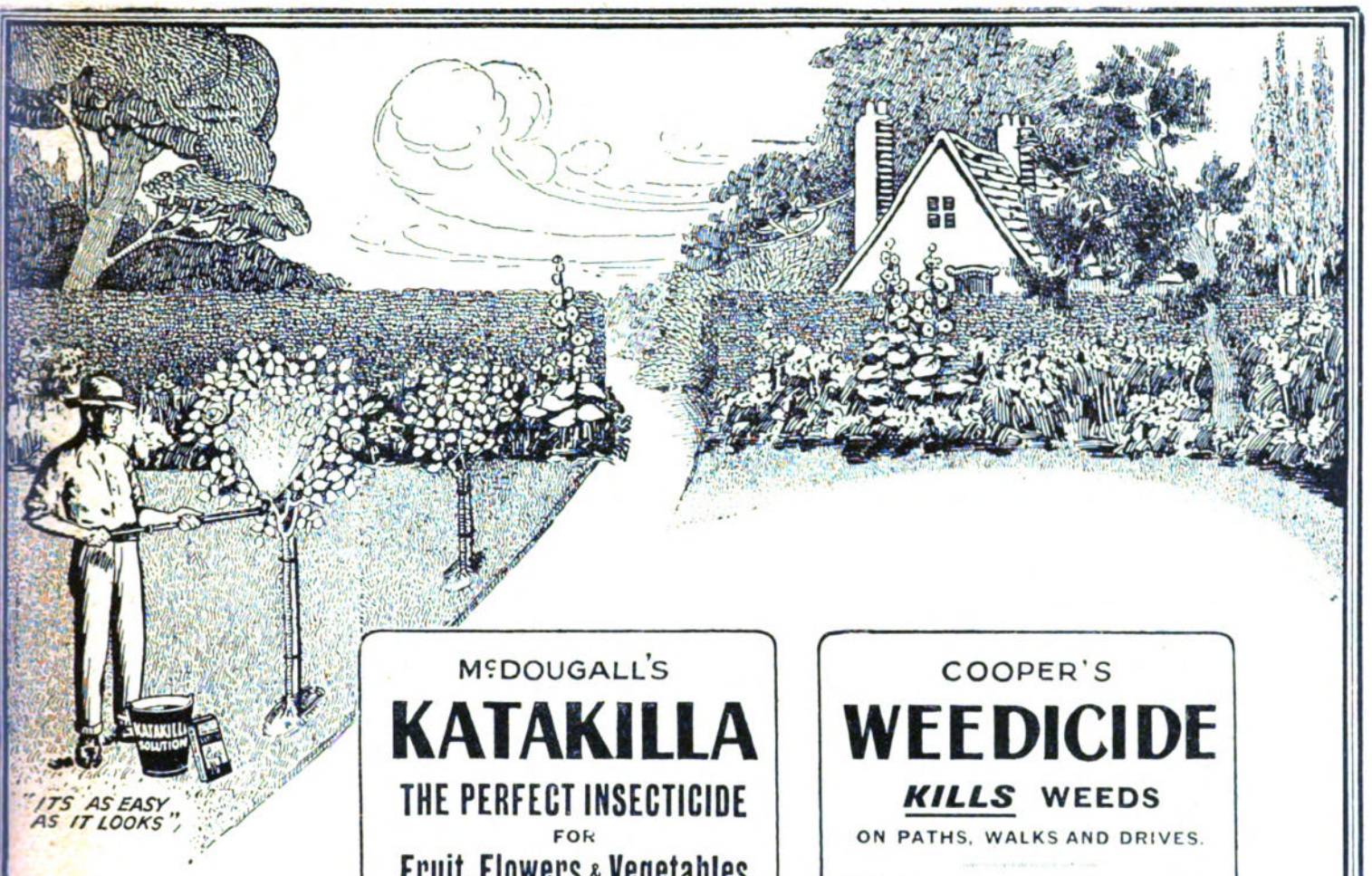

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Norfolk and Norwich Horticultural Society.

THIS old Society held its summer show on Thursday, July 7th, in the charming grounds of Town Close House, Norwich, by kind permission of Mr. Chas. Bunting. Roses were very good considering the hail and rain experienced in the district lately. Dr. Deacon, of Brundall, secured the challenge cup, also the medal for the best bloom in the Show. Mrs. Campbell Steward, Saxlingham, was a notable winner and her group of various types of roses was a most interesting and educational exhibit. Captain J. H. Mander won for a basket of roses, while Mrs. Sandys Wensch deserved praise for her first prize decorated vase, which was composed of Betty Uprichard and rubrifolia foliage. Sweet peas made a most brilliant exhibit and the several classes were well contested. The challenge cup for twenty-four bunches was won by Mr. A. E. Lark, a good win out of five competitors.

The classes set aside for allotment holders we were glad to see were well contested and the produce reflected great credit upon the growers. As usual, the trade growers did their part to make the Show educational. Messrs. Daniels Bros., Norwich, had a wonderful bank of sweet peas, grown from their own seed at their seed farm at Tunstead, including the best varieties. Messrs. Allens of Norwich maintained their reputation in the world of roses, with a choice collection. Messrs. Henry Morse and Sons, Eaton, Norwich, also had a wonderful display of roses, including new seedlings of their own. Messrs. G. Stark and Son, Ryburgh, had sweet peas and poppies in profusion, while Mr. G. W. Miller, Wisbech, made a feature of delphiniums.

The Royal Show Newport.

THE horticultural section of this well known annual event was accommodated in two large tents, and if a blaze of colour can be looked upon as a success, then there is no doubt that this part of the Show achieved its object. Moreover, it was a place of refuge during the heavy storms of rain and a welcome relief from the slush and mud on the day of our visit. Delphiniums were represented by thousands of spikes and hundreds of varieties, and such firms as Blackmore and Langdon, Bees Limited, and Hewitts maintained their reputations as successful growers and raisers of these indispensable border plants. Three prominent varieties were Lord Derby, deep rich mauve; Dusky Monarch, deep mauve; and M. Blackmore, pale blue and mauve with black centre. Roses were a strong feature, and many well known growers were represented by large exhibits. An exceptionally bright bit was Langdon's begonias, a new double [variety named Lady Daresbury, with large glowing, deep salmon flowers attracted considerable attention. The usual exhibits of carnations added their quota to the Show, and one of the best displays was a group of border carnations put up by Mr. H. Lakeman, Thornton Heath. No doubt they were flowered under glass, but nevertheless excellent results can be obtained in the open border. Mrs. H. Lakeman is a fine fancy variety, old gold marked with rose. Yellow Border, Elizabeth Shiffner, a bright golden orange self, and Salome, a mauve fancy splashed with rose are only a few of the good things on view. A wonderful exhibit of sweet peas came from Messrs. Suttons, the varieties Royal Sovereign and Colorado, in shades of orange, being most conspicuous. They also staged a collection of vegetables in which their V.C. pea was prominent, while a group of seedling delphiniums illustrated what good forms can be obtained from a packet of their seeds. Messrs. Webb gained a large gold medal for a gorgeous display of flowers, consisting of numerous varieties of sweet peas, gladioli, stocks, delphiniums, scabious, iris, gaillardia, alstrœmeria, statice, etc. They also showed many flowers in pots. A single group of orchids was staged by Messrs. Low, Enfield, and a creditable collection of fruit was tastefully arranged by the Studley College; while King's Acre, Hereford, put up a group of pot fruit trees in which plums and highly coloured apples played an important part. Miscellaneous groups of flowering and foliage plants, were there from Messrs. Peed, Norwood, who had an excellent lot of the scarlet Kalanchoe coccinea, a fine dwarf subject for the greenhouse, while Messrs. Cypher of Cheltenham staged a meritorious group in which graceful sprays of spotted odontoglossums and highly coloured dracænas were noteworthy. Cuthbert's hydrangeas also attracted much attention.

Hardy border plants, naturally, formed a large portion of the Show, and no attempt is made to give a detailed description of all or even a few of the exhibits. In Messrs. Gibson's (Birmingham) group we noticed a plant worth growing in their giant orange Iceland poppy; it is a glorious shade of rich orange, the flowers are large, easily raised from seeds, said to come 95 per cent. true. Messrs. Wood of Taplow staged Sidalcea Interlaken, a nice rose coloured addition to these charming plants. In Treseder's, Cardiff, group we saw a fine plot of roses, and for the cool greenhouse a showy pelargonium named Masterpiece, with almost scarlet flowers with darker markings. Messrs. Baker's, Wolverhampton, had the best form of Campanula Telham Beauty that we have seen, while in Messrs. Carter's display, two gladiolus primulinus, *viz.*, Brilliant (scarlet) and Souvenir (yellow), were worthy of adding to the garden. Among other good things, Artindale's of Sheffield had Lilium umbellatum multiflorum in fine form, and the beautiful yellow Eremurus Bungei. Messrs. House of Bristol staged a fine group of scabious, also the most interesting plant in the Show, the new yellow Primula Florindæ. Tree ferns from Mr. Russell, Richmond, were in pleasing contrast to the riot of colour from the hardy but ordinary border flowers, which at any rate gave evidence of good cultivation.

CATALOGUE RECEIVED.—Messrs. Anthony C. Van der Schoot, Ltd., Hillegom, Holland. Autumn list containing bulbs for autumn planting, perennials and roses.

Our Photographic Competition

1. All photographs sent in must be taken by the reader or submitted with the consent of the actual photographer.
2. Prints should be on smooth surface paper and preferably in black tones, and can be of any size. Figures may be included where these are helpful to the composition.
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5. Each photograph must be accompanied by a coupon, to be found on page xi, and a piece of cardboard should be used to prevent damage in the post. Envelopes should be marked "Photographic Competition" on the outside and addressed to The Editor, THE GARDEN, 20, Tavistock Street, Covent Garden, W.C.2.
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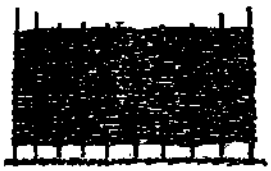

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We supply 10 Hurdles, 12 Stakes.
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Catalogue on application.

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Outfit comprises solid brass sprayer, 2 ft. extension, angle bend, two nozzles, patent strainer, and 10 ft. of hose.

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WALTER BLOM & SON, LTD.,
(Late of Overveen),
Hillegom, Holland.

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PUBLICATIONS RECEIVED.

"The Modern English Garden" (*Country Life*, 21s. net.) A pictorial record of English gardening with a few pages of general introduction in which is discussed the various factors that have contributed towards the creation of our modern garden. The illustrations have been carefully chosen so that each has a definite teaching value and they are valuable for the detail which they show. All aspects of gardening are covered in the volume and those who are designing and laying-out gardens will find the work of the greatest assistance. It is full of suggestions as to how to obtain the very best in a garden and, moreover, it is strictly practical, since the illustrations are all from photographs taken in various gardens in this country. It is certainly a book for those who are seeking ideas in the planning and planting of their gardens.

"Seeds and How to Raise Them," by Richard Sudell. (Published by the Chase Continuous Cloche Company, price 1s.) A useful booklet on the growing of plants from seed. The whole subject is dealt with in a thorough manner, and the whole field is covered, including annual, biennial and perennial plants, trees and shrubs, and vegetables. Special reference is made to the use of the Chase Continuous Cloche as an aid to the successful raising of plants from seeds. Amateurs will find it a handy and helpful brochure.

"How to Win Photographic Competitions." (The Fountain Press, Limited, Clifford's Inn, London; 9d. net.) In view of our photographic competition, which is proving so popular with our readers, this handbook which has been received is of more than usual interest. It is small as books go, but it is full of helpful hints, which are presented to the reader clearly and concisely. Amateur photographers will find it not only interesting, but also of assistance if they are desirous of putting their hobby to material advantage. Those of our readers who have not entered our competition on the grounds that they do not know how to proceed will find this booklet of great help in learning how to succeed in photographic competitions.

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CATALOGUE RECEIVED.

Catalogues are of many kinds, but rarely, if ever, has it been our good fortune to come across one so excellent in every respect as that recently published by Messrs. W. E. Marshall and Co. of 150, West Twenty-third Street, New York. This handsome booklet, with the alluring title of "Consider the Lilies," is scarcely a catalogue in the sense in which we know it, either in form, appearance or in subject matter. It is a comprehensive and yet concise treatise on the subject of lilies, embracing their history, classification and culture. It is an admirable production throughout, not only for the accuracy in information and nomenclature, but also for the fine quality of the illustrations. In some respects it recalls the high standard reached in such catalogues as the *Hortus Veitchii*, but, naturally, it is not on such a grand scale, since it does not cover such a wide field. The illustrations of sixty-five species and varieties in natural colours, with, in addition, several excellent half-tone illustrations, make it a handbook worth preserving by all those amateur gardeners who are at all interested in lily culture. The information given on the cultivation of the hundred and one varieties listed makes the work doubly valuable. A small charge of $1 is made for the booklet, but this amount may be deducted on an order for bulbs amounting to $3 or over. We commend the catalogue to the attention of all our American readers and all enthusiastic lily growers in this country.

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Seed saved from finest named and unnamed varieties in cultivation.

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Unflowered seedlings.. doz. 3/-

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Strong seedling plants doz. 1/-

DOUBLE MYOSOTIS 'ORION.'

A novelty of exceptional merit. It produces a cloud of gracefully poised **double** flowers and does not seed. Fully hardy.

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25,000 NARCISSUS 'WHITE LADY.'
Pure white with small crinkled sulphur-coloured crown.
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TULIPS.—Boadicea 2/- doz. Baronne de la Tonnaye 1/6. Bouton d'Or 1/- Clara Butt 1/-. Faust 2/3. Grenadier 3/-. Inglescombe Pink and Yellow 1/3. Kaiser Kroon 2/6. La Merveille 1/3. Murillo 1/3. Prince of Orange 3/6. Prince of Austria 1/6. Pride of Haarlem 1/-. Picotee 1/-. Rev. Ewbank 1/6. Wm. Copland 1/3. White Hawk 2/-.
All prices per dozen. Compare elsewhere.

500 NARCISSUS BERNARDINO.
Strong grower. Large flower, creamy white with warm apricot trumpet.
Price elsewhere 7/6 doz.
My price 4/- doz.

25,000 BARRII CONSPICUUS.
Well known and well loved favourite.
Price elsewhere 2/- doz.
My price 8/- 100, 70/- 1,000.

100,000 MIXED DAFFODILS AND NARCISSI.
All sorts for naturalising and cutting.
5/- 100, 40/- 1,000.

Price List with pleasure upon application.

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Choice Flower Specialist
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SOCIETY NOTES

Falkirk Rose Show.

THE annual show of roses, sweet peas, carnations, pansies and violas, promoted by the Falkirk and District Rose Society, was held on Saturday (July 23rd), and, despite the torrential rains which flooded wide areas of the country a few days previously, the display exceeded the most sanguine expectations.

In the open rose sections, Messrs. Thomas Smith and Son, Stranraer, provided the best collection of cut blooms arranged on pillars, baskets, etc. It was composed of up-to-date varieties, such as the Duchess of York, Eva Eakins, Mrs. E. T. Hudson, Ruth, Shot Silk and Angele Pernet, and the general effect was good. Messrs. James Fairley and Co., Cairneyhill, Fife, who were second, had the positions reversed in the class for six baskets of cut roses, of which Wilhelm Kordes and Betty Uprichard were conspicuous for good form and colour.

The finest roses in the Show were staged in the classes for twenty-four and twelve blooms, both of which were won by Messrs. Smith. Their outstanding blooms were Mrs. Barraclough, Ruth, Courage, Mrs. Henry Bowles, Brilliant, Mabel Morse and Dr. A. I. Petyt. Messrs. Paton and Sons, Dundee, excelled in the crimson class with twelve first-class examples of Captain Kilbee Stuart, and in the white class Messrs. Fairley's stand of a dozen clean and even blooms of Marcia Stanhope defied opposition.

In the gardeners' and amateurs' divisions the principal prize winners were Mr. D. Montgomery, Banisford (eighteen blooms, six vases decorative and one vase yellow). Mr. W. R. Gair, Ardgour (twelve blooms, hybrid teas), James Boyd (one vase pink and vase single), R. Maconachie, Clarkston (vase white), and Miss Zuill (vase red).

The amateurs' classes were keenly contested. Here Mr. William Short displayed exceptional strength in the two classes for twelve blooms, which included specimens of Wilhelm Kordes, Dame Edith Helen, and Mrs. Bowles in top condition. He also provided the best lady's spray, and his example was followed by Miss Short in the ladies' section.

Scottish National Pansy and Viola Society.

FIVE pansy and four viola seedlings were staged for certificates at the second meeting of the above Society, held at Glasgow on Saturday, and awards of merit were given to the following varieties: Alice Taylor, fancy pansy, twenty-four points, raised by Mr. Quinten McFadyen, Carluke (a dark, velvety black blotched flower, edged cream); Colin Wilson, fancy pansy, twenty-six points, raised by Mr. Alexander Cochrane, Fauldhouse (a big bloom with Prussian blue blotches, margined French white and splashed wine colour on the upper petals); Viola Jean Lister, thirty-five points, raised by Messrs. Alex. Lister and Son, Rothesay.

West Lothian Pansy and Viola Society.

THE flower show season in Scotland was inaugurated on Saturday last, when the annual exhibition of the West Lothian Pansy and Viola Society, which is the only institution of its kind north of the Tweed, was held at Linlithgow. Although the number of exhibits staged was less than that of last year, the display was very creditable.

The best pansy and viola blooms were staged in the open classes and competition was invariably keen. Mr. Alex. Cochrane, senr., Fauldhouse, excelled in the classes for forty-eight pansies, six seedlings and the best seedling bloom and success also attended that well known raiser in the gardeners' and amateurs' section, where he was placed first for twenty-four, twelve and six blooms and the seedling fancy pansy. Mr. Henry Robertson, Kelty, had five first prizes to his credit, *viz.*, in the classes for twenty-four fancy pansies, six seedling violas, seedling viola edged, twenty-four violas and seedling viola any colour. The three principal awards for show pansies went to Mr. James Rutherford, Oakly, while Mr. Quinten McFadyen, Carluke, was a prominent winner in the viola classes. Other competitors in the first prize list were Mr. Hugh McColl, Linlithgow; Mr. Stephen McLauchlan, Winchburgh; Mr. Joseph Paterson, Philpstoun; and Mr. Andrew Tennant, Whitburn.

The challenge trophy and medal for the competitor gaining most points in the pansy and viola section were won by Mr. Joseph Paterson.

Vegetable Show for Amateurs.

THE Vegetable Show of the Royal Horticultural Society will be held in the Society's Hall, Vincent Square, S.W.1, on Tuesday, September 13th. There are thirty-seven classes, of which twenty-nine are devoted to exhibits of single dishes. All the classes are open to amateurs, but in a few, restrictions are placed on the number of employees in the gardens. It is to be hoped that all amateur growers of vegetables will make a point of exhibiting their produce at the Show, and so assist the Society in making this annual event a success. The schedule for the Show is now published, and copies may be obtained on application to the Secretary, R.H.S., Vincent Square, London, S.W.1.

British Carnation Society.

NEW CARNATIONS.

Name, "Apethorpe Citronella"; raiser, Mr. Charles Garratt, Peterborough; colour, pale yellow.

Name, "Lady Daresbury"; raiser, Messrs. Stuart Low and Co., Bush Hill Park; colour, delicate rosy blush.

Horticultural Examinations.

THE examinations of the Royal Horticultural Society will be held in 1928 as follows:

Written Examinations.—General examination (seniors and juniors), Wednesday, March 21st. Teachers' examination (preliminary and advanced), Saturday, March 24th. National Diploma (preliminary and final), Saturday, Ma 5th.

Practical Examinations.—Teachers' examination (advanced), Friday, June 15th. National Diploma (preliminary), Tuesday and Wednesday, June 19th and 20th. National Diploma (final), Thursday and Friday, June 21st and 22nd.

All entries, except those for the National Diploma, should be made on the form in the syllabus, obtainable from the Secretary, R.H.S., Vincent Square, London, S.W.1.

Scholarships at Wisley.

THE Council of the Royal Horticultural Society will shortly consider applications for two scholarships for young gardeners, tenable in their gardens at Wisley. Young men between the ages of seventeen and twenty-two, with at least three years' experience in private or nursery gardens, whose means preclude them from otherwise taking a course at Wisley, are eligible for consideration. The scholarships carry remission of fees and a maintenance allowance (the exact amount of which is in the discretion of the Council after considering all the circumstances) of about £85 a year. Full particulars may be obtained from the Director, R.H.S. Gardens, Wisley, Surrey, to whom completed applications must be sent by August 20th, 1927.

THE WORLD'S WONDER SHOW

53rd YEAR

SHREWSBURY GREAT MUSICAL AND FLORAL FETE

Wednesday and Thursday August 17th and 18th, 1927

Upwards of £1,420 Cash Prizes

FIVE SPECIAL JAPANESE BRONZE TROPHIES

PRESIDENT'S PRIZE—Silver Plate

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Gold and Silver Medals, etc.

Entries close August 10th.

For Schedules apply W. G. BRAZIER, *Secretary*, Shrewsbury.

The National Carnation & Picotee Society

(NORTHERN SECTION)

FOURTH ANNUAL EXHIBITION

To be held at the

British Legion House, Sheffield

SATURDAY, AUGUST 6th, 1927

2 to 9.30 p.m. *Admission 6d.*

SECRETARY, 11, Longley Avenue, Sheffield.

What about Next Spring?

HARDY BULBS *for* AMATEURS

By the Rev. J. Jacob

By far the best book on bulbs

5/- net

"Country Life," Ltd., 20, Tavistock Street, London, W.C.2

Plants for Shady Rockeries

Campanula Pulla; Camp. turbinata; Myosotis Imp. Elisabeth; Primula Julia; Saxifraga cæspitosa, and Silene Schafta.

6 of any or 1 of each, 4/6 Carr. Paid C.W.O.

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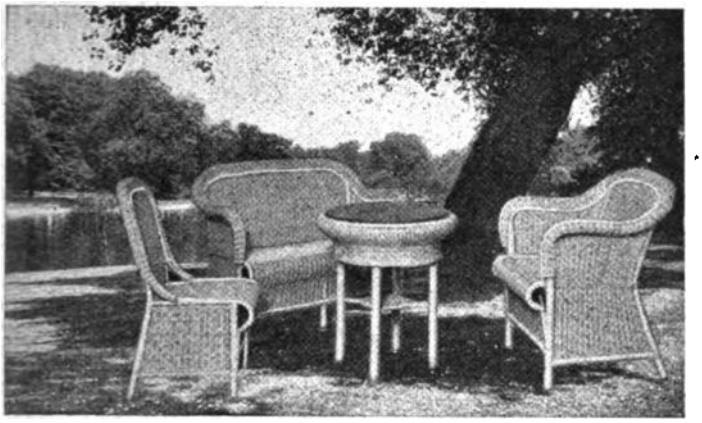

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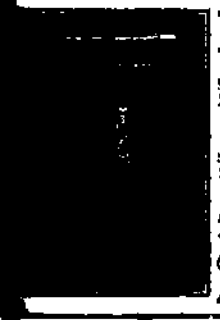

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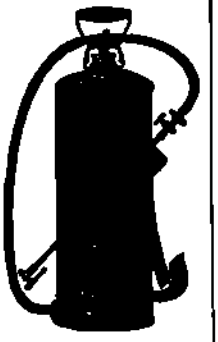

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Manuring Plants for Exhibition.

What are the best methods of manuring the following: Roses, gladioli, sweet peas, chrysanthemums, violets, all with a view to exhibition. When is it best to commence manuring, when to cease, and how often to apply? I especially wish to know what is the very best for sweet peas—they are all on perfectly prepared ground and training up bamboos. I have taken prizes for these before without the application of artificial manures, but I want to apply these.—D. H., Fowey.

For roses some rotted manure is good, dug in during the preparatory work of forming beds and planting. Diluted liquid manure should be applied during the summer, and phosphates at the rate of 4 oz. per square yard should be added. For gladioli, rotted manure should be mixed in the winter with deeply trenched soil. Weak doses of liquid manure should be given when flower spikes can be felt. For sweet peas a small quantity of rotted manure and fowl manure should be mixed with the soil 1ft. below the surface in autumn, when the trenches are made. Three ounces of super-phosphate per yard run of row should be applied when flower buds begin to form, give three dressings during the summer. A small quantity of dry powdery fowl manure added to the potting soil is necessary for chrysanthemums, with applications of Clays during the growing time in summer. For violets, rotted manure, good loam and sweet leaf-soil are necessary.

Growing French and Turban Ranunculi.

Will you tell me how to grow the French and Tutban ranunculi? I have tried the last two springs, but cannot get any heads to develop. Details as to compost, temperature, time of potting, treatment, etc., will be appreciated. I presume they have to be grown in a greenhouse in our climate—snow on the ground till the middle of April, cool weather for another month and late frost in early June. Or could they be grown out of doors? I have tried some outdoors two years ago and they grew fairly well till warm weather came, and then dried off. Am planning sowing seeds (of the Florentine and Palestine strains) outside in a week or so. Is this the correct procedure to obtain roots for flowering next spring?—P. K., Nova Scotia.

The Turban ranunculus is hardier than the named sorts. You may pot them certainly, but you could also try some outside. A good loam, on the light side, is the most suitable compost for them. Sound drainage is essential. Sow seeds of the others named as you suggest, but in slightly raised beds. When the roots of the ranunculus become active they must never suffer through lack of water or they will perish, but at the same time, good drainage is necessary. If you can procure some soil from near rivers, which when dry, will feel like flour in the hand and crumble readily, you will have an ideal rooting medium for these plants.

Constructing a Small Pool.

I want to make a small pool in my small garden. I have no running water, but could run water into it from off the roof or, in dry weather, from a rain-water tank. Could you give me some idea how to construct it, preferably from cement, also how to treat the edges? The garden consists of a grass strip 54ft. by 20ft., with a small slope beyond the far end and a bed beyond it, a border one side and a path and small border the other. I thought of making the pool at the far end of the grass strip and using the slope for the overflow.—H. P., Northampton.

A pool may be constructed of good puddled clay, the thickness being 6-9ins. Where the flow of water is constant a pool of this kind answers. A cement pool or tank should be constructed as follows: The sides, ends and bottom should be of single thickness of bricks laid in good cement. When dry, line the pool or tank with cement and sand in equal quantities, ¼in. thick. Finally, put on a layer of cement, 4 parts, fine sand 1 part, ¼in. thick. When dry, wash or paint with thick cement water.

Treatment of Pigmy Dahlias.

I have raised some pigmy dahlias from seeds. These are now flowering. Would you kindly tell me what to do with these plants in the autumn, as I wish to grow them on again next year. Can I take cuttings from them, and at what time, or should they be kept quite dry during the winter?—A. C., Oxford.

In the autumn, before frosts kill the tops of your dahlias, lift the plants, cut off the stems 9ins. above the roots, and store the latter in dry sand in a cool, dry shed. They must be further covered with straw if severe frosts come. In February, start the roots in a greenhouse or frame and propagate young shoots in a mild bottom heat—hot-bed under a frame—in April.

Raising Lilium regale.

I have raised a number of Lilium regale; last year several bloomed in a nursery bed (where they had been planted in the spring). In the late autumn they were lifted, as we feared they might be destroyed by frost, mits or slugs. I found that they still had long fleshy roots, so they were put in boxes and soil thrown over them. Will you kindly tell me what we should do with those which are planted out now? I may add that we have lost many of our best pot lilies, as mice devoured them during the winter and they are very destructive in the garden. Will you also tell me why asters often wilt and die after being pricked out? The stems seem to be affected.—A. V., Taunton.

You should have left your liliums in the nursery bed, unless you wanted to plant them in some other part of the garden. Having lifted them you should at once have replanted them in the positions you wished them to occupy. If you desire to remove others from the nursery bed it should be done when the foliage dies down, replanting them at once about 8ins. deep and surrounding the bulbs with plenty of clean sharp sand. Lilium regale is very hardy, only the young growth may suffer from late spring frosts. Mice are very fond of some species of lilium, and you must keep them down by trapping. Your asters are, no doubt, attacked by a fungoid disease. A species of phytophthora is generally the cause of the trouble, and the plants are often infected in the seedling stage. Overcrowding, too close and moist conditions, and lack of a free circulation of air will cause the trouble. Clarkia, godetias and other annuals often suffer in a similar way, especially if overcrowded.

Pruning Neglected Currant Bushes.

What should I do to some red currant bushes which have, apparently, not been pruned for some years and have, consequently, borne no fruit? Should I prune them now or leave them till January? They have no spurs at all.—J. C., Chippenham.

The bulk of the pruning required by the neglected red currant bushes must be done immediately after leaf fall in late autumn. you could, however, now attempt a little summer pruning, by shortening to five leaves from the base all the side shoots or laterals made this season. Do not shorten the leading or extension shoot on each branch at this season, but in late autumn cut each back to about half their length. When shortening the side shoots now, pay particular attention to those that crowd the centre of the bush, so that sunlight is admitted to all parts. If the bushes are healthy and vigorous you should experience no great difficulty in bringing them back into a fruitful state by careful attention to the November pruning. If you feel in need of advice as to how to treat the bushes at this later date, we shall be pleased to help you then if you will kindly send us particulars of their condition, etc.

Pruning Newly Planted Fruit Trees.

I planted the following last spring in a new garden, and shall be glad if you will give me information regarding the necessary pruning, apple trees (Bramley Seedling and Worcester Pearmain), plum (Victoria and greengage), pear (Beurre Hardy), gooseberries, black and red currants, loganberry and raspberries (Lloyd George).—W. G., Briton Ferry.

Your trees should be pruned this autumn when they should be treated as follows: Shorten the leading shoot of each branch by about half, cut growths that crowd the tree centre clean away, and shorten to two or three buds all side shoots unwanted to grow into branches. The young apple, pear and plum trees should be treated on much the same lines. The young gooseberry and red currant bushes should be treated on the same lines also, the leading new growth of each main branch being shortened by about half, the centre of each bush cleaned of crossing shoots and all other shoots shortened to two bottom buds. The black currant, which normally should have been cut clean to the ground after planting, should in autumn have all wood older than this season's cut hard back, this season's growths being left full length. The raspberry canes should each be cut to within a foot or so of the ground after planting, or, if very strong, they may be just "tipped."

Apple Blight.

Will you tell me what to do in the case of the enclosed apple tree blight? I have picked off all the infected leaves that I can see—about one in three—and have sprayed with "Abol," but there are still signs of it left. It is thick with fruit which is apparently healthy. It is a fairly old tree, has been moderately pruned, and always bears well. I do not know the variety.—C. S., Marple.

The apple foliage sent for our inspection is attacked by the Rosy Apple Aphis. Spraying with a good insecticide will put a stop to the trouble so long as the spraying is done thoroughly and forcibly, though if left late and the leaves are badly curled, it is difficult to apply the wash with good effect. There is no need at all to pick off the attacked foliage. In winter we recommend that you spray this tree with a tar distillate wash, such as "Mortegg" or "Carbokrimp," as a precaution against a similar attack next season. Also, next spring keep a sharp watch for it re-appearing and spray at the very first sign of "blight" of any kind with "Abol," "Katakilla" or any good insecticide.

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We have selected the following enquiries with ther answers, as being of more general interest, and therefore worthy of publication.

Root-Pruning Apples.

Could you tell me if it is necessary to root-prune my apple trees and how this should bs done? I have a five to six year old tree of Champion of Tompkin's County that has never fruited and also a couple of bush applee of another strain.—S. Y., Edgware.

Root-pruning is an operation performed only when the tree is making very rank growth and is unfruitful. If weakly or heavily cropping trees are root-pruned, more harm than good will be done. The way to carry out this operation is as follows: In the month of October dig out a trench round the tree—about 2ft. 6ins. or 3ft. out from the main stem—and work down, tunnelling beneath the tree until the down-striking tap root is cut. All large, coarse roots met with when digging out the trench should be cut back with a knife to within 2ft. of their beginning, but laterals well furnished with fibrous roots should be left intact and replaced carefully in position when disturbed. The soil is then filled in and firmed. If a tree is, say, five years old, or younger, it may be lifted, the roots pruned back and replanted. If older than, say, ten to twelve years, one side of the tree roots should be pruned in one year and the opposite side the next year; but between these ages it is safe to prune all round in one season.

Mildew on Vines.

How can I check mildew on vines? The berries are colouring and I have not watered for about twelve days. They are in a cold house.—A. W., Crayford.

The remedy for mildew on grape vines is to dust the affected parts with flowers of sulphur or with green sulphur powder. If the vine is subject to this trouble, make a practice of dusting the vine with this sulphur as a preventive measure just before blossoming time each year. Also be careful that the house is well ventilated and that there are no draughts. A cold or water-logged border is conducive to mildew trouble, and this should be looked to in autumn if there is any danger from this source. The sulphur should be dusted on at once, and if the trouble persists, make a second dusting about ten days after the first.

Difficulties with Dutch and Spanish Irises.

Can you tell me the cause of Dutch and Spanish irises diminishing in quantity and size? I have a bed containing these irises, also English irises, planted in the autumn of 1925. Last summer all flowered well; this year the Dutch and Spanish irises are reduced in quantity and giving poor flowers, but the English irises have increased considerably. The soil is stiff, but well drained. I have not manured the iris bed, but forked some mortar rubble into it.—J. B., Winchcombe.

Your experience with Spanish and Dutch irises is not unusual; in fact, we may say it is what usually happens, unless conditions are very favourable—a light and warm soil—and they gradually die out. You would probably do better if you lifted them every year as soon as the foliage dies down. The English varieties—as in your case—usually do well and go on increasing year after year without being lifted and replanted.

Roses in Pots.

I have a climbing rose tree in a 9in. pot. The variety is Chastity. It is green and looks fairly well, but I cannot start it into growth. It was potted out about Christmas. Is there anything I could do to give it a new start into life?—P. F., Wigan.

Undoubtedly there is something wrong with the roots of your rose tree. The only suggestion we can make, in the circumstances, is that you plunge the pot to the rim in a border in a cool position, attend to the necessary watering and wait a few weeks. If at the end of a month there is not any new growth, examine the roots; if they are alive, leave the plant in the pot and protect it with litter during the winter and prune in April.

Treatment of Worcester Berries.

I have two Worcester berry bushes, and should be glad to know how to treat them. Should they be pruned and manured, etc., as gooseberries? New shoots seem to be coming from the base of the plant as in black currants.—K. W., S.W.19.

Worcester berry bushes should be treated in exactly the same way as are gooseberry bushes. Pruning, manuring, etc., are the same for both. If the new shoots growing from the base of the bush are unwanted to form a framework of branches, then cut them clean away—as you would with gooseberries—for they are simply surplus sucker growths and will be in the way of fruiting branches. By summer-pruning the bushes now, shortening the crowded side shoots to three or four leaves, you will greatly assist fruitfulness, though the winter-pruning need not be too severe, as the Worcester berry is ever apt to grow a little too rankly.

Bud Dropping of Sweet Peas.

My sweet peas were planted in the open ground in March, and have grown into good, healthy plants now 5ft. high. The blooms, however, although of good size, are not very numerous, and many buds have dropped off without materialising. Can you please tell me what is wrong and the remedy, if any? I know one fault with them, viz., they were planted too close together (about 6ins.), but the stems and leaves are large and strong, but some lower leaves are turning yellow.—S. E., Streatham Vale.

Many sweet peas have behaved similarly to yours. The recent cold weather, especially at night, and lack of sunshine have had a bad effect on these plants in many parts. Continue to gather the blooms as they open, do not feed, and the flowers will soon develop in normal condition if the weather is seasonable.

Rosy Apple Aphis.

Can you tell me what is causing the leaves of one of my apple trees to go as enclosed specimens show? One large branch is badly affected and single leaves in other parts of the same tree. Is there any remedy?—N. W., Manor Park.

The apple leaves sent for our inspection are infested with the rosy apple aphis, a pest that seems very prevalent this summer. The damage is pretty well done now for the season, and it is unlikely that the trouble will show much increase. It would be best to spray the tree during the next few days with a strong insecticide, such as nicotine, or with a proprietary wash such as "Katakilla," applying the spray with great force and very thoroughly to all parts of the tree. Next January you should spray this tree with a tar distillate wash, such as, "Mortegg" or "Carbokrimp," to kill the eggs of the aphides, and this should be followed in spring with nicotine or "Katakilla," applied just before or just after blossoming.

Dying Back of Cotoneaster.

What is the cause of this cotoneaster dying? It was planted against a north wall last November, and, as you will see by the enclosed shoot, it was full of flower and looked remarkably well in the spring. I have been away, and am told that one shoot after the other went in this way, and now there are only two green shoots left, which are near the ground; in fact, lie prostrate on the ground. Can I do anything to save the shrub?—A. B., S.W.7.

Being newly planted, probably at some time there has not been sufficient readily accessible moisture for the roots of the cotoneaster. Against a wall, unless the rain beats in the right direction, there is always the possibility of plants getting insufficient moisture. The fact that the plant looked well at first was no doubt due to the many dull, damp days we had early in the year, but this was followed by a long dry spell in April and May. All that can be done is to cut off all the dead portions and give the plant a mulch of old decayed manure, watering if dry.

Unsatisfactory Cucumbers.

Can you please tell me the cause of the failure of some cucumbers which, when they reach the stage of the enclosed, shrivel and die? The house is kept warm and they are well looked after. Some of them are perfect.—T. L., Dublin.

The cucumber specimen sent for our inspection appears to have decayed from moisture lodging in the flower, causing the decaying bloom to contaminate the end of the young fruit. This does occur during very cold spells at night from time to time. Carefully remove the flowers as they begin to fade. The fruit sent has also been eaten, probably by woodlice.

Getting Rid of Rough Grass.

I have a lot of rough grass at the lower end of this garden which I have cut with a scythe and piled up in a stack 4ft. high, with a certain amount of sods with it. Will it turn into useful manure or dressing as it is, or should I do anything to it? How long will it take to rot down?—G. B., Bexhill.

You have done quite correctly in stacking the rough grass which you have cut, together with a certain amount of sods. It would have been better, however, when stacking to have placed the sods in layers, sprinkling a layer of sand and salt in between each in order to assist decomposition. What we should advise you to do now is to obtain a material called "Adco" and apply this to the stack. After about two months or so you will find that the stack is decomposed, and will form valuable synthetic farmyard manure.

Gumming in Cherries.

Please advise me as to what can be done to my cherry trees (Napoleons), as from the trunk and the upper branches a considerable quantity of gum flows. The result is that several branches are dying off; indeed, some have already died. A gardener whom I called in to attend to them some four years ago because they were making such rapid growth cut all the branches to within 3ft. of the main stem.—C. B., Ilford.

We fear you will find it no easy matter to cure the cherry trees of the gumming trouble. As often as not this gumming is set up by too hard pruning, and we should think it most likely that the hard cutting back they received a few years back is directly

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responsible for their present condition. You must, of course, cut out all dead and dying branches, and for this work there is no better time than the present. But beyond the removal of this sickly wood do no more cutting at any time than is absolutely necessary Confine pruning to the removal of dead twigs and crowded shoots. Give the ground a good dressing of lime in early autumn and and make every endeavour to keep the trees free from pests, particularly aphis, for they frequently set up gumming also. Probably when the trees recover from the drastic cutting and the normal balance between root and branches is restored, the gumming will cease, but in the meanwhile you may find that many branches are spoiled, and for this there is no remedy.

Diseased Potatoes.

I am sending along a piece of potato haulm for your inspection. In this case the leaves turn quite a sandy colour, then in time rot right down.—S. P., Colchester.

The potato plant sent for our examination is suffering from an attack of "black leg," due to a bacillus. Remove and destroy all plants which show signs of blackening at the base of the haulm and in the lower leaves.

Honeysuckles which do not Flower Well.

I have two large bushes of honeysuckle. Each year there is a promise of tremendous bloom, and just as the flowers are ready to open they shrivel and fall off. We have hosed and sprayed it with insecticide, watered and fed the roots, and each year the same thing happens. I am sending you three heads in the hope that you can give me advice regarding the treatment and prevention.—B. M., Inverness-shire.

The honeysuckle grows and flowers best in a good loam and a shady, sheltered position. Some few weeks ago your plants were infested with green aphides and later a mild form of mildew. Next autumn give a good surface dressing of rich, rotted loam. Water with clear water in early summer if the weather is dry and later syringe with a solution of "Abol" if mildew appears, but with no other insecticide. Do not syringe at all after the flower trusses are well formed.

SCOTTISH NATIONAL SWEET PEA AND ROSE SHOW

THE success and enterprise of the Scottish National Society, which, during the past few years has done much to promote the culture of the popular trio of flowers (sweet peas, roses and carnations), was again reflected in the Annual Show held at Glasgow on August 3rd and 4th.

SWEET PEAS.

In the open classes Messrs. Torrance and Hopkins were the only growers who staged the large collection and in the class for twenty-four vases the Busby firm was defeated by Mr. John A. Grigor, Banff, who also won the first prize for six novelties of 1927 with well grown specimens of Model, What Joy, Royal Mauve, Red Gauntlet, Del Monte and Patience. The best decorative vase was likewise staged by the northern competitor. The twelve vases class took the form of a competition between two Cumnock growers and in the end Mr. James Blackwood prevailed over Mr. David Smith.

The principal honours in the gardeners' section were well distributed. Mrs. Allan's cup for six vases passed into the possession of Mr. J. D. Campbell, Newport, whose flowers were not staged to best advantage. Mr. Robert Miller, Secretary of Dumbartonshire Sweet Pea Society was successful with twelve vases, of which Royal Pink, Youth, Charming, Hebe and Magnet were conspicuous.

Mr. James Paul, Killearn, a veteran grower, showed that his hand had not lost its cunning, for he not only staged the best twelve vases in the amateur division, but defeated nine opponents in the open competition for the Burpee Cup. Mr. Walter C. Turner, Chryston, won the silver vase for nine varieties, while Mr. John M. Jeffrey, a noted Selkirk amateur, was victorious with a grand trio, consisting of Sybil Henshaw, Powerscourt and Charming and he also scored with a vase of Venus, a pretty light pink variety.

A feature of the single vase classes was the distinctive honours that were showered on a vase of Mr. Bolton's new white variety, Model, staged by Mr. J. Loan, Coldstream. It scored a triple success in its own class and was chosen as the best novelty of 1926-27 and the best vase of the Show.

Competition was particularly keen in all the classes and the principal prize winners were Mr. J. A. Grigor, seven firsts; Mr. J. Loan, four; and Mr. James Paul, three.

ROSES.

There were eleven classes in the open rose section and the superiority of the blooms staged by Messrs. D. and W. Croll, Dundee, was recognised in the following seven competitions: six baskets, twelve vases, twelve blooms introduced since 1924, twelve blooms red, twelve blooms yellow, twelve blooms any other colour, twenty-four blooms and basket exhibition roses. In the pink class Mrs. Bowles was shown by every competitor and the only representative of the yellow was Mabel Morse. In the class for twelve blooms any other variety, the Dundee firm staged a dozen perfect flowers of Lady Inchiquin, which were greatly admired. Messrs. Adam and Craigmile, Aberdeen, excelled with thirty-six and twelve blooms pink. Both classes were strongly represented, Venus, Gorgeous, Lady Roundway, Lady Inchiquin and Glory of Steinfurth being the outstanding examples in the former and Mrs. Henry Bowles in the latter. The honours in the white or cream class went to Messrs. James Fairley, Cairneyhill, Fife, whose large cream specimens of Mrs. Lamplough were preferred to the white trio of Frau Karl Druschki.

In the seedling class Messrs. Dobbie were placed first and second with Duchess of Athol (gold medal award) and Elizabeth of York (first-class certificate).

Roses of superior quality were also to be seen in the gardeners' classes, particularly in the twelve group, which secured for Mr. James Paterson, Lamington, the silver cup presented by Mrs. Arthur, Rosemount, and the vase of five blooms with which Mr. J. Macaulay, Galston, won the Turner Cup for mateurs. Mr. James Kerr, Stewarton, won the special award for the best rose in the Show, and in the amateur section the best bloom was found in Mr. Paterson's twelve, which won the cup.

CARNATIONS.

The feature in this section was the triumph of Mr. Alex. McMillan, Cumnock. He secured six first prizes and the open competition for border carnations, five in the gardeners' and amateurs' classes, the gold medal for the best carnation grown by amateurs, and the Irvine Valley and Carslaw Cups. The Lady Glenarthur Cup for perpetual carnations went to Mr. Arthur Ross, Kilmalcolm, who excelled over Mr. A. T. Harrison, Culzean Castle in all seven classes.

DECORATIVE CLASSES.

Every available foot of space was occupied in the hall set apart for these attractive exhibits. Entries were numerous and the display was very fine, especially in the classes for bouquets, baskets and bowls. Interest centred in the eight examples of a decorated dinner table, which were treated in varied styles. Miss Dixon, Dumfries, who won the Invertrossachs Cup, used Lamia roses; the second table provided by Mr. W. P. Barry, Lanark, was composed of lavender sweet peas and perhaps the most outstanding table was that of Mr. James Currie, Barskimming, who was third with an unconventional decoration of American Pillar roses.

TRADE EXHIBITS.

The trade was more largely represented than last year and the high-class exhibits contributed to the success of the Show.

The space in front of the platform which practically extended over the full width of the main hall was occupied by a representative group of polyantha and hybrid tea roses of which the new introductions, Princess Elizabeth of Greece, Duchess of York, Norman Lambert, Gwynneth Jones, Mrs. Barraclough and Golden Salmon (poly.) were prominent. Pillars and baskets were largely used and a charming effect was obtained by arranging palms at the back and banks of ferns at either end.

About two thirds of Messrs. Dobbie and Co.'s space was devoted to sweet peas, staged in bold masses, which formed a glorious colour display. It was a most comprehensive group which was composed of old favourites and such novelties as Hero, Pinkie, Prince of Orange, Sunkist, Del Monte, Carmelita, etc. The remainder of the exhibit gave the firm an opportunity to introduce two of their seedling roses, Duchess of Atholl and Elizabeth of York to the public. Large gold medal.

The Scottish Wholesale Co-operative Society were also responsible for a grand display of roses from their nursery at West Kilbride. The blooms were staged in first-class condition, Lady Pirrie, Admiration, Lady Roundway, Betty Uprichard, Covent Garden and Mrs. C. V. Haworth being outstanding in that respect. Gold medal award.

Herbaceous flowers were associated with roses on the stand of Messrs. Thyne and Sons, Dundee, and enabled the firm to introduce an extended scheme of colour. Gold medal.

As a young firm, Messrs. R. K. Gimmell and Co. are displaying considerable enterprise by their exhibits at local shows. On this occasion they staged an interesting collection of sweet peas and roses grown at their Kilwinning Nursery, the chief groupings being composed of Mrs. Henry Morse, Donald McDonald, Shot Silk and Admiration. Gold medal.

Silver medals were awarded to Messrs. Lowe and Gibson, Crawley Down (choice exhibit of carnations); M. Campbell and Son, High Blantyre (collection of border carnations); Leightons, Glasgow (artistic display of sweet peas); and Bannatyne and Jackson, Hamilton (comprehensive groups of sweet peas and roses).

SOCIETY NOTES

New Plants at Vincent Square.

THE Floral Committee of the Royal Horticultural Society was in a more critical mood than of late, for only four awards of merit were recommended. Lord Anson's Blue Pea, as Lathyrus nervosus is commonly called is of interest, but of very little garden value. Our grandfathers made a deal of fuss over it, but it is not really hardy and its blue is only a courtesy blue, for there is a deal of purple colouring, nevertheless it is a plant which is worth an award since it may disappear again in the future. Its introduction we

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owe to Mr. T. Hay, Hyde Park, London, who showed the plant.

On the other hand, the new lilium promises to be a very useful garden plant. It is not yet definitely named, but was considered to be very like Lilium taliense, though some thought it near L. speciosum and others L. Martagon. So far as the flowers are concerned the plant is most like L. Martagon, but has distinctly longer flower stalks. The segments much recurve and the beautiful pink colour is regularly spotted with deep carmine. The stems are purplish and the dark green leaves are small for a lilium. The flowers are fragrant. It was shown by Lieutenant-Colonel Messel, Nymans, Sussex.

Leptospermum lævigatum has rather larger flowers than the other members of the genus and they are produced in great abundance on graceful, arching branches. The small, spathulate leaves are densely covered with a silvery tomentum and the effect of these silvery leaves and the milk white flowers is very fascinating. This New Zealand shrub was shown by Mr. G. W. E. Loder, who also sent Gaultheria hispida, a very uncommon evergreen which appears to be suitable for the rock garden. It is an erect little shrub with reddish stems, stout shining lanceolate leaves and crowded stems of large white fruits which are sufficiently open at the ends to disclose the rosy interiors.

The Committee selected for trial at Wisley two herbaceous phloxes and Iceland Poppy Moonbeam. The latter, sent by Mrs. Thorneley, The Elms, Munstead, is a good primrose coloured variety. Both phloxes have large heads of flowers.

One called Daily Sketch and sent by Mr. H. J. Jones, has pale pink flowers with a distinct rosy zone. Light of Codsall, sent by Messrs. Bakers, Limited, has salmon coloured flowers which are paler towards the centres.

Show of Seasonable Fruit at Vincent Square.

THE twenty-three classes for seasonable fruit which the R.H.S. arranged for competition among amateurs on August 3rd last, did not induce quite so much competition as might have been expected.

No one brought a collection of peaches and nectarines, but the two exhibits of twelve dishes of general fruits were of very good quality. The first prize was won by Sir Charles Nall-Cain, Bt., Brocket Hall, Hatfield. He included exceedingly good dishes of Early Rivers nectarine, Duke of York peach, White Heart, Late Black Bigarreau and Florence cherries. Mr. F. C. Stoop, of West Hall, Byfleet, was second and his good collection included Kestral peaches and Milton nectarines.

Mr. E. G. Hunt, Muddlebridge House, Fremington, Devon, had splendid dishes of three varieties of peaches. The fruits were large and beautifully coloured. His varieties were Royal George, Crimson Galande and Peregrine. The best single dish of peaches was half a dozen superb fruits of Royal George, shown by Lady Juliet Duff, Coombe Court, Kingston Hill, Surrey. Mr. F. C. Stoop, was first with three varieties of nectarines, where he included especially good dishes of Pine Apple and Milton, and was also first with Early Orleans, de Montfort and Pershore Yellow plums. Oullin's Gage, shown by Mr. E. J. Hunt, was the best single dish of a dessert plum and Mr. Hunt also was first with a single dish of nectarines.

Apricots were not represented, but Sir Charles Nall-Cain, Bt., had in large fruits of Florence, the best sweet cherries and Mr. A. H. Pullin, Arthog, Wallington, had in a splendidly even dish of Morellos, the best sour cherries. Mr. J. E. Anstee, Rose Cottage, Sutton, was first with loganberries; and, showing Pyne's Royal, Mr. C. R. Maw, was first with raspberries.

Apples were not so numerous as were expected, but the fruits were shapely and of useful size. The best six dishes of early varieties were shown by Mr. J. A. Stidston, Bishopsteign, Devon, who included Beauty of Bath, Stirling Castle, Langley Pippin and Rev. W. Wilks. Mr. J. E. Anstee, was first in the single dish classes with Red Quarrenden, Keswick Codlin and Rev. W. Wilks. Mr. A. H. Pullin had the best dish of Irish Peach and Mr. J. Gravett, Tonbridge, was similarly successful with the variety Gladstone.

Flower Show Fixtures.

August 27.—Alexandria, Auchterarder, Ayr Burgh Allotment Holders, Baillieston, Balfron, Beith, Bo'ness, Bridge of Weir, Cambusbarron, Chirnside, Chayston, Coalburn, Dailby, Dumbarton, East Linton, Falkirk, Forth District, Gartmore, Alexandra Park District Allotments, Craigbank, Dalmarnock, Easter Kepock, Glasgow Green Allotments, Govan Allotments, New Victoria Gardens (Glasgow), Springburn Workmen's, Glassford, Hurlford, Innerleithen and Traquair, Kilmarnock (Ossington), Kilemaurs, Kilsyth, Larbert, Melrose, Markinch, Milngavie, Muckhart, Newmains, Newton Mearns, Selkirk, Sorn, Tarbolton, Thornhill (Perthshire), Tullibody and Cambus, Wisherton Garden Suburb and Wishaw.

BOOK REVIEW

THIS small volume ("The Propagation of Hardy Trees and Shrubs," by G. C. Taylor, B.Sc., assisted by F. P. Knight, Royal Botanic Gardens, Kew. Dulau and Co., Limited, price 5s.), of one hundred and twenty pages, contains much instructive and interesting matter. Though written, according to the Preface, for "amateur gardeners who are interested in the growing of shrubs and trees," professional gardeners will find much useful information on the propagation of rare and uncommon subjects. Chapters I and II are devoted to a general review of the subject. Chapter III, which runs to thirteen pages, exhaustively deals with the "Propagation by Seeds" in its numerous phases. The authors aptly and usefully divide the varied types of seeds into five sections, according to the size and type of the seed, with the treatment recommended. Perhaps even more important, and certainly equally interesting and useful, is Chapter IV of twelve pages devoted to "Propagation by Cuttings." I can find no mention of one type of cutting known as "sets," extensively used in the propagation of willows, but that is a minor consideration in an otherwise excellent chapter. Chapter V, dealing with layering, is particularly useful and instructive to amateurs who require to propagate only one or two plants of individual and difficult subjects. Budding and grafting is dealt with in Chapter VI and there is also a chapter devoted to conifers and the special treatment desirable to be uniformly successful in their propagation.

Not the least interesting and valuable part of the book is the alphabetical list of some two hundred trees and shrubs, excluding conifers, at the end of the book, giving the best methods, with practical details, of propagating each genus and species.

The book is well illustrated with eight full-page reproductions of photographs depicting various phases in the raising of seedlings, types of cuttings and the appliances (frames, handlights, etc.) for propagation. All amateurs will find it a useful volume, both as a book to read and as one to be kept as a book of reference, as it contains a great deal of modern information on this important subject. It is essentially practical in its outlook and for that reason alone gardeners will find it a work worth perusing. A. O.

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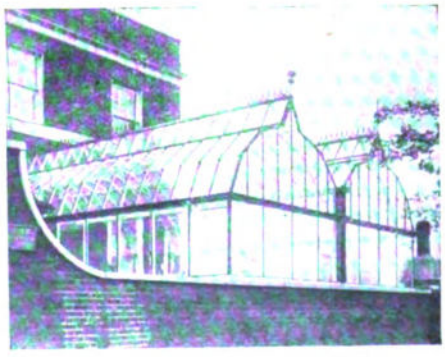

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Examine bottles occasionally, particularly those covered with paper.

Use of Water or Syrup.—Water preserves the fresh flavour of the fruit better, and sugar can be added when it is used. Fruit bottled in syrup is richer in flavour, but there is greater shrinkage. For a thin syrup dissolve ½lb. of cane sugar in 2 quarts of water, boil for ten minutes, skim, and use when cool. For a thicker and richer syrup, increase quantity of sugar.

Causes of Fruit Rising in Bottles.—(*a*) Loose packing. (*b*) Over-heating and heating too rapidly. Fruit must be sterilised, *not* cooked.

Approximate Time and Temperature.—For time and temperature there cannot be a hard-and-fast rule. They depend upon the kind, quality and ripeness of fruit.

Fruit.	*Time.*	*Temperature.*	*Remarks.*
(1) Soft: Raspberries, Strawberries, Loganberries, etc.	1¼–1½ hrs.	155°–160° Fahr.	Keep at this for 5 mins.
(2) Hard: Plums, Damsons, etc. ..	1½ hrs. ..	160° Fahr.	Keep at this for 5 mins.
(3) Apples and Pears	1½ hrs. ..	180° Fahr.	Keep at this for 5 mins.

Note.—(*a*) During the first hour, bring the water very gradually up to 100°, then gradually during the last thirty minutes up to the required maximum temperature. (*b*) Stone fruits generally crack slightly unless under-ripe.

Bottling in Fish Kettle or Ordinary Pan.

(1) Pack bottles as directed.

(2) Fill with cold water to overflowing.

(3) Put on rubber band and glass cap, and screw down metal ring tightly, then give a half-turn back to allow of expansion within.

(4) Place bottles in pan, do not let them touch, and cover with cold water.

(5) Apply heat very gradually—

(*a*) If using thermometer, proceed according to table.

(*b*) If not using thermometer, more care is required. Heat water very gradually to simmering point and keep it there for twenty to twenty-five minutes. To test, remove one bottle, with a cloth, and gently twist in the hand. If the fruit moves slightly, it is ready. Very tight packing is essential, otherwise this test is no sure proof of sterilisation.

(6) Remove one bottle at a time, and at once screw down the ring tightly.

(7) Leave bottles to get quite cold, and follow directions given.

Note.—If ordinary glass jam jars are used, do not fill so full. Also, the surrounding water must only reach to the level of that in the bottle.

Proceed as above and use one of the seals given.

Method of Bottling Suitable for Soft Juicy Fruits.

(1) Remove the stalks from the fruit—such as raspberries or loganberries; sprinkle with white sugar (or not), and pack as tightly as possible without crushing.

(2) Sterilise in the ordinary way at 160° Fahr. When the fruit has shrunk in its own juice, fill up from another bottle and re-sterilise at 160° for another ten minutes. Seal in the ordinary way.

OUR SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

Splitting of Apples.

I should be glad if you will inform me of the cause of the enclosed apples cracking. On two trees I have counted 120 and 84, half of which are cracked. The trees have been planted three years, and this is the first time of bearing.—E. E., Hull.

There is no disease or pest responsible for the splitting of your young apples. This failing is a physiological trouble, due probably to the excessive wet during the time the fruits were first swelling, especially as this wet period followed close upon a spell of drought. On young trees this kind of trouble is often experienced, but we think you need have little fear of it recurring in a normal season and as the trees get older.

Onions Going to Seed.

I planted four rows of Ailsa Craig onion sets in March, and they have grown very well, but now the bulk of them are going to seed. The stems are very thick, but the bulb remains about the same size. Can I do anything to improve them, or are they a failure? The ground is very clayey, and I have dusted them now and again with superphosphate of lime and soot.—E. W., Middlesbrough.

Your Ailsa Craig onions will not be a success. The severe check to growth, mainly owing to the dry spell, is one cause. Very often autumn-raised plants are a failure in this way. We advise you to sow seeds in a box next January and duly transplant the resultant seedlings.

Getting Rid of Bracken.

I wish to make a tennis court on land at present infested with bracken. There will be cut and fill of about 20ins. respectively at each end. Will it suffice to bury the bracken with the fill, say from 12ins. to 20ins. deep, or must all the roots be dug out? My neighbour's "wild garden" the other side of a split pale fence is a sea of bracken. Can I do anything to prevent this bracken straying underground to my proposed lawn?—J. M., Camberley.

Bracken fern should be entirely rooted out, as any roots that may be left in the soil will grow and penetrate through many feet of covering soil. To prevent the roots of the bracken from your neighbour's garden penetrating to yours, take out the soil on your side to a depth of 18ins., forming a deep gulley 1ft. wide, and if the roots enter deeper pour creosote into the trench, then the roots will be killed and nothing else.

Grubs Attacking Antirrhinum Beds.

Enclosed is a specimen of a grub collected during the week-end from a border of antirrhinums. Several of these grubs have been discovered under the plants, of which they apparently strip the roots. As the casualties now number about two dozen, can you tell me what to do?—B. W., Epping.

The grub attacking your antirrhinums is the larva of the cockchafer, The larval stage lasts three years. The eggs are laid by the cockchafer in grassland and in vegetable, flower and fruit (especially strawberry) gardens during June. This pest is particularly prevalent in gardens surrounded by oak trees. The larvæ feed during the spring, summer and autumn months on the roots of plants, and hibernate during the winter at a depth of 1½–2ft. Remedial measures include: (1) Hand picking the larvæ around the attacked plants; (2) inject carbon bisulphide (an inflammable liquid, near which a naked light must *not* brought) in the affected bed, using 1 oz. to the square yard, applying when the soil is dry so that the fumes may permeate throughout the soil particles; (3) dress affected land with crude naphthalene at the rate of 3–4 oz. to the square yard, fork it in prior to rain, or water the material in after application; (4) deeply dig the affected land during the winter and allow poultry access, for they feed on the larvæ as they are turned up during digging operations.

Culture of the Flame Flower.

Please give me full particulars of the planting and growing of the flame flower, Tropæolum speciosum.—J. D. R., Darlington.

Gardeners in the south sometimes find the flame flower difficult to manage, though, on the other hand, one may occasionally see it in English gardens flourishing quite as well as ever it does north of the Tweed. The root of the flame flower is long and white and fleshy, rather like the root of the bellbind. It goes questing about just below ground, and throws up its slender climbing shoots wherever it can find a bush or hedge to support it. The plant can be grown up a wall or a fence if given strings, wire or some such support to cling to. Let it find its own way up. Never attempt to "train" it. Existing wall climbers, such as cotoneaster or ceanothus, make an ideal support. The climbing growths of flame flower may usually be regarded as annual, though the roots are perennial; but we have known the top growth to endure a mild winter and start off into fresh growth in spring from where they left off the previous autumn. The chief points to remember are that it prefers some living host on which to ramble, that it likes its roots cool in the shade of its host, and its branches trailing out into the light and air. It may be planted in autumn or spring.

Making Cement Ponds Water-Tight.

I have recently made a small pond in my garden, with a foundation of bricks, stone, etc., and three coats of cement, but it still leaks. Can you tell me of any preparation to wash over cement to render it non-porous? Also, will you please tell me the name of enclosed shrub, and if it bears a flower?—M. N., Belfast.

If you have a firm foundation for the cement it ought not to be difficult to prevent any leakage of water. Cement, used by itself, cracks. Quite new cement, 1 part, fine sand 2 parts, laid on ½in. thick on a moistened surface, should set and prevent leakage. The sprig of shrub is that of one of the ribes—flowering currants—and should flower in due course.

Peach Trees with Unhealthy Foliage.

I am sending some pieces and leaves off my peach trees, which are under glass. Could you tell me what you consider wrong with the trees, and what treatment they require? They have almost finished fruiting now. I also have a tree that does not stone properly. It splits, and then insects get in, and it is altogether horrible.—E. M., Boxmoor.

The foliage of the peach tree sent is badly infested with red spider and the peach aphis or "blight. There are signs, also, of the peach scale, and we fear the trees are in an altogether unhealthy condition. Your best plan will be to fumigate the trees as soon as the fruit is all gathered, with "Naphthalene." Regarding the splitting of the

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fruit, this may be due to imperfect fertilisation, over-feeding with liquid manure, a too close or moist atmosphere during the last swelling of the fruit, or to a waterlogged border; or it may be due to the aphis or "blight." Careful attention to cultural details, such as watering, ventilating and feeding, and freedom from pests will, we think, put a stop to this trouble.

Scalding of Grapes.

Could you tell me the cause of these grapes shrivelling? The leaves appear quite healthy, and other grapes in the same house are not affected at present. The vine is probably twenty years old, and is in a cold house. I ought to add, perhaps, that a tank has been allowed to flow over quite near the roots. Can I do anything to check further mischief?—H. M., Harlow.

The berries have been scalded by sudden bursts of sunshine, while the structure has not been ventilated sufficiently. For about twenty days, while the stones are hardening, the flesh does not swell, and if the juices become over-heated, owing chiefly to lack of ventilation (especially early in the morning), the berries will scald.

Diseased Asters.

Will you give me an opinion as to what is wrong with the enclosed asters? They occur among a bed of asters, many of which appear perfectly healthy. The affected plants generally show no signs of trouble until they have formed buds, and then they wither and fail as if moisture was being withheld. Unfortunately, they spoil the appearance of the whole bed, which is very annoying at this time of year, as I am uncertain what to do with it.—D. O. D., Penarth.

The asters are suffering from "black leg," due to the fungus Phytophthora cryptogea. Species of fusarium are also present, but they are usually saprophytic fungi. Remedies include: (1) Remove and burn all affected plants, as there is no chance of infected plants recovering; and (2) Water the bed with Cheshunt compound.

Making an Asparagus Bed.

How can I make an asparagus bed, and when would be the best time to do this?—E. S., Osterley.

The best time to make a new bed is during the autumn. The soil should be in good condition then, and the bed, when formed, will have time to settle naturally before the planting or sowing is done the following March. The soil should be trenched 30ins. deep at least, and the top portion manured if it is poor. Slightly raise the beds and have alleys 2ft. wide between them. Each bed should be wide enough to allow of three rows of plants 18ins. apart. If convenient, have the rows due north and south.

Splitting Melons.

Can you tell me how it is that some of my melons have split right across before ripening? They are a green-fleshed variety which I have tried for the first time this year. I have scarlet-fleshed melons in the same pit and they show no signs of splitting. The green-fleshed kind is a larger melon, and I should like to know if it requires different treatment from the scarlet-fleshed varieties. The melons alluded to are Sutton's Emerald Gem and Sutton's Superlative. It is the Emerald Gem that have split.—B. S. R., Burwash.

Some varieties with thin rinds split sooner than others. The splitting is caused through an excess of moisture at the roots or in the atmosphere—or both. Judicious ventilation and watering are necessary to prevent loss this way.

Training Espalier Apples.

In the spring of 1926 I bought and planted a number of two-tier espalier apple and pear trees. I propose increasing the apple trees to three tiers and the pear trees to four tiers. Must I remove all the shoots growing out of the main upright stems, excepting those required for the new tiers? In any case, ought shoots to be allowed to grow, and spurs to be formed, on the main upright stem, at any time? Ought the shoots to form the new tiers to be tied down, and trained, as soon as practicable? How far apart should spurs be allowed to form? Is it advisable to place stone or cement slabs under the above trees when planting?—W. E., Llanelly.

In reply to your enquiry, when training the young espalier trees the plan is to train in two strong shoots at about 1ft. above the last tier of branches formed. Do not cut away all unwanted growths at this stage—just pinch them back, and keep pinched back, to four leaves or so, in winter cutting them back to two buds. The two shoots to form the next tier should certainly be tied down to the trellis as soon as practicable, but tie them very loosely while they are growing. All shoots that form on the main stem should be kept pinched back to four leaves or so, and in winter they should be cut back to two buds to induce them to form spurs, the spurs being left some 5ins. apart. Those that are closer together than this should be cut clean away at the winter pruning. There is no need at all to put stone or cement slabs beneath such trees, providing you get the trees on a "dwarfing" root stock. The idea of the slabs is to stop the trees making big tap-roots, though it is not by any means always an effective method, and so long as the espaliers are on a dwarfing root stock—as they will be if procured from a reliable nurseryman—then no such restriction should be necessary.

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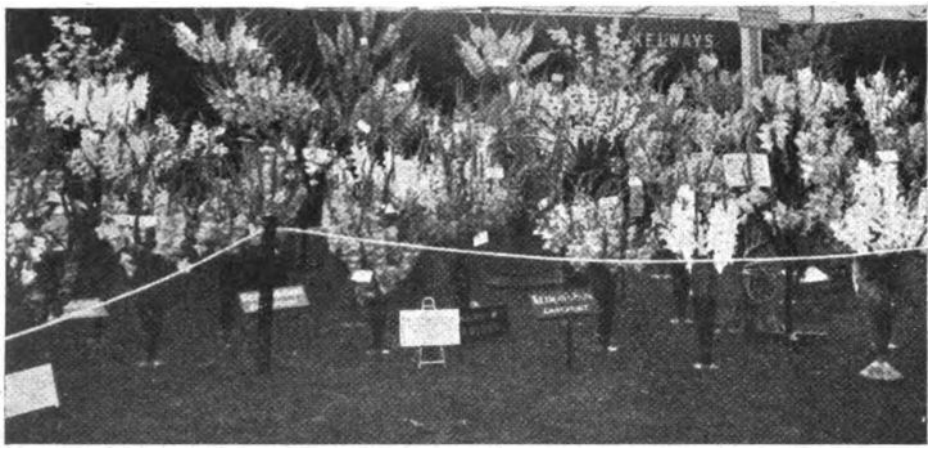
THE BRITISH GLADIOLUS SOCIETY

THE fourth national exhibition of this Society was held at Taunton on August 10th and 11th in connection with the Taunton Deane Horticultural Show. The xhibition provided a magnificent display of gladioli. The trade, open and amateur classes were exceedingly well filled with few exceptions, and the standard of exhibits was high. Entries came from various parts of the Continent and from Canada and the United States, as well as from all parts of England and Wales. Chief interest centred round many of the new varieties shown for the first time in various displays. Several of these were of outstanding beauty.



MESSRS. KELWAY'S GOLD MEDAL EXHIBIT OF GLADIOLI.

In the open classes, Mr. H. Clarke easily won the Abol Silver Trophy for an exhibit demonstrating the advancement of the gladiolus as a cut flower. His display was a magnificent one, containing many interesting and attractive novelties made from the petals of the flowers of various varieties. In the second class, for the finest display of gladioli (large-flowered primulinus) arranged for artistic effect, Messrs. Unwin took first prize with a very good selection of varieties, the majority of which were primulinus. Messrs. Unwin were also awarded first prize for the best display of primulinus hybrids. The Society's Silver Championship Trophy for twenty-four distinct varieties of large-flowered gladioli (varieties introduced since 1923 and for seedlings not yet in commerce), was awarded to Messrs. Kelway and Son of Langport, with Messrs. K. Velthuys, Holland, second. Messrs. Kelway also gained the Society's gold medal for the best non-competitive display, with a magnificent exhibit containing over 2,000 spikes. It was one of the best displays of gladioli that has ever been staged, and the famous Langport firm, who have taken such a prominent part in the development of the gladiolus, deserve every congratulation on their exhibit and their success. The Society's Silver Challenge Trophy for an exhibit of twenty-four distinct varieties of primulinus hybrids was awarded to Messrs. Bath of Wisbech, who staged an attractive collection.

In the amateur classes there were many entries, and the competition was very keen. The principal awards were as follows: The Kelway Challenge Trophy for thirty-six spikes of British varieties was won by Mr. Watkin Samuel, who showed many fine sorts. Mr. Ivor Thomas of Liverpool was awarded THE GARDEN Challenge Bowl for six spikes of large-flowered and primulinus varieties and also gained the Unwin Challenge Trophy for twenty-four varieties of both sections. Both his exhibits were excellent in every way and reached a high standard. Major George Churcher, the President of the Society, was the winner of the American Challenge Vase, given by the Amateur Gladiolus Society for twelve vases of varieties raised in America. Mr. A. E. Amos, the secretary, was awarded the Bath Championship Cup for a display of twenty-four spikes of large-flowered and primulinus varieties. Among lady amateurs, Miss Zelley of Winscombe, won the *Amateur Gardening* silver tea-set for an attractive basket of gladioli.

Several of the trade exhibits were of an exceedingly high order. The blooms were all in good condition, and the taste shown in the arrangement of many of the exhibits was admirable.

Messrs. Suttons, Carters, Dobbies, Bath, Unwin, Hewitts and Grullemans all staged fine displays, in addition to Messrs. Kelways, who carried off the Society's gold medal, and Messrs. Velthuys, who were second. All the leading varieties and many novelties were to be seen on the various stands.

Silver-gilt medals were awarded to Messrs. Sutton and Sons, Messrs. Carter and Co., Messrs. R. H. Bath, Messrs. Velthuys, Messrs. W. J. Unwin and Messrs. Grullemans, while Messrs. Dobbie and Messrs. Hewitts gained silver medals. A number of awards of merit were made to several new varieties, of which Marie, an orange primulinus shown by Messrs. Bath; and Oriel, a white primulinus, beautifully pencilled with magenta, shown by Mr. A. J. Bliss of Tavistock, were both varieties of singular beauty and colouring.

It was an admirable Show in every way, and the Society deserves every praise for its efforts. There seems little doubt that the gladiolus is as yet only in infancy, and we may look forward with confidence to still larger gladiolus shows in the near future.

"THE GARDEN" CHALLENGE BOWL AWARDED TO MR. IVOR THOMAS.

SOCIETY NOTES

New Plants at Vincent Square.

A GOODLY number of gladioli and general plants were submitted to the Floral Committee of the Royal Horticultural Society at Vincent Square on August 16th last, but only three received awards of merit and four were selected for trial at Wisley next year. The awards were to Lobelia Shirley Crimson, Rhododendron prophantum and Watsonia Orange Beauty. The first named was shown by Messrs. B. Ladhams, Limited, and is a brilliant scarlet-crimson, purple-leaved variety of the tall-growing Lobelia cardinalis. The new watsonia was sent by Lady Aberconway from Bodnant, North Wales. This South African liliaceous plant belongs to a desirable genus for the cool greenhouse. The average height is about 18ins., but Orange Beauty is exceptionally robust and taller. If Rhododendron prophantum were hardy its value would be even greater. This species bears large trusses of semi-pendulous flowers of shining, vivid morocco-red colour. The leaves have a loose greyish tomentum on the upper surface and are densely covered with pale cinnamon below. This species was discovered by Forrest in Upper Burma in 1919, and the present flowers were shown by Mr. Lionel de Rothschild from Exbury, Hampshire. The three gladioli selected for trial at Wisley were all raised by Messrs. Kelway and Son. Perfect Peace is a large white with a pale carmine line running to the base of each segment. Langport Scarlet is of vivid colour and good shape. Mr. Peel has large flowers of pink shading with a carmine blotch. Phlox Sweetheart, shown by Messrs. Rich and Cooling, has large trusses of deep salmon flowers with a paler centre. Seven new dahlias were selected by the Joint Dahlia Committee for trial at Wisley. One was from Messrs. J. Cheal and Sons and the remainder from Messrs. J. Stredwick and Son.

The Foremarke Cup for Gladioli.—This year the competition for the Foremarke Cup was rather better than usual. This cup is annually offered for the best exhibit of not more than twenty spikes of gladiolus grown by the exhibitor. It was won by Mr. A. E. Amos of Colchester with a very good collection, mostly of new varieties of the large-flowered type. Professor Ribbins is a brilliant scarlet. Leslie Henson, though a trifle small for the type, is of beautiful clear pink colour with a creamy blotch. Sunset is of good salmon shades of colour. La Couronne shows primulinus parentage in its slightly hooded upper segment, and it is a very attractive flower of milk-white colour with a large vivid crimson blotch. Desmond Amos, another primulinus hybrid, is a pretty flower of lilac shades with a carmine blotch. Messrs. D. Stewart and Son, who were second in the competition, showed good spikes of Libesfleuer, Duchess of York, Pfitzer's Triumph, Herada and Sappho. Messrs. H. Langridge and Co. were third, and they included Pride of Haarlem and Niagara.

Dumbarton Sweet Pea Society.

THE excessive rainfall experienced during the week, and particularly on the day previous, was responsible for a decline in the entries at the annual show of this society,

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which was held at Dumbarton on Saturday, 13th inst., and, as was to be expected under the circumstances, the quality of the blooms was not up to the standard of former years.

In the open classes, I. A. Gregor, Banff, excelled with eighteen and twelve vases, his best varieties being Magnet, Chieftain and Valentine.

The best peas, however, were staged in the gardeners' and amateurs' section, where George Ballingall won the Society's cup with twelve good clean varieties, of which Olympia, Magnet, Charming, Powerscourt, Ivory, Picture and Youth were outstanding. The same competitor was also successful in the classes for six vases, three vases and one vase of cerise scarlet. The Amateurs' Cup for three vases was won for the second time by George Blaikie and now becomes his property. It was a strong trio, consisting of Royal Pink, Model and Royal Mauve, and the latter was also chosen as the best vase in the section. James Maltman, Rhu, scored with three vases, one vase cream (Cream Constance), one vase crimson (Sybil Henshaw) and the special award for the best vase in the show was given to Royal Pink, staged by Frank Dunbar in the twelve vases which won the second prize in the Cup competition.

Though few in number, roses were well shown and seemed to have suffered less from the weather than the peas. John Smellie, Helensburgh, was first with six uniformly good varieties; and the other successful competitors in this section were James Jack, William Holmes (Helensburgh), A. Borthwick, John Bain, Charles Maclachlan and J. McRobbie. Mr. Borthwick's vase of Earl Haig, which was first in the class for red roses, was further honoured by its selection as the best bloom in the show.

James Smith, Darvel, had no opposition in the four carnation classes.

The decorative exhibits were a feature of the show, bouquets being particularly numerous and of artistic merit. Here Miss Campbell excelled with two shower bouquets of sweet peas, in which lavender and pink and lavender and mauve shades were associated. D. McNeill, Helensburgh, provided the best bouquet of roses; Miss Blaikie secured the principal award for a basket of sweet peas; and the other competitors in the prize list were J. McGowan, Alexandria, James Jack, W. Stevenson, Miss Sutherland, Frank Dunbar and A. R. Mitchell (Cardross).

The show was formally opened by Miss Whyte Barnhill in a delightful little speech.

The National Carnation and Picotee Society.

Northern Section.

THE annual exhibition of the above Society was held on Saturday, August 6th, in the British Legion House, Sheffield, after being postponed from July 23rd. The hall was crowded with flowers, and in the amateur classes competition was very keen. In Division I, for flowers from the open border, a very high standard was maintained throughout the whole division, and the exhibitors are to be congratulated on the excellence of their flowers. In Division II, for pot-grown plants, Mr. John Macfarlane of Airdrie put up a grand collection and carried off first prize in every class. Almost all classes were staged in vases, the staged and dressed board classes only receiving two entries. In the novices' division there were six exhibitors, including one lady member, and there, too, a higher standard was maintained than in other years.

The National Carnation Society's certificate for six blooms, any variety or varieties, was awarded to Mr. Joseph Firth, Liversedge, Yorkshire.

The President's Cup for premier bloom in the how and the Edmund Charrington medal were both awarded to Mr. H. Woolman, Birmingham, for Mrs. Edmund Charrington.

The President's Challenge Cup and Society's silver medal for highest points in Division I was awarded to Mr. W. Secker.

The Society's silver [medal for highest points in Division II was awarded to Mr. J. Macfarlane, Airdrie, Scotland.

The Society's silver medal for highest points in Division VI was awarded to Mr. H. Woolman, Birmingham.

In the ladies' class a silver vase presented by the gentlemen for the best vase of carnations arranged for effect was won by Mrs. W. Secker for a particularly fine exhibit.

The Society's gold medal was awarded to Messrs. C. Engelmann for a grand display of perpetual carnations.

Silver medals were awarded to Mr. H. E. Pearson (amateur) for a display 4ft. and 3ft.; Messrs. Torrance and Hopkins, Glasgow; and Mr. John Kirkham, Chapeltown, for trade groups.

Quite a host of new varieties have been put up for certificates at the last two meetings of the Society, and the following awards were made:

First-class certificates were awarded to Jim Dalton (lavender mauve self), Messrs. Torrance and Hopkins; M. Black (dark crimson self), Mr. P. Smith; and British Legion (yellow-ground fancy), Mr. H. Woolman.

Awards of merit were awarded to Englinton (rose madder fancy), Messrs. Torrance and Hopkins; Rosie (deep rose pink), Messrs. Torrance and Hopkins; Clarence (yellow-ground fancy), Mr. H. Woolman; and Allan-a-Dale (yellow-ground fancy), Mr. J. Firth, Liversedge.

Jim Dalton showed particularly fine form, and its size and substance are likely to make it an ideal exhibition flower.

Roses and Sweet Peas at Cathcart.

SOME three thousand people visited the Cathcart Nurseries of Messrs. Austin and McAslan, Glasgow, a fortnight ago, for the purpose of inspecting the sweet peas and roses which were then at the height of their bloom. This year the firm have instituted sweet pea trials on lines never before attempted by any private firm or society in this country. Altogether, 140 varieties were planted, and for comparison purposes they were grown on the single stem system, naturally, and from seed sown in the open ground in spring. Owing to the late season the results will not be known until later in the season, but the trials have attracted numerous growers throughout the land who have worshipped at the Cathcart shrine in all kinds of weather.

The Glasgow and West of Scotland Horticultural Society arranged an outing to the nursery on Saturday afternoon, and, although the weather was showery, there was an attendance of 260 members. To add to the interest of the proceedings, every visitor was provided with a voting card and invited to name the best twelve roses and sweet peas, and prizes were offered by the firm in each class. The competition resulted in the choice of the following representative collections:

Sweet Peas.—Royal Pink, Picture (cream pink), Powerscourt (lavender), Charming (cerise), Grenadier (scarlet), Model (white), Charity (crimson), Warrior (maroon), Youth (picotee edge), Royal Purple, Blue Bird and Royal Sovereign. The winner of the first prize was George Fraser, 44, Westwood Road, Newlands, who named ten of the twelve successful varieties, and the following five visitors tied for second and third places, *viz.*, John Little, 1, Corunna Street, Glasgow; James Kirkland, Milngavie; William L. Jack, Kirkintilloch; William Donald, Milliken Park, and Hugh Marshall, Lennoxtoun.

Roses.—Betty Uprichard, Angele Pernet, Shot Silk, Frau Karl Druschki, Etoile de Hollande, Mabel Morse, Ophelia, General McArthur, Caroline Testout, Los Angeles, Ivy May and Mrs. Henry Morse. The following three competitors tied with ten points each: John Christie Camus Eskan, Helensburgh; William Paterson, Dennistoun, and David W. Paterson, Whifflet, Coatbridge.

The company were entertained to tea, and at the close Mr. Thomas Dagg, President of the Society, complimented the firm on their enterprise, and acknowledged their hospitality by a vote of thanks. Mr. John Cairns replied on behalf of the directors.

REMEDY FOR SLUGS.

IN every part of the country slugs cause a considerable amount of trouble to the gardener. Undoubtedly hand destruction is the most effectual remedy, and when it means hand-picking and placing slugs 1in. in length or so in a flower-pot half filled with lime a great deal of good is done. But such hand-picking does not apply to those millions of slugs not much larger than a pin's head, and such as these destroy tender seedlings before the latter are clear of the soil through which they are growing. A few years ago I noticed my early carrots casually as I passed by the bed. The seedlings were just visible, showing a green line, and I felt satisfied with their general appearance. Then the weather changed, became showery, just the right kind for seedlings if there had not been any slugs, but there were, and nearly all the seedling carrots disappeared. I could not see any slugs on the surface, but on carefully removing the surface soil there were thousands of black mites just below the crust, and there, also, were the stems of the seedling carrots as left when eaten off. The slugs were not more than one-eighth of an inch in length. Now to combat a pest in this form something must be done that will apply generally. One year I burned much rubbish and dug in the ashes, in one plot. Carrots were grown on this particular plot, and although tiny slugs were again troublesome in other parts of the garden, the ash-strewn plot practically escaped their ravages. Thus, by accident, I found that tiny slugs, as well as large ones, disliked wood ashes and burned soil, and since that time I use a mixture of wood ashes and burned soil, and finely sifted ordinary border loam for sprinkling freely in the shallow drills before the carrot seeds are sown and also on the seeds as a covering compost. As slugs dislike potash, I advise amateurs who are troubled with slugs in their gardens to burn brushwood, rubbish and soil, and thus procure some ashes. These ashes must be kept dry and applied to the soil in the manner described.—G. G.

PUBLICATIONS RECEIVED.

"The Management of Greenhouses and Frames," by A. E. Livingstone (Crosby, Lockwood and Son, price 2s. 6d. net). A useful little handbook for all those amateurs who seek guidance on the culture of plants under glass. The author deals with the subject in a skilful way and presents his information simply, so that the veriest tyro in gardening may understand. It is essentially practical in its outlook and is valuable on that account, as well as for the information given on the plants suitable for growing in the greenhouse.

"The Book of Bulbs," by F. F. Rockwell. (The Macmillan Co., 12s. 6d. net). A guide to the selection, planting and cultivating of bulbs for spring, summer and autumn flowering. It is written chiefly for American gardens and it is a volume of a thoroughly practical nature that we should advise all our American readers who are interested in bulb culture to obtain and study. It is well illustrated, many of the illustrations being practical and extremely helpful.

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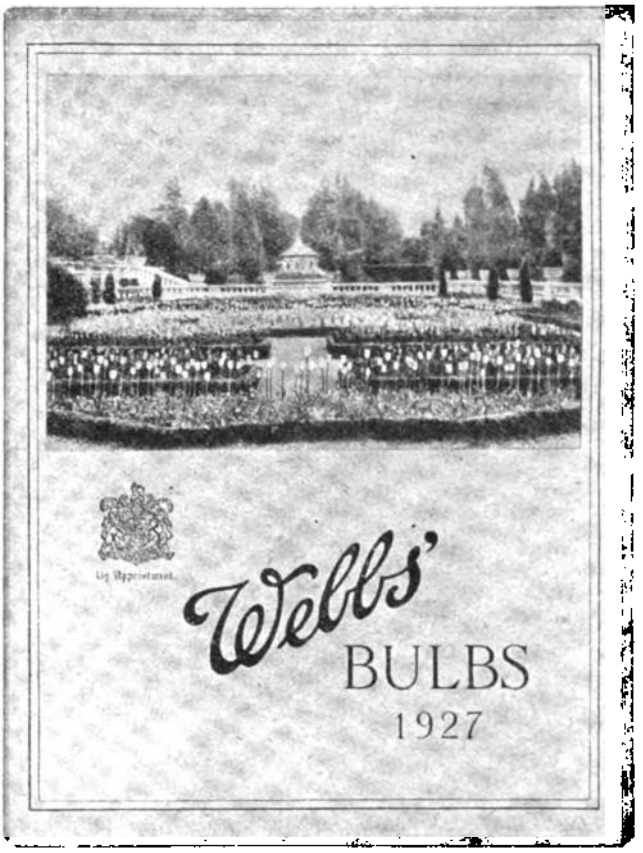

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A DECORATIVE PLANT for the GREENHOUSE

A thoroughly practical article indicating how the very best results may be obtained from the butterfly flower (schizanthus). Seeds should be sown not later than the third week in September.

THE schizanthus is an ideal pot plant for decorating the greenhouse or conservatory where sufficient temperature is maintained during the winter months just to exclude the frosts. This plant is sometimes named the poor man's orchid, and, indeed, the handsomely spotted flowers of such rich and varied colours, ranging from white and cream through pink, rose and apricot shades to royal purple, are a little suggestive of some of the orchids. The flowers are borne in great profusion and the deeply divided leaves, which give the foliage a fern-like appearance, render the plant even more attractive.

Cultivation of this half-hardy annual plant presents no great difficulties provided that the grower is keen and alert to understand a plant's needs. There are few plants which will respond so readily to reward their grower for correct and careful cultivation. Seeds should be sown in boxes during August and September. For an early display, August is the best month, while those sown during the third week in September will produce plants in full flower about the middle of May. From this it may be seen that the schizanthus is a fairly rapid-growing plant. Especially is this apparent when it is remembered that the taller-growing strains will produce specimens 3ft. tall and almost 2ft. through in this period, just eight months. Sow the seeds thinly in a compost of loam, well rotted leaf-mould and sand in suitable proportions to make a good level seed-bed, yet sufficiently open to give plenty of drainage. Thin sowing is essential so that the plants have plenty of room for healthy development before they are pricked out. As soon as germination has taken place the seed-box should be kept in a cool, airy position, and on no account should artificial heat be given provided that the weather remains open. Cool treatment in the early days is one of the essentials to success, because it produces that short-jointed growth which every gardener looks for in healthy young plants.

As soon as the plants are large enough to handle they may be pricked out in boxes, but the same cool treatment should be given. A little care is necessary in pricking out the young seedlings and, in fact, all through the plant's life, as the leaves of schizanthus are very brittle. Loss of foliage through breaking in the early days means less growth; later, when the plants are large, the loss of half a leaf is not so serious a matter to the plant's health as to its appearance.

The plants may be potted singly into medium size 60 pots when they are about 2ins. tall. The compost used should be a little coarser, to provide drainage, and a little richer. A useful compost is produced by leaving a little of the fibre of the fibrous loam and adding a little more leaf-mould. Plants which were sown in September should have a deep green rosette of leaves and be from 3ins. to 4ins. tall at Christmas, provided that cool treatment is continued. It is a good plan to keep the plants as near to the glass as possible so that they do not become drawn. Watering during the winter months should be done with care, only watering when necessary. An old metal nut screwed into the end of a 2ft. bamboo cane makes a useful tool for tapping the tops to ascertain their water content. With a little practice the ring of the pot will indicate whether the plant requires water or not. The soil surface is usually no indication at all. Soil which was wet from condensation when the lights were opened in the morning may really be dry below and require water, and, on the other hand, a pot which is dry at the surface at watering time may be quite moist below and require no water at all.

Plants which have been grown in a cool atmosphere and kept as hardy as possible will be the first to feel the natural change of temperature and the longer hours of light in the spring, and consequently the short-jointed growth will produce a more rapid and yet sturdy growth.

As soon as the ball of soil in the 60 pot shows a slight network of roots, potting on will be necessary, and the next move should be into a 6in. or 32 size pot, using a few crocks and rough leaf-mould as drainage. The soil for this potting should be even coarser in texture, and a little well rotted farmyard manure which has passed through a half-inch sieve may be added to advantage.

It is a mistake to have a compost for pot plants too fine, as it prevents drainage and excludes the nutritious fibres of the well rotted turfy loam. Large stones may be excluded without having the compost too fine. Potting should be fairly firm, and at this stage probably the first stake will be required; this should not be too short, as the plant will be growing rapidly.

The question of stopping the plants is one which is open to discussion, and there is no hard and fast rule. Some prefer to leave them entirely unstopped, others believe in stopping once when the plant is 6ins. to 8ins. high to promote lateral growth, and others believe in stopping twice, that is to say, each lateral is stopped as well as the main stem. Splendid results have been obtained by each method, and the best way is to judge each plant individually. It is usually possible to say that one or another method suits a strain which is true to colour and type, such as Snowflake, but in the case of a number of mixed hybrids each plant must have individual attention in this respect. On the whole, perhaps it is best to stop all the plants once and so promote lateral growth. The second stopping must be done with more care, as it is apt to influence the time of flowering. Some plants may require this second stopping and some may not.

If one of the larger-growing strains is being cultivated, such as Dr. Badger's hybrids, the plants may be potted on again when they require it. This potting should be into 9in. or 10in. pots, using crocks and rough leaf-mould as drainage. The loam for this potting will not require sifting. Good lumpy, well rotted and fibrous loam which has been exposed to the winter frosts should be selected and chopped well with a sharp spade. Sifted leaf-mould and sand may be added in suitable proportions to allow for a final enrichment by the addition of a little well rotted farmyard manure which has passed through a half-inch sieve and a light sprinkle of some complete fertiliser, such as Clay's. The schizanthus is a hungry feeder, and responds readily to generous treatment. The plants may be fed in these pots as soon as the roots show well through the ball of soil. Such feedings may be made about once a week, at first using about half a pint of good liquid manure to two gallons of water. Later, as the flowers commence to appear, this solution may have a level tablespoonful of Clay's added to every two gallons. This may be varied alternatively with soot, and as the flowers appear diluted solutions may be given every five days.

HERE IS A SPRING DISPLAY OF BUTTERFLY FLOWERS IN THE GREENHOUSE.

Staking requires a little care, as a large plant requires a number of stakes and, unless this is done carefully so that the stakes are hidden by the foliage, the plant may become quite unsightly. Besides this, the foliage is very brittle and needs very careful handling. There is no need to have 3ft. canes for a plant which is going to grow 3ft. tall. Thin bamboo canes varying from 28ins. to 30ins. long will do.

Dwarf-growing strains, such as Dawkin's hybrids and the white Snowflake, will flower well in 48 pots and are excellent for furnishing the benches of the conservatory and produce a wealth of bloom. The taller-growing hybrids, such as Dr. Badger's hybrids and Dobbie's strain of hybrids, which are not quite so tall, may be flowered either in 32 pots or in larger pots as suggested. Whichever strain is chosen, the schizanthus pays well for good and careful cultivation.

A. D. B.

[We are indebted to Messrs. Sutton and Sons for the illustration on this page.—ED.]

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A Few Notes on the Original Strain of Lupinus Polyphyllus.

FOR many years past, one has always associated carnations, roses, sweet peas and so on with the well known firms who specialise in them. From now onwards, the name of Downer will undoubtedly bring to the minds of many horticulturists the famous lupins grown at Chichester.

I was recently afforded the opportunity of visiting this nursery, and must confess that I was greatly impressed at the progress made in the cultivation of this particular plant. I was informed by Mr. Downer that he had been experimenting for the past twelve years, concentrating solely on the polyphyllus strain. Judging from the masses of exquisite blooms which were to be seen on all sides, he has certainly been blessed with a great amount of success, and it is not to be wondered at that this useful early summer flowering plant is becoming very popular.

One long bed containing over 5,000 plants, most of which were in full flower, formed a sight not soon to be forgotten. The flowering spikes were from 3ft. to 5ft. in height, and formed a veritable sea of colour, ranging from the most delicate shades of pinks and blues to the richest reds and darkest purples. Some varieties worthy of special mention were:

May Queen, royal purple (affectionately termed "Granny" on the nursery from the fact that it was raised ten years ago and was the first of the famous Downer lupins); Artist, delicate blue and rose; Mount Everest, pure white; Traveller, bicolor, Wedgwood blue with white hoods; Goodwood, magnificent old rose; Saxe Blue, rich blue; Downer's Delight, bicolor, old rose with crimson hood, A.M., R.H.S.; Downer's Pink Pearl, A.M., R.H.S., deep rose; May Princess, A.M., R.H.S., deep purple; Tunic, shell pink and white, A.M., R.H.S.

Among many new seedlings, I particularly noticed Mrs. Brock, a very beautiful clear rose pink, and the Countess of March (which received an award of merit this year at Chelsea Flower Show), a rosy wistaria and white variety in which the flowers open a pure white and turn gradually into a clear colour giving a very pleasing effect. Both of these varieties should prove exceedingly popular. Lupins from Drayton Manor are sent the whole world over, and over the whole world it is known that the usually silent lupin is making a great noise for itself.—ADVT.

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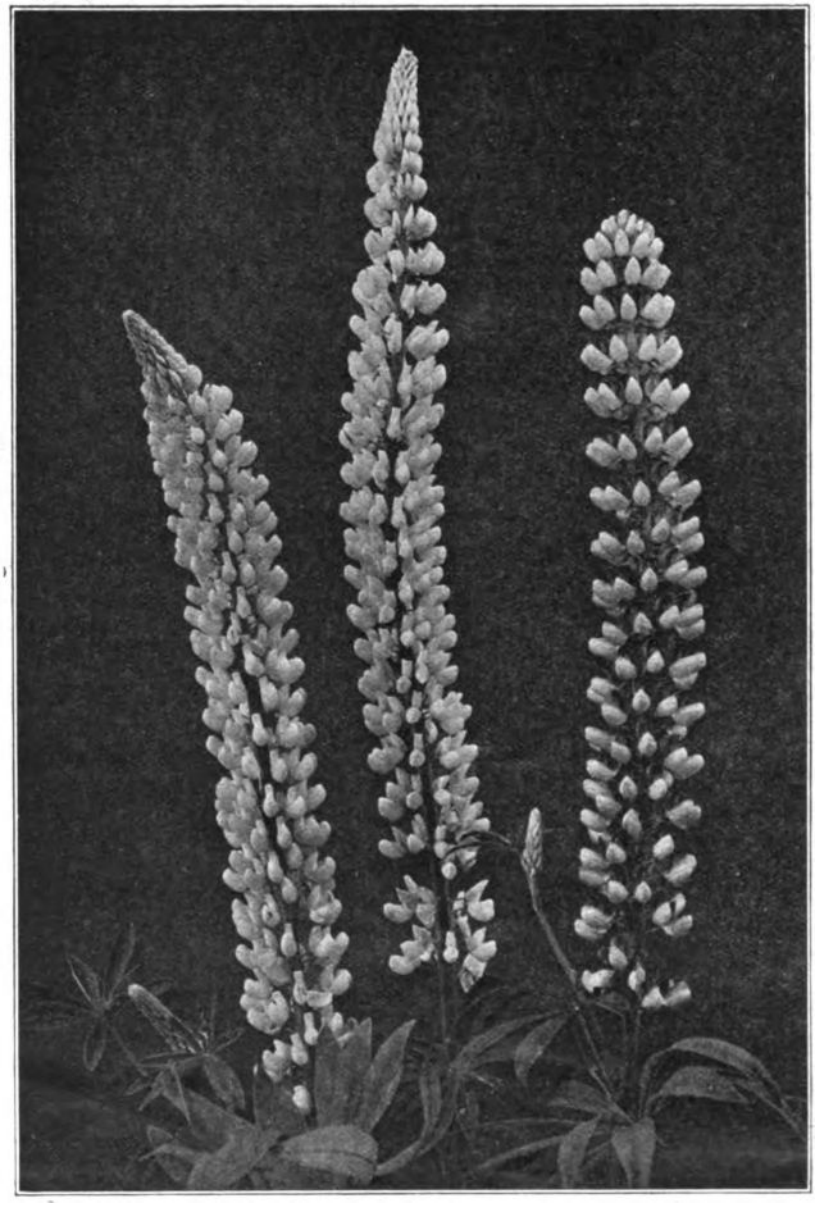

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A GREAT PROVINCIAL SHOW

ALTHOUGH only four years old, the Southport Flower Show must now be accorded the premier place among annual floral displays in this country. This year's exhibition, which opened on August 24th, and remained open for three days, is far ahead of any other show that has been staged in the provinces. Indeed, in many respects it is ahead of the famous Chelsea Show. The promoters deserve every congratulation for the success of their enterprise, and it is to be hoped that Southport will show the horticultural world even bigger and better shows in the future, if it is possible to surpass this year's display. Some idea of the extent and growth of the Show may be gained by a comparison of the number of entries. In 1924, the opening year, there were 1,200 entries. This year there are 3,600, an increase of over 700 compared with last year's event. Entries came from all parts of the country, and all the leading growers and horticultural firms were represented. On all hands it was agreed that it was the most magnificent display that has ever been staged, not only from the standpoint of beauty, but also from the quality and high standard of the individual exhibits. Despite the fact that it has been one of the worst seasons for flowers and gardens, the excellence of the exhibits reached a high level. In a few cases, due to the recent heavy rains, there were notable absentees, mainly Scottish exhibitors, who, unfortunately, had to withdraw their entries. Notwithstanding, all the classes, both trade and amateur, were well filled and competition was keen.

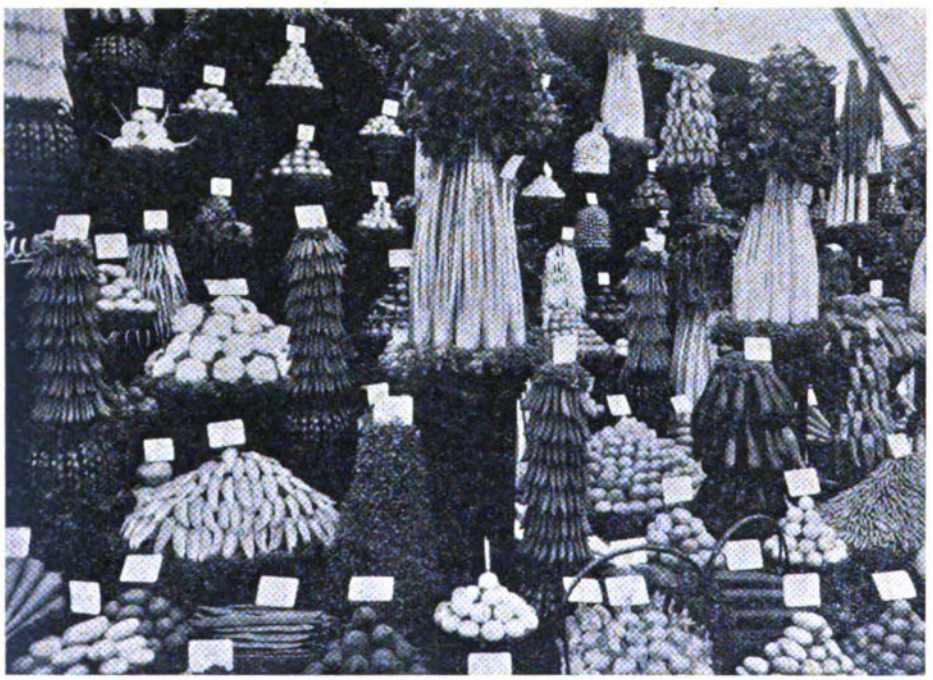
Gladioli and carnations were predominant in many of the exhibits, due partly to the lateness of the season; while the carnations staged in connection with the British Carnation Society's exhibition, held in conjunction with the Show, greatly added to the display. The main feature of the Society's Show was the award of the *Daily Mail* Gold Challenge Cup for the best scented carnation. In the face of keen competition in this class, Mr. A. F. Dutton of Iver, Bucks, was awarded the cup for his sweetly fragrant carnation Mrs. A. J. Cobb, which was staged at Chelsea this year. It is a splendid variety with a rich clove fragrance and well formed flowers of a rich deep crimson shade. One or two other good varieties were staged in this class, but the award was undoubtedly rightly given.

Among the large trade groups, Messrs. Carter and Co. staged a very fine display, laid out in the form of a square surrounding a square pool with a fountain in the centre. Banks of gladioli were interspersed with drifts of richly coloured gloxinias and double begonias. It was a beautiful exhibit, as well as of distinct educational value, since it presented a wide field from which the amateur might select choice flowers for his garden in late summer. The famous Raynes Park firm also staged a comprehensive collection of vegetables, and they were awarded three large gold medals.

The vegetable display set out by Messrs. Suttons was certainly one of the finest vegetable exhibits ever staged, both for quality and arrangement. The exhibit excelled even some of the floral groups and indicated that even vegetables can be made to appear attractive on the show bench. The tomatoes, especially, in this bad season, were outstanding in their excellence. It was fully worthy of its award of the challenge trophy for the best non-competitive exhibit in the Show.

Messrs. Barrs also staged an attractive collection of vegetables, containing all the leading varieties in season.

Gladioli were well represented in single displays as well as in corporate groups, and in every case the rapid advance that has been made in the development and improvement of the gladiolus of recent years was fully evidenced. The richness and wealth of colouring of the many varieties, both primulinus and large-flowered sorts, is beyond description, and in the future still better and brighter shades will make their appearance. Messrs. W. J. Unwin staged a fine collection, embracing all the leading primulinus and large-flowered sorts. Each variety was tastefully displayed, and some cleverness was shown in the colour blending. Messrs. Kelways had an excellent group, including many of their famous "Langprim" hybrids. Gladioli in baskets were shown by Messrs. Daniels of Norwich, who also showed the large-flowered and glowing coloured montbretia His Majesty. The arrangement in this



A MAGNIFICENT DISPLAY OF VEGETABLES, SHOWN BY MESSRS. SUTTON AND SONS.

Rustic Hazel Hurdles

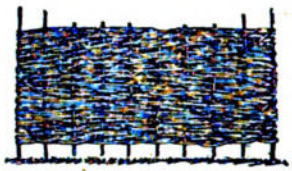


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exhibit was most praiseworthy. The exhibit of Messrs. Bath of Wisbech, of principally large-flowered gladioli, attracted no little attention. All the leading and several new varieties were exhibited, all in good condition. Messrs. Prins staged some well grown spikes in baskets which made a bright and vivid patch of colouring. The large-flowered varieties were the chief feature.

Gladioli were a feature in many of the general exhibits of herbaceous plants. Messrs. Toogoods had a light and graceful grouping of gladioli, made up of many prominent varieties. This acted as a background to a vegetable display. Messrs. Dickson and Robinson showed chiefly primulinus varieties grouped with dahlias. It was a well arranged and comprehensive exhibit, fully worthy of a large gold medal. Messrs. W. H. Simpson of Birmingham had a tastefully arranged exhibit which included groups of gladioli, montbretias, phloxes and antirrhinums for which their name is famed. The spikes of antirrhinums were a great attraction, with their long spikes, giant blooms, and richness and variety of colourings.

Phloxes were also to the fore in the exhibits of Mr. H. J. Jones, Messrs. Fosters of Harwich and Messrs. E. F. Fairbairn, Carlisle; while Messrs. Bakers and Mr. Wells, jun., also staged several fine varieties. The exhibit of Mr. Jones occupied a wall space, and on this was arranged a perfect bank of leading phlox varieties, with cactus-flowered dahlias, delphiniums and kniphofias as a background. Messrs. Fairbairn showed many blue phloxes, notable among which was the famous Border Gem. In Messrs. Baker's display, the astilbes, of which this firm have several fine varieties, was particularly attractive, while their beauty was enhanced by the brilliance of the red hot pokers and phloxes. Messrs. Wells staged a very fine general collection of herbaceous perennials, which were so skilfully arranged that the beauty of every individual plant was seen and appreciated.

This has been a hollyhock year, and Messrs. Vert and Son, the hollyhock specialists, staged a magnificent group of double-flowered sorts.

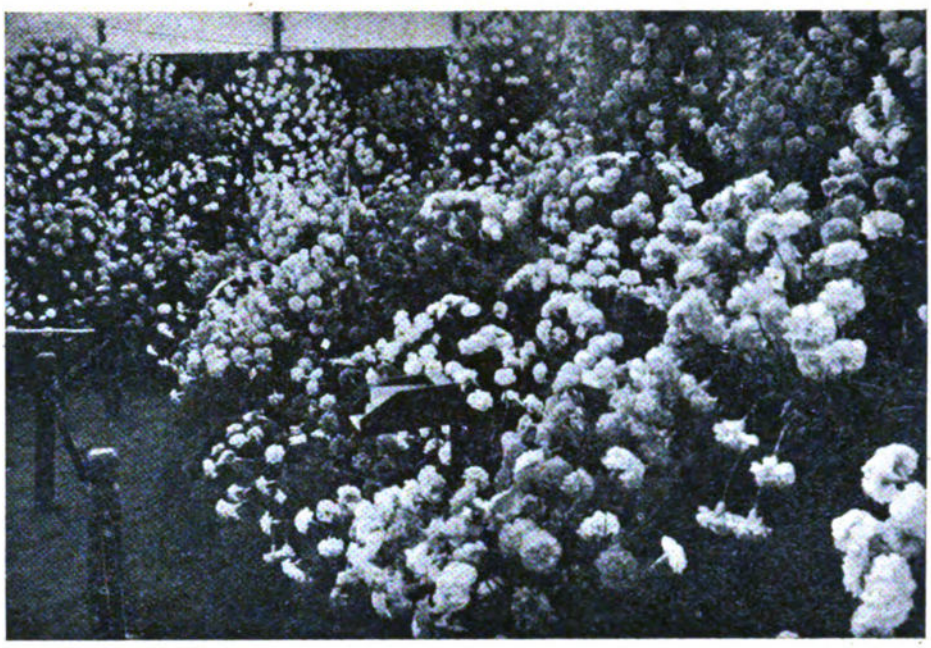
Messrs. Reamsbottom staged a small but pleasing exhibit of anemones and gaillardias with larkspurs in addition. Mr. T. Smith of Newry showed many berried shrubs, backed by herbaceous perennials, gladioli, etc.; while Mr. L. R. Russell staged some of the very fine clematis varieties, all in full flower, in pots and ready for transplanting.

As is their wont, Messrs. Blackmore and Langdon again excelled themselves with a superb exhibit of begonias. All their leading sorts were shown in the most perfect condition and well arranged; while basket begonias greatly added to the display. The basket varieties are excellent for decorative effect in the greenhouse or conservatory. This firm were also showing many of their fine quality delphiniums, although the season is now well advanced. The attractive hybrid varieties of Scabiosa caucasica were shown to advantage by Mr. Isaac House and created no little attention and admiration.

Mr. Amos Perry staged an impressive display embracing water lilies, aquatics and general herbaceous plants. The water lilies looked well, while the herbaceous perennials—among which we noted several fine lily species, including L. nepalense—were present in variety.

Messrs. Bolton's sweet pea display was a praiseworthy effort, considering the weather conditions of the past few weeks. Many well known sorts were shown and several novelties, including the now famous glowing cerise-coloured Mrs. H. Searles.

Roses were not a feature of the Show, but several very fine exhibits were staged, both in the competitive and non-competitive classes. The King's Acre Nurseries showed a comprehensive collection of varieties and all were in good condition. In addition, this firm showed an excellent group of dahlias of all types, as well as a fine exhibit of fruit trees in pots. Messrs. Dickson also had a very fine group of roses with a background of sweet peas. The roses on this stand were in splendid condition. Baskets of Betty Uprichard, Golden Emblem, and Lady Inchiquin were particularly good.



MESSRS. ENGELMANN'S ATTRACTIVE GROUP OF PERPETUAL CARNATIONS.

Not far from this stand Messrs. Dobbie's had a fine representative collection of potatoes. Unfortunately, the weather prevented them from staging a floral group, but the potatoes created both wonder and admiration.

The glorious bank composed of some 7,000 carnation blooms, arranged by Mr. C. Engelmann, will long remain as a memory of the Show. It was a magnificent array. The varieties were skilfully arranged, and seldom have we seen such artistic colour blending.

Messrs. Allwoods also staged a pleasing group, consisting of both perpetual-flowering

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and their famous Allwoodii pinks, which are most attractive for the garden.

The splendid exhibits of stove and greenhouse plants were one of the outstanding events of the Show. They were reminiscent of shows of many years ago in their high standard of excellence. Competition in this class was keen, and Messrs. Cyphers of Cheltenham excelled themselves in carrying off two prizes in addition to the Sir John Brunner Trophy for the best competitive exhibit in the Show. Their exhibit was a most meritorious one, consisting of all the leading greenhouse plants admirably grouped and arranged.

In the competitive classes, the competition was exceedingly keen in almost every case. In the rock and water garden section many excellent rock gardens were shown, and the premier award again went to Messrs. T. R. Hayes of Keswick, who won the Silver Perpetual Challenge Trophy. Messrs. Thirlestane were second, and Messrs. Garden Supplies third. For the best non-competitive formal garden, Messrs. Kent and Brydon were awarded the Boothroyd Challenge Trophy for a pleasant little formal garden.

In the dahlia classes Mr. H. Woolman gained two first prizes for his comprehensive and excellent displays of all varieties of dahlias. Messrs. Bees, Limited, won several first prizes. They gained first place for a collection of delphiniums, while they were also first for a collection of primulinus gladioli and first for a group of large-flowered varieties. Messrs. Artindale were second in each case. Messrs. Bees were also successful in winning first prize and the silver trophy for a collection of cut flowers of perennials and hardy herbaceous flowers; while Messrs. Prichard won first place in another similar class. Messrs. Bees captured first place in Class 25 for a representative group of cut roses, which contained many excellent varieties all showing up well. Messrs. McGredy were awarded a first prize for their collection of new seedling roses. Other novelties shown were Margaret McGredy, Desmond Johnston and Marian Cran.

In the fruit classes the Duke of Newcastle won chief place in almost all the classes for grapes which were heavily contested. For their excellent display of fruit trees in pots Messrs. Rivers and Sons were awarded the Scenic Railway Silver Challenge Trophy for the best non-competitive exhibit in the Show—an award which was fully justified.

Altogether, it was one of the most magnificent exhibitions ever held, fully justifying the promoters' claim of its being the world's largest flower show.

The following were the chief medal awards:

Large Gold Medals.

Messrs. Blackmore and Langdon.
Messrs. James Carter and Co.
Messrs. Dickson and Robinson.
Messrs. C. Engelmann.
Messrs. Thomas Rivers and Sons.
Messrs. Sutton and Sons.
Messrs. W. J. Unwin.
Messrs. R. Wallace and Co.
Messrs. E. Webb and Co.
Messrs. King's Acre Nurseries.
Messrs. Kent and Brydon.
Mr. P. E. Meadon.

Gold Medals.

Messrs. Allwoods.
Messrs. R. Bolton and Sons.
Messrs. Charlesworth and Co.
Messrs. Alex. Dickson.

Temple Gardens Exhibition.

A RECORD number of entries has been received for the exhibition of London-grown flowers to be held at the Inner Temple Gardens, Victoria Embankment, on September 3rd, 4th and 5th. The enthusiasm which was paramount in connection with the recent gardens championships is being maintained, and consequently there is going to be keen competition and some fine specimens of amateur-grown flowers exhibited. The exhibition is being organised by the London Gardens Guild in conjunction with the *Daily Express*, and the show will supersede all other events of its kind. There will be more gardens to be seen this year.

The most prominent feature will be a wonderful display of London-grown flowers by amateurs, including corporate displays as well as individual exhibits. These alone will be well worth seeing, and will indicate the magnificent quality of flowers which can be cultivated in the congested parts of London. A number of Borough Councils will also be sending along displays of cut flowers, and from the trade there will be large and imposing exhibits and several model gardens, including a replica of the championship back garden.

There will be a Gardens Guild Advisory Bureau with a rota of qualified gardeners in attendance all the time, and the Ministry of Agriculture will have a tent for the sale of the Ministry's publications.

These and other interesting features will command attention, and if you do not take the opportunity of paying a visit to this exhibition, you will miss seeing one of the greatest horticultural events of the year. The price for admission is 1s. on Saturday from 12 noon till 8 p.m., and 6d. on Monday from 11 a.m. till 12.30 p.m. On Sunday admission will be by ticket only from 2.30 till 8 p.m.

Any further particulars with regard to this exhibition can be obtained from the Hon. Organiser, London Gardens Guild, 124, Walworth Road, S.E.17.

Aberdeen Flower Show.

THE three days' show of the Royal Horticultural Society of Aberdeen was opened at the city's estate of Hazlehead last week by the Earl of Caithness. The entries numbered 1,161 as compared with 1,140 last year and, considering the lateness of the season, the quality generally was of a high standard.

The cup for the best eighteen rose blooms in the gardeners' section was won by Mr. William Morrison, gardener to Captain Lumsden, Balmedie; while the nurserymen's cup for the best thirty-six rose blooms was awarded to Messrs. Adam and Craigmyle. In the market gardeners' class, Mr. W. Lawson received the medal for the best collection of vegetables.

Mr. John A. Grigor, Banff, and Mr. A. S. Dow, gardener to the Earl of Moray, excelled in the principal sweet pea classes, and Mr. Robert Murray, gardener to Mr. James Cook, Enfield, staged the finest group of plants. Mr. George Fleming, Woodside, secured the first prize for the amateur's collection of pot plants, and the championship of the amateur pot plant section was won by Mr. John Davidson, Hardgate, with two well furnished specimens of begonias.

The fruit display was smaller than usual, and here Mr. G. Tocher, gardener to Lady Simpson, Murtle, carried off the leading honour for strawberries, while the leader in the vegetable section was Mr. James Mitchell, gardener to Mr. R. W. Smith, M.P.

An Omission.

We much regret that in our report of Blackpool Flower Show no mention was made of the excellent gladiolus exhibits staged by Messrs. H. Prins, of Wisbech. This firm not only won the first prize for gladioli, but also were awarded the cup for the best collection of gladioli.

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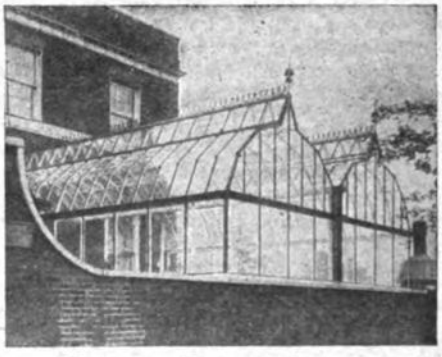

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Notes from Maidstone.

LATE GOOSEBERRIES.

The season between the soft fruit and the early apples often presents a hiatus which has to be filled by the farinaceous banana or other fruit substitute, as many gardeners do not know that the later gooseberries are admirably adapted to fill this gap. Here in the last week of August the varieties, Sandwich Yellow, Glenton Green, Keen's Seedling and Ironmonger are still in good condition and worthy of the most critical palate.

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OUR SERVICE BUREAU

Unhealthy Violets.

Could you tell me why my violet leaves on the young plants look so unhealthy? The same thing occurred last year. They are at present in the kitchen garden near some black currants. Would you advise me to take them up and put in the frame as they get worse? Please say why aspidistras do not flourish. I have several pots which throw up plenty of young leaves, but they are so short in the leaf. They were all re-potted last year.—M. D., Christchurch.

The foliage is badly infested with red spider. Yes, lift and re-plant them in a frame in good loam; water, syringe and keep the frame lights closed, almost, for about a fortnight, and so encourage new healthy leaves to grow. Afterwards, grow the plants hardily. The soil is not suitable for the aspidistra, evidently. Re-pot it, using good old fibrous loam and a small quantity of bone-meal, and a year later feed with Clay's. Re-pot next spring.

Diseased Madonna Lilies.

All my Madonna lilies, which are in different parts of the garden, have come up this year with the leaves all dried up and brown. Though they have all bloomed the effect is spoiled. Is this disease, and what is the remedy?—G. H., Pulborough.

Your Madonna lilies are no doubt attacked by a fungoid disease known as Botrylis cinerea. This and other species of lilies are often attacked. The best preventive is spraying with liver of sulphur, using 1 oz. to 3 gallons of water. Although it is too late to do anything this season, it would be wise to spray the plants and soil as a preventive. If you are going to lift and replant the bulbs, it should be done this month. You could then dry them for a few days and dust them thoroughly with flowers of sulphur before re-planting. Late spring frosts and bad weather conditions are often followed by an attack of this disease.

Treatment of Eccremocarpus Scaber.

I bought a plant of this, about 18ins. high, a month or so ago. It is now about 4ft. high in bloom in a 5in. pot in a greenhouse. Will you please tell me how to treat it?—R. W. R., Wallington.

Eccremocarpus scaber is a climber. It grows freely in any ordinary well-drained soil, and is hardy in the south, but it is not a very long-lived plant. It is, however, easily raised from seed, which is usually produced in quantity. No pruning is necessary, except keeping it within bounds. It should do for a veranda facing east, or it may be grown in a cool greenhouse. It does best in a fairly sunny position. It may get partially cut back with frost during winter, but it usually starts from the root again. It does well trained up a south or west wall.

Dying of Chrysanthemum Leaves.

Would you tell me the cause of so many of the lower leaves of chrysanthemums dying away after their final potting? I have used usual potting soils and no artificial manure whatever. Enclosed are a few leaves in their various stages of decay for your examination.—E. F., Cirencester.

It is deficient root-action that has caused the lower leaves of the chrysanthemum to decay. The soil may be in a sour condition, and, until new roots are growing freely, very careful watering with clear water only should be the rule. This is the only thing that can be done.

Training Young Apple Trees.

I have some maiden apples—a Worcester Pearmain and three Lord Derbys. At present they consist of single straight stems about 3ft. 6ins. in height. I should like, if possible, to train them into single cordons, as I have to economise in space. Could you tell me the best way to achieve this object? Is it by a particular method of pruning?—A. D., Wimbledon.

If the maiden apple trees that you have consist now of single straight stems, it will be perfectly easy to train them as single cordons, which, we might add, is the best way to grow them if space must be economised. They should be summer-pruned now. Cut back all new side growths that have formed to three or four leaves from their base, but leave the "leader" or extension growths on each tree untouched. In winter, cut back all these summer-shortened side shoots to two buds, and perhaps just "tip" the leader or terminal growth. Carry on this way each year, cutting back all side growths that form to two buds in winter, and just slightly shortening the leader on each tree.

Cutting Back an Overgrown Privet Hedge.

I have a privet hedge in my front garden which is too high, as it shades everything behind it. It wants reducing 12ins. in height. Could I do it now, or when would be the best time?—D. S., London, N.7.

We advise you to cut down your privet hedge during the first half of April.

Making a Cement Pond.

I would be very much obliged if you could let me know how thick the walls of a pond must be, as mine is done by a local man who never built one before and he does not quite know the thickness, also if the wall has to slope. He intends to use ballast and cement mixed. The size of the pond, on which, I take it, the thickness of the walls depends, is about 3–4yds. wide on one end, about 1yd. the other, and about 7yds. long, 18ins. deep.—P. C., Northwood.

The walls of a pond should be of the thickness of a brick—4½ins. The face of the wall should be done with cement one part to three of very fine sand. The surface should then be washed over with a thin solution of cement—of course, adding a small quantity of fine sand to prevent cracking. The walls should slope a little, but not as much as you indicate in your diagram. If the pond is intended for lilies, it should be quite 2ft. deep. We advise you to use fresh cement, not old.

Pruning Outdoor Vines.

When is the best time to prune outdoor grapevines, and how?—C. G., Erith.

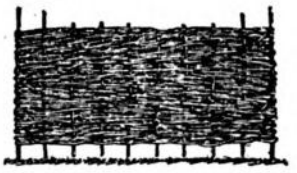
The unripe ends only of any long shoots should be cut off now, thus allowing air and the sun's rays to ripen the lower part of each shoot of the current year's growth of the vine. Early next February prune back the shoots to two "eyes"—buds—from the base and immediately paint the cut ends with painters' knotting to stop excessive bleeding when the sap rises in April.

Ridding Ground of Wood Sorrel.

I enclose herewith a specimen of a weed which is overrunning our garden. It appeared about two years ago and defies all our efforts to get rid of it. Uprooting it seems to help it to thrive. This year, possibly owing to the wet season, it is rampant all over the garden, even on paths, etc. I should be much obliged if you could recommend some way of getting rid of it. Our neighbours' gardens, only divided by a wooden fence, are quite free.—N. G., Streatham Hill, S.W.

The weed sent is that of the wood sorrel. Uprooting, cleanly, is the only way where

Rustic Hazel Hurdles



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other plants are growing. On paths a few drops of pure creosote in the centre of each plant will kill it and its bulbous roots. If bits of the latter are left in the soil, new growth will appear in due course.

More About the Southport Flower Show.

OWING to the extensiveness of this excellent flower show, we, unfortunately, were unable to mention all the chief exhibits in our report last week. Several of those omitted ought not to be overlooked, for they were particularly meritorious. Messrs. E. Webb and Sons of Stourbridge staged a comprehensive exhibit, which attracted considerable attention and was awarded a large gold medal. It was well staged and contained many fine blooms of gladioli, sweet peas, roses and dahlias, as well as numerous herbaceous plants—and in each case the best and most up-to-date varieties had been selected.

The sundries section was of extreme interest, practically everything required for the garden being represented on one stand or another, from tools that are in everyday use, to delightful and comfortable looking garden chairs, seats, etc. Summer houses were also represented in many attractive forms. Conservatories, greenhouses and frames for the man who could not afford the more expensive type of greenhouse, were also very well represented. The energetic committee of Southport Show are always on the look-out and ready to entertain any new ideas to make this already attractive exhibition more attractive and comprehensive.

As the growers are well catered for in the provision of classes to exhibit their products, the committee turned their attention to the sundries department and invited competition in thirty different classes, for which they offered gold and silver medals and awards of merit. By doing so they have instilled quite a new feeling in this class of exhibitor, which may be productive of improvements in tools and articles of everyday use in the garden as the years go on.

The class for motor and hand lawn mowers brought forward many entries, and they were put to a very severe test, as the ground on which the trial took place was under water the previous day.

Spraying machines from the latest in small hand sprayers, so useful where there is only a small area to cover, to the larger sizes required for orchard work, were well represented. The recently introduced "Solo" sprayer has much to recommend it as a simple and efficient article, likewise the Eclipse New Leader.

In the class for any new or recently invented article, a simple device in the form of a small trough for fixing to the back of the roller of a lawn mower to collect loose grass, leaves and worm casts, which is gathered by the scraper, should prove of great service to those who have charge of the upkeep of bowling greens, tennis courts, etc. This is cheap, efficient, and sizes can be made to fit any machine, and is the invention of a gardener.

The classes for kits of tools hung up on tool racks brought forward four entries; these tool racks were very creditable.

SOCIETY NOTES

The Great Autumn Rose Show.

WE should like to remind our readers that the National Rose Society's Great Autumn Show will be again held this year in the Royal Horticultural Hall, Vincent Square, S.W., the dates fixed for the exhibition being Friday and Saturday, September 9th and 10th.

This annual exhibition is, without doubt, the most extensive, beautiful and varied display of autumn roses to be seen in any part of the world.

In the artistic classes the competition this year is likely to be keen, and some very attractive exhibits are promised.

New Plants at Vincent Square.

THERE were two very showy varieties of the tall-growing, half-hardy lobelia before the Floral Committee of the Royal Horticultural Society on August 30th last, and the better sort, named Huntsman, was given an award of merit. It is a vigorous plant, with pubescent, purple stems and green leaves, and has a well flowered spike of deep scarlet flowers. This handsome variety, which was shown in quantity at the recent Southport Show, was now shown by Mr. A. J. McSelf of Reading. The other variety, named The Bishop, was sent by the Rt. Rev. the Hon. B. J. Plunket, St. Anne's, Clontarf, Dublin, and was selected for trial at Wisley. It has bright purple stems and foliage and a good spike of crimson flowers.

Two good montbretias received awards of merit, though Lady Wilson owes the honour more to its colouring than to its form, for the floral segments are none too shapely. But the bright yellow colour, with the sheen of orange is uncommon, and very effective, in the montbretia. The variety R. C. Notcutt is of the ideal shape and is also large. Its colour is a fiery-orange which pales to a clear yellow in the centre of the flower. Both montbretias were shown by the Hon. Mrs. Montague of Breecles Hall, Attleborough.

Gladiolus Langport Triumph, from Messrs. Kelway and Son, was selected for trial at Wisley. It is a large flowered variety with vivid, clear red flowers which have a creamy throat. Rogers's Californian Giant strain of aster was also selected for trial. This was shown in several good distinct colours and seems to be an unusually large and very shapely type of the Ostrich Plume China aster.

The Joint Dahlia Committee made the usual selection of new dahlias for trial at Wisley. There were two of the small double type, now known as Camellia-flowered, which, if sufficiently dwarf, would be good bedding varieties, and several cactus dahlias which have the merit of carrying their flowers on stout stems clear above the foliage. But they have first to be tested at Wisley.

Dunoon Flower Show.

DESPITE the adverse weather conditions there was a good display of flowers, fruit and vegetables at the show of the Dunoon and Cowal Horticultural Society on August 26th, when the entries numbered 638, as compared with 522 last year. In the open section Messrs. Alex. Lister, Rothesay, carried off the chief honours for dahlias, chrysanthemums and sweet peas; while D. Murchison, Kirn, excelled with roses. The latter also shared the honours with Mrs. Howie, The Manse, in the classes for pot plants. J. J. Boyd scored in the classes for white and black grapes, dessert apples and gooseberries; and the prizes in the vegetable classes were awarded principally between Messrs. Ian Fleming, D. McDougall, D. Coventry and A. McDougall, jun. The best vase of carnations was staged by James Pettigrew, Strone, and D. Dunbar, Covesea, was first for the best cultivated garden.

Motherwell Flower Show.

AT the forty-fifth annual exhibition of the Middle Ward of Lanarkshire Pansy Society and Floral Association, held at Motherwell on August 26th, Mr. W. H. Smellie, Shields Glen, was the most successful prize-winner with twenty-one first awards to his credit. W. McPherson, Ferguson

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Street, was first for the best kept plot in the burgh. Gold medals were awarded to George Muir, Kirkmuirhill (stand of fruit); Scottish Wholesale Co-operative Society (roses and gladioli); Bannatyne and Jackson, Hamilton (collection of herbaceous flowers); and a silver medal award was given to Leightons, Glasgow (gladioli and sweet peas).

Glasgow Plotholders.

THE annual show of the Easter Keppoch Gardens Association was held on Saturday, August 27th. What was a barren area of 22 acres in the Possilpark district of Glasgow five years ago has been converted into 450 plots where flowers and vegetables are successfully cultivated by the working classes, and in most cases the occupants have erected small glass-houses where tomatoes, pot plants, etc., are cultivated. There were ninety classes in the prize list, and the entries numbered 480. The Hamilton-Ure Cup, awarded to the most successful competitor in the vegetable classes, was won by E. J. Mason; and J. McQuilken secured the gold medal and the Littlejohn Cup in the flower section; while A. Wilson provided the best kept and arranged vegetable and flower garden of 300 sq. yds.

The chief prize-winners were Messrs. John Dale, Alex. Munro, C. Henerson, J. Paton, A. Taylor, A. Barnes, E. J. Mann, A. Murray, J. Sibbald, J. Smith, R. Connell, W. Littlejohn, J. Norton, S. Wallace, J. Kerr, J. Dennison, J. Richmond, A. Wilson and John Kerr.

Glasgow Gardens Championship.

The trophy retained in Mosspark.

THE judging in connection with the *Daily Record* gardens competition which was inaugurated last year with the object of encouraging horticulture among the occupants of the Corporation housing schemes, took place recently. The city was divided into seven groups, and in addition to the money prizes allocated to each, a championship trophy was awarded to the owner of the best garden in Glasgow, selected from the first prize winners. A new competition, confined to the tenants of the slum clearance scheme, created keen interest among the poorer classes who are cultivating small gardens or front plots for the first time, and the number of entries exceeded those in any other group. Although handicapped by the unsuitable conditions of the soil, these folks have already effected a great improvement in the different areas, and arrangements are being made to provide them with seeds and plants in future.

The present holder of the championship, Mr. George Edgar, Mosspark, was not a competitor, and this year Mr. James Stewart, 69, Arisaig Drive, has succeeded in retaining the trophy in Mosspark in addition to the first prize in that particular group. The garden is well designed and comprises a representative collection of flowers, vegetables, and fruit in fine condition.

The other prize winners are as follows:

Group I, Mosspark.—First prize, Mr. James Stewart; second, Mr. D. C. Williamson; third, Mr. Duncan Cameron; fourth, Mrs. W. G. Liddell; fifth, Mr. Alec Simpson.

Group II, Riddrie.—First, Mr. J. G. McCall; second, Mr. Andrew Thomson; third, Mr. John Unwin; fourth, Mr. James T. Skerrott; fifth, Mr. James D. Campbe .

Group III, Craigton, Drumoyne and Shieldhall.—First, Mr. Richard Whyte; second, Mr. Thos. B. Hamilton; third, Mr. Stuart D. Wason; fourth, Mr. Alex. McMillan; fifth, Mr. Matthew Robertson.

Group IV, Tollcross, Sandyhills, Newbank and Belvedere.—First, Mrs. James C. Hope; second, Mr. Matthew Watson; third, Mr. William Gilchrist.

Group V, Possil, Hamiltonhill, Baldernock.—First, Mr. Fred J. Virgo; second, Mr. John Simpson; third, Mr. John Beatson.

Group VI, Knightswood, Yoker Kelvindale and Lambhill.—First, Mr. Henry Stewart; second, Mr. F. A. Capel; third, Mr. William Adam.

Slum Clearance Scheme.—First, Mr. James Shields; second, Mr. Arch. Fisher; third, Mr. Chas. McBride.

Flower Show Fixtures.

September 9th.—Nat. Rose Soc. Ex. (two days); R.H.S.I. meets.

September 10th.—West Norwood Soc., Annual Show.

September 13th.—R.H.S. Vegetable Ex. (Lecture); Jersey Gardeners' Soc. meets.

September 14th.—Roy. Caledonian Hort. Soc. Ex. (two days); Nat. Dahlia Soc. Ex.; North of England Hort. Soc. Ex. (three days); Sheffield Chrys. Soc. meets.

September 15th.—Thame Show.

September 20th.—P.O. Savings Bk. Hort. Soc. Ex.

September 22nd.—Ipswich Gard. Assn. meets.

September 24th.—L.C.C. Staff Hort. Soc. Show.

September 26th.—Nat. Chrys. Soc. Floral and Ex. Coms. meet.

September 28th.—R.H.S. Ex. at Holland Park Hall.

September 29th.—R.H.S. Ex., second day; Glasgow and W. of Scotland Soc. meets; Paisley Florists' Soc. meets.

September 30th.—R.H.S. Ex., third day.

Catalogue Received.

The bulb catalogue of Messrs. Ryder and Sons of St. Albans is particularly interesting this year. It is well compiled, well illustrated with half-tone illustrations and colour plates, and the amateur will find in it very helpful information on the culture of bulbs for his garden and greenhouse.

A Correction.

We much regret that there was a printer's error in our report of Southport Flower Show. The name Foster of Harwich should read Forbes of Hawick. This well-known firm staged a very fine exhibit of herbaceous phloxes.

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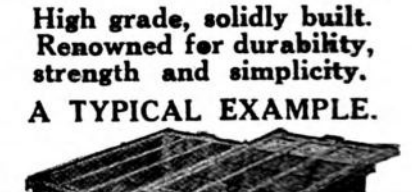

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3-Light Frame ,,	9ft. by 4ft. ..	£4 : 15 : 0

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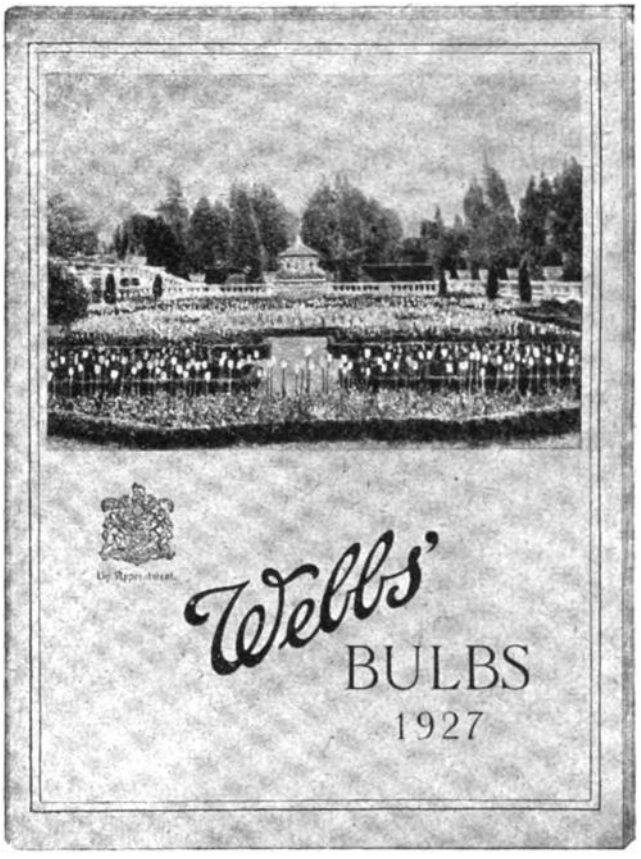

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Notes from Maidstone.

—✱—

LATE GOOSEBERRIES.

The season between the soft fruit and the early apples often presents a hiatus which has to be filled by the farinaceous banana or other fruit substitute, as many gardeners do not know that the later gooseberries are admirably adapted to fill this gap. Here in the last week of August the varieties, Sandwich Yellow, Glenton Green, Keen's Seedling and Ironmonger are still in good condition and worthy of the most critical palate.

—✱—

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Competition was strongest in the vegetable classes. Here Mr. T. Couper, Renfrew, staged the best collection of vegetables, and as he had ten other first prizes to his credit the challenge silver cup given by Major Glen Coats for the most points in the vegetable section passed into his custody for one year.

One of the attractive features of the Show was a large group of plants and cut flowers from the Corporation Parks Department, which was arranged in good taste in the centre of the hall. From Ardencraig, Rothesay, Sir John Reid sent a choice collection of Gladiolus primulinus and astilbe, the latter of which included specimens of the following varieties: rubella, King Albert, Pink Pearl, Beauty of Godsal, Maria Van Sturm and Walkerie. Mr. Robert Shand, Meikleriggs, a local amateur, was responsible for a tempting exhibit of orchard house fruit in pots, and Mr. Hugh Morris, Bishopton, staged a representative group of herbaceous flowers.

Trade stands contributed to the success of the Show. Interest in the display of Messrs. Alex. Lister and Son, Rothesay, centred on a new seedling dahlia named Salmon Bedder, of the Coltness Gem type, and two new collarette dahlias called Alex Lister, orange overlaid crimson, and Jean Lister, lilac pink. Both are firm, tightly built flowers of large size.

The Scottish Co-operative Society exhibited gladioli and roses from their West Kilbride nursery. The latter were notable for the rich colour of the blooms of W. F. Dreer, Betty Uprichard, Los Angeles, Ophelia, Covent Garden and Benedict Seguin.

Mr. James Laidler, Paisley, featured Paisley Gem dahlia and gladioli, while fine-grown specimens of begonias, dahlias, calendula, carnations and roses were prominent in the exhibit of Mr. John MacFie.

The class open to competition from societies in the area induced very good competition, and the champion collection of twelve distinct kinds was set up by the Edmonton Society. This contained particularly good peas, runner beans, potatoes, cauliflowers and cabbages. The best individual collection of vegetables was shown by Mr. W. E. Wilson, Watford, who had especially good celery, carrots and potatoes. The Beckenham and District Society were first with a collection of six varieties of potatoes, showing clean, shapely tubers of The Bishop, Catriona, Red King, Arran Comrade, Majestic and King Edward.

In the single dish classes, potatoes, runner beans, peas, beet, celery, parsnips, shallots and tomatoes were splendidly shown; but cabbages were not so numerous as might have been expected, nor were they of such good quality as on former occasions. Apples were of very high quality. The dishes of Lady Sudeley and The Queen were beautifully coloured; while Mr. E. Anstee of the Paddington Postal Horticultural Society had an outstanding exhibit of William's Bon Chrétien Pears, Alexander, Worcester Pearmain, Ribston Pippin and Peasgood's Nonsuch Apples.

Flowers were more extensively shown than last year, and there were many especially good vases of general border flowers, roses, dahlias, chrysanthemums, China asters and sweet peas. The last-named were so numerous as to receive a special section. The lady members arranged many really beautiful dinner-table decorations, and Mrs. Turney of Brockley was first with an artistic table of small dahlias, montbretias and heleniums.

The London Allotments Show.

SIX years ago the first show of the London Allotments and Gardens Show Society was held at the City Guildhall, and it was immediately so successful that the Show is now an annual event. Last year and again on September 2nd and 3rd last, it has been found advisable to hold the Show in the Royal Horticultural Hall, Westminster; and this latest Show has fully maintained the high quality of its forerunners.

This "All London" Show, as the promoters term it, is open to allotment holders and cultivators of vacant spaces so far afield as Beckenham, Southgate, Watford and Lewisham, as well as to those in the metropolis proper. The schedule provides a great variety of classes, and the hall was filled with exceedingly well grown fruit, vegetables, flowers, honey, jams, home-made bread and cake.

Although many allotment societies set up collections of vegetables grown by their members, the best exhibit in the Show was the collection grown by the scholars of the Leybourne Holme School, which surpassed in quality the efforts of the adults. We believe that this is the fourth successive time that the school has been first in this class open to school gardens in the whole of Great Britain.

Last year the school's exhibit was of such outstanding excellence that it was thought advisable for a deputation of the Show officials to visit the gardens this year just before the date of the Show, and this deputation, which included the President of the Society, spoke in most enthusiastic terms of the high cultivation which they saw. The carrots grown by the scholars were as near to perfection as may be, and these and their onions were superior to any others in the whole of the Show.

OUR SERVICE BUREAU

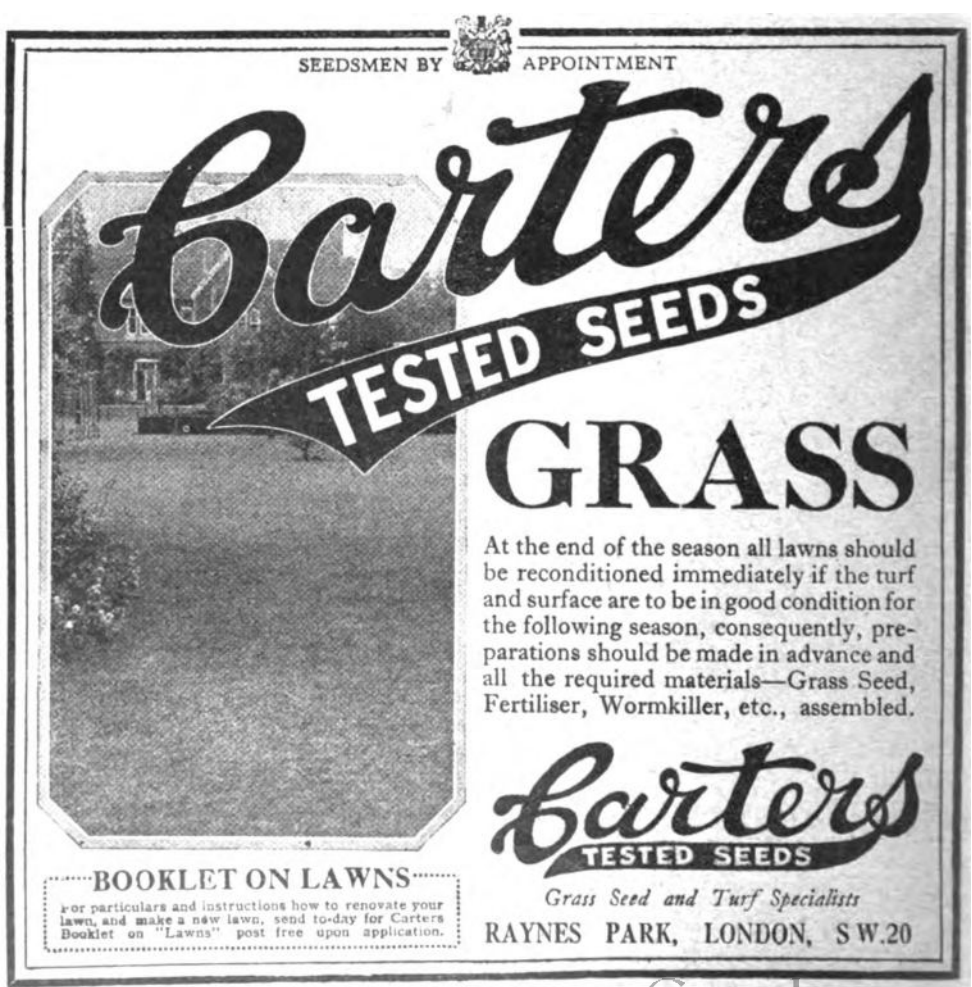
All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with each enquiry.*

We have selected the following enquiries, with their answers, as being of more general interest, and therefore worthy of publication.

American Blight on Apples.

I have in my garden among other healthy apple trees a trained Cox's Orange Pippin about six years old which for the past two months has developed a kind of disease that is affecting the leaves and the shoots of this tree. Lately, I noticed on it a touch of American blight. Although I treated it immediately with paraffin oil, I have not been able to get rid of it altogether. Every two or three days I notice that fresh and very small woolly patches of American blight occur, which I brush off with paraffin oil. This apple tree carries a few apples which, together with the leaves and shoots not affected, are looking healthy, whereas those which have caught the disease are turning brown and die. Herewith I enclose a few leaves and shoots, and if you can see what is the matter with them I shall be very grateful to you if you will kindly let me know what can be done.—E. J., Wembley Park.

The shoots of the Cox's Orange Pippin apple that you send are badly infected with the apple canker disease. This often follows an attack of American blight, the aphides puncturing the bark and making entry places for the fungus disease. There is no definite



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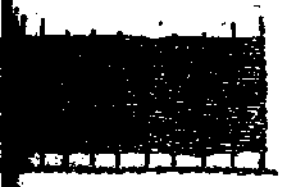
Rustic Hazel Hurdles



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cure for canker. All you can do is to cut out and burn every diseasad shoot at once. Prune fairly hard when the leaves fall and burn the prunings. We would recommend, too, that you assist this tree with dressings of phosphate and potash, putting on basic slag at the rate of ½lb. per square yard of ground occupied in autumn, and sulphate of potash, 3 oz. per square yard of ground, in early spring. You should not use paraffin oil to get rid of the American blight. Paint over each woolly patch with a stiff brush dipped in methylated spirit, going over the tree once every ten days or a fortnight during the next month or so.

Making a Small Rockery.

I purpose making a small rockery or rock garden, facing south, about 7ft. by 4½ft., and should welcome your advice as to most suitable plants for same. Any further information you can give as to method of placing the stones, will be appreciated. I suppose the idea is to put them flat—not sticking up pointwise out of soil—so that the flat creeping plants will show to best advantage.—P. L., Newton Mearns, Renfrewshire.

The following plants would be suitable for a rock garden: Viola cornuta, saxifrage species, Iberis species, androsace species, cheiranthus species, onosma species, campanula species, dianthus species, alpine phlox, aubrietia species, alyssum species, primula species, etc.

An ideal rock garden should follow nature in its arrangement of rocks. The rocks should be placed one way, giving the idea that they are outcrops showing owing to the action of weather on the soil. Certainly the stones should be put in the soil almost flat, but with a tilt backwards so that the water can drain off their base into the soil.

Diseased Tomatoes.

Will you let me know the disease that is attacking enclosed tomato. The house is planted with 100 plants, half of them Essex Wonder and half Batchelor's Ideal. Nearly every fruit of Essex Wonder is bad, while Ideal is quite all right and carrying a good crop. Two years ago the disease attacked plants of Best of All in the same house, but last year there was no signs of it when the house was planted with the same varieties as this year. Please advise me how to proceed, and what to do with the house next year; if the soil was all taken out and renewed, could I then expect to grow a clean healthy crop of tomatoes.—K. O., Harrogate.

The tomato fruit is attacked by one of the many fruit rot fungi which attack the tomato plant. You should pick off and destroy all affected fruits. Water the borders now with "Cheshunt Compound." Keep the trusses as far from the ground as possible, and after the crop has been removed the soil should be sterilised, or replaced with fresh compost. See that the water used in the house is not contaminated with fallen fruit or soil from affected borders. The atmosphere should be kept on the dry and cool side—moist conditions favour disease. Keep the plants free from pests, especially "white fly," as they cause lesions through which the fungus gains an entrance into the plant. We trust that you will be able to keep your plants free from pests next season.

Gentians of Easy Culture.

I am very anxious to grow a few gentians, and I have tried unsuccessfully for several years. Would you kindly tell me the names of one or two kinds which are the easiest to grow, and also give me a few simple hints on the best way to grow them?—A. W. C., Oxford.

Gentians should be planted in rich loamy soil with plenty of leaf-mould added. Half-shady positions suit them best. You may have too much lime in your soil to suit many of them. A few of the easiest to grow and best showy kinds are G. septemfida, G. asclepiadea, G. acaulis, G. cruciata, G. sino-ornata and G. lutea.

Getting Rid of Stinging Nettles.

I should be much obliged if you could tell me the best method of getting rid of stinging nettles. I have a piece of meadow land, which I wish to keep as such, but on which there are large patches of nettles. I have started pulling them up, but this is going to be a very laborious method, owing to the innumerable roots which are left in the ground, and the area to be covered. Will cutting them down two or three times a year have any effect? Can you also tell me whether nettles multiply by seed or merely spready by underground roots?—C. P., Norbury.

The roots of nettles spread and the seeds germinate. Cutting several times during the season will weaken the growth, but not kill the roots outright. The best plan is to dig them up and, if the patches are isolated, use creosote, which will kill all remaining bits of roots, and the soil will be in condition for grass seeds again by next spring.

A Correction.

WE much regret that there was an error in the advertisement of Messrs. J. Waterer, Sons and Crisp, which appeared on the front cover of THE GARDEN, August 27th. It will be seen that, although there are only five of their beautiful lupins illustrated, the advertisement reads "6 varieties, carriage paid and packed free, 8/-," whereas this, of course, should read "5 varieties."

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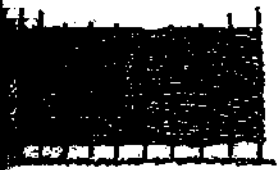

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PRIDE OF HAARLEM, crimson.
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SUZON, large pale rose and blush.
SWEET LAVENDER, pretty mauve.
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BEAUTIFUL MIXED ALL COLOURS.
All above 1/6 per doz.; 7/- per 100.
DARWIN TULIPS, Magnificent Mixture, parcels containing 50 bulbs for 2/6.
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Double the collection, 1,000 bulbs, 15/-.
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THE GLASGOW FLOWER SHOW

SCOTTISH gardeners and nurserymen showed what they are capable of producing in the way of high-class flowers, fruit and vegetables, despite one of the worst of gardening seasons, on the occasion of the annual exhibition of the Glasgow and West of Scotland Horticultural Society, which opened in the St. Andrew's Halls on Wednesday and Thursday, September 7th and 8th. The display was a particularly fine one in the actual high standard of the exhibits, although its appearance was marred by the lack of space for showing to advantage. It was hoped to hold the Show in the new Kelvin Hall, but the Corporation officials were unable to guarantee that the hall would be ready in time, and the directors of the Society had to fall back on the St. Andrew's Halls, which are not particularly suited for a floral display, since the groups are scattered and confined in small space. It is to be hoped that next year the West of Scotland, as a society, may be able to organise a show on a large scale in the Kelvin Hall, in order that Glasgow may assume its proper place in the horticultural world.

Competitive Classes.

This year there were almost 500 fewer entries in the competitive classes, due to the bad weather conditions prevailing in the summer months in all districts except the north; but, in spite of the diminution in numbers, the classes were well filled. The trade exhibits were more numerous and presented a bright and varied appearance which more than compensated for the absence of certain of the competitive classes.

Almost every summer and autumn flower was represented in the collections, but gladioli and dahlias were predominant in the majority of the exhibits. Dahlias seem to have been particularly successful this year, and there is little doubt that it is a flower which all amateurs will be well advised to grow for its wide and attractive range of colouring and habit. Gladioli were in good heart, but many of them were showing signs of the heavy rains. The sweet peas in the competitive classes were remarkably good, and great credit is to be reflected on the few growers who staged exhibits. Mr. John A. Grigor, Banff, was one of the most successful competitors in this section. The classes for roses were also somewhat thin and the display uneven. There were some excellent groups of blooms staged by Messrs. D. and W. Croll of Dundee and Messrs. Adam and Craigmile of Aberdeen, who each carried off a number of prizes. Fairly keen competition was shown in the classes for carnations and dahlias, and many fine blooms were to be seen in each section. The fruit and vegetable classes produced material of a very high standard. The collections of vegetables were excellent, and the growers deserve congratulations for the high standard attained in the growing and staging of exhibition vegetables. In the fruit classes there was keen competition in the section for grapes, and the bunches exhibited were acknowledged to be among the finest ever staged at a Glasgow Show. The first prize winner in the class for eight bunches was Mr. John Davidson, gardener to Sir John Reid, Ardencraig, Rothesay; while the second was gained by the well known grape exhibitor, Mr. Donald McInnes, gardener at Glamis Castle.

In the groups of herbaceous plants, a high level was reached, and it was unfortunate that so many excellent collections, which had a certain educational merit apart from their beauty, had to be accommodated in the basement. Gladioli were strong in many of the collections, and in the section devoted to them some fine spikes were shown, among which the groups staged by Messrs. George Mair and Sons, Prestwick, were outstanding. A number of their new pedigree seedlings give promise of many fine things to come in the world of gladioli.

Trade Exhibits.

These were generally representative of the nursery and seed trade in the West of Scotland. There were a few exceptions in the case of firms like Messrs. Suttons, Dobbies, Blackmore and Langdon, Engelmann, Storrie and Storrie, and Russells. Many trade exhibits had to be refused on account of lack of space, and this makes it all the more necessary that larger accommodation should be sought to provide a first-rate trade exhibition in conjunction with an amateur display. In our opinion, there was a lack of discretion shown on the part of the judges in the award of gold medals. A few of the exhibits, such as Messrs. Austin and McAslan's group of vegetables and flowers and their display of roses, and Messrs. Suttons and Messrs. Dobbies were certainly well worthy of the award of a gold medal; but in other cases the exhibits were not so deserving. It is not often that a surfeit of gold medals is bestowed, but it is most necessary that some standard should be maintained by those who are responsible for the awards, otherwise they lose their value.

Messrs. Austin and McAslan staged a fine collection of vegetables enhanced by a magnificent background of gladioli including many varieties of the large-flowered and primulinus sections. The collection, which was awarded a large gold medal, was skilfully arranged, and the vegetables and flowers each shown to distinct advantage, while the quality was admirable. Among the varieties of gladioli we noted the fine centrepiece of Vesta Tilley, with Odin and Myrtle and several primulinus varieties, such as Daphne, L'Innocence and numerous others. On one side of the main group was staged a number of alpines arranged as a miniature rockery; while on the other was an excellent display of roses in baskets, comprising all the leading sorts. This was well worthy of its separate award of a gold medal, since it was the only large rose display in the Show. Downstairs the same firm staged an exhibit of potatoes, which also received a gold medal award.

Messrs. Dobbie staged an imposing group of dahlias, which included every type and many of their leading varieties in the various sections. The display attracted considerable attention, largely on account of its bright and handsome appearance. Among the varieties shown were the shrimp pink Our Annie, Rona, White Dot, Mountaineer, Doreen and Andreas Hofer. Alongside, Messrs. Engelmann showed some of their fine carnations; while Messrs. Thyne of Dundee staged a comprehensive collection of general herbaceous plants, including a fine group of their dahlia Paisley Gem, which was also to be seen on several other stands. Messrs. Blackmore and Langdon showed a few spikes of their delphiniums, which were in fairly good condition, considering the lateness of the season, and also a few begonia blooms. Messrs. L. R. Russell had a small collection of clematis species, including the new Crimson King variety, and also a few fruiting shrubs. Messrs. Williamson and Co., Glasgow, staged a neat and attractive rock garden, containing a number of interesting alpines, notably primulas, while as a background was a handsome group of herbaceous plants, including a number of quite uncommon plants. It was a well arranged and an interesting group. Alongside, the famous Perthshire firm of Messrs. Storrie and Storrie showed a fine collection of fruit, set off to advantage by groups of flowers. Gooseberries, currants, apples, figs and their new St. Madoc's Berry, a plant similar to the Worcester berry but better in habit, size of fruit and flavour, were all included. The quality of the fruits and the method of

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arrangement reflected great credit on the firm. Messrs. Alex Lister and Son of Rothesay staged an admirable group of dahlias, including a new dwarf variety, Lister's Salmon Bedder, which gives promise of being a good plant. Messrs. Torrance and Hopkins of Busby, also staged a comprehensive collection of dahlias along with a number of early flowering chrysanthemums. Other firms who were exhibiting were Messrs. Allwoods, carnations; Mr. John Forbes, Hawick, pentstemons and phloxes; Messrs. Thomas Dagg, Glasgow, seedling gladioli; Messrs. R. K. Gemmell, Glasgow, roses and sweet peas; Messrs. Kerr and Co., Glasgow, herbaceous plants and dahlias; Messrs. Leighton, Glasgow, herbaceous plants and alpines; and Messrs. Campbell, Blantyre, dahlias.

THE AUTUMN ROSE SHOW

THERE were plenty of roses in the Royal Horticultural Hall, Westminster, on the occasion of the Autumn Rose Show of the National Rose Society. Many rosarians had expected that, in view of the season, it would be a small Show, but they were agreeably surprised to see that the trade growers had come in full force, and that many amateurs were also able to stage beautiful blooms.

The lack of quality in the new roses was amply compensated by the gorgeous displays of the trade growers. A great many entered in competition in the large class, and, in consequence, many admirable displays were unrewarded. The first prize was won by Messrs. S. McGredy and Son, and the fact of their so doing is a tribute to the sporting instinct and good fellowship of their competitors and the officials of the Society since they received help from other exhibitors in the staging of their group. The centre basket of Mrs. A. R. Barraclough and the pillars of Betty Uprichard and Margaret McGredy, with stands of Shot Silk, Admiration, Norman Lambert and many other sorts received much deserved admiration.

In their second-prize exhibit, Messrs. Chaplin Bros. had lovely pillars of Los Angeles, Lady Inchiquin, Mme. Butterfly, Ophelia and Coral Cluster, while Mr. J. H. Pemberton, who was third, staged masses of Mermaid, I Zingari, Penelope, Padre, Golden Emblem, Vanity and other decorative roses. Mr. C. Gregory was fourth in this large class. Attractive displays were also made by Messrs. Waterer, Sons and Crisp, Messrs. Frank Cant and Co., Mr. Elisha J. Hicks, Messrs. Alex. Dickson and Sons, Messrs. B. R. Cant and Sons, Messrs. Bees, Limited, Messrs. D. Prior and Son, and Messrs. George Longley and Sons.

In the class for a smaller group the competition, though not so great as in the other class, was keen. The winning display by Messrs. R. Harkness and Co. was strikingly beautiful. They made splendid use of especially good blooms of Golden Emblem, K. of K., Mrs. Henry Bowles, Los Angeles and other varieties. Messrs. Walter Easlea and Sons were second. In their third prize group Messrs. J. Jefferies and Sons included well-grown blooms of Mme. Butterfly, Los Angeles, Hortulanus Budde and Angele Pernet. Other exhibitors of groups of roses were Messrs. Allens, Messrs. Henry Morse and Sons, Messrs. Dowtry's Rosery, Mr. Henry Drew and Mr. George Lilley.

Although not so numerous as at the Summer Show, the baskets of roses were very attractive. Messrs. D. Prior and Son were first with four baskets of decorative roses and with three of polyantha varieties. In the former they showed Golden Emblem, Souvenir de G. Pernet, Lady Inchiquin and Mrs. Henry Bowles, while their polyantha varieties were Greta Poulsen, Kirsten Poulsen and Else Poulsen. Messrs. A. Warner and Sons were first in the class for twenty-four vases of decorative varieties.

No doubt owing to the unfavourable weather, the Exhibition roses were not equal, in quality, to the Decorative varieties. Messrs. T. Smith and Sons included, in their twenty-four varieties, Dame Edith Helen, Mrs. C. Lamplough, George Dickson and Mrs. H. Nash of good quality. In the class for eighteen varieties the judges could not choose between the blooms of Mr. John Mattock and Mr. D. Long, so placed them equal firsts.

In the amateurs' classes the quality was commendably good and in most cases the competition was keen. Mr. S. W. Burgess of Tonbridge had six beautiful vases of distinct varieties in his first-prize exhibit. The Rev. F. R. Burnside, Great Stanbridge, showed a good basket of roses, as also did Mr. E. T. Thistlethwaite of Barnet, in the class open only to growers residing within ten miles of Charing Cross. Mr. J. N. Hart, Potters Bar, was the premier amateur exhibitor of Exhibition roses and he included fine blooms of Margaret McGredy, White Maman Cochet and Augustus Hartmann among his twelve varieties. Dr. W. P. Parkridge, Petersfield, who was first with six varieties, showed J. G. Glassford, Candeur Lyonnaise and Mrs. Henry Bowles of noteworthy quality.

The Ladies' Decorative classes were exceedingly popular and there were many artistic dinner tables. The most favoured rose seemed to be Mme. Butterfly, which many exhibitors used, though Dainty Bess, arranged by Miss Muriel Archer, was first in the nurserymen's section and Mrs. Courtney Page was first with Roselandia in the amateurs' class.

The Clay Cup, which has been open to competition at all the rose shows this year and is offered for the best new scented variety, was awarded to Flamingo, the fragrant and showy hybrid tea variety which, shown by Messrs. Alex. Dickson and Sons, was awarded a gold medal at the Society's Show of new seedling roses.

NEW ROSES.

DESMOND JOHNSTON.—This is a gorgeously coloured hybrid tea variety, but it showed too great a tendency to become semi-double when fully open to be a really great variety. But the intense scarlet-carmine colour and golden base is exceedingly fascinating. Gold medal. Shown by Messrs. S. McGredy and Son.

POLLY.—A variable rose of Mme. Butterfly type and size. The general colour seems to be a pale salmon with lighter edges and a gold base. Certificate of merit. Shown by Messrs. G. Beckwith and Son.

PERFUME.—This is a deliciously fragrant semi-double velvety crimson hybrid tea which has flowers from 4ins. to 5ins. across. Certificate of merit. Shown by Mr. John Marriott.

MARION HORTON.—A free-flowering little bright yellow, fully double hybrid tea rose of garden value. Certificate of merit. Shown by Messrs. Bees, Limited.

FELICIA.—A bushy hybrid musk rose, bearing large clusters of flattish, blush coloured flowers. Certificate of merit. Shown by Mr. J. H. Pemberton.

LADY LESLIE.—A bright, fully double hybrid tea variety of shining rosy scarlet colour which, unfortunately, becomes magenta on the outer petals. Certificate of merit. Shown by Messrs. S. McGredy and Son.

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A PRIVATE INDUSTRIAL SHOW

ONE of the encouraging features associated with the development of horticulture in Scotland is the success attending the efforts of the welfare associations connected with big industrial enterprises. The Glenfield and Kennedy Company, Limited, Kilmarnock, hold a spring and autumn show annually, and the former is now the most important event of its kind north of the Tweed. The North British Locomotive Works at Springburn had 500 entries at their exhibition on September 10th, and on the same day the great Singer Corporation, which employs 10,000 workers, exceeded all previous records in respect of the exhibits, which numbered 750 and filled the large recreation hall. The members of the trade gave their support by staging varied groups of cut flowers, and the Corporation Parks Department decorated the platform with a choice collection of pot plants.

Pot plants made a good display and reflected their increasing culture among the workers. P. Clarke excelled in the fuchsia, geranium and begonia classes; Miss Logan, Eaglesham, staged the best ornamental geranium and British fern; while R. Brown, Jamestown, was first with three table plants, and S. Currie, Dumbarton, secured the chief honours for chrysanthemums.

The eighteen classes of cut flowers in the open section were well filled, collarette and pompon dahlias and chrysanthemums being particularly strong. Here the principal prize-winners were P. Clark, R. Brown, R. Robertson (Alexandria), E. Ellis (Dumbarton), John McKinnon (Drymen), J. Somerside (Scotstoun), M. McEwan and Hugh Mathieson.

Vegetables were numerous and of first-class quality, carrots, onions, turnip and beet being outstanding. The following competitors were prominent in the prize list: D. Paul and John Rodgers (Alexandria), A. Smith (Dalmuir), A. McLean (Helensburgh), J. Ross (Yoker), James Haig, James Rae and E. Ellis (Dumbarton), R. Brown (Jamestown), J. Watt and S. Currie.

In the classes confined to Singer's workers the chief awards went to P. Clark, M. McEwan, Charles Murray, R. Robertson, W. Lang, P. Clunie, J. Benson, S. Richmond, P. Ramsay, H. Millar and W. J. Rickey.

Special prizes for most points were won by P. Clark and S. Currie.

Some encouragement might be given to those competitors who correctly name their flowers, and there is room for improvement in the bouquets, which were so closely packed as to recall the clay-built specimens of Victorian days.

We were indebted to Messrs. Sutton and Sons for the use of the illustration of Clarkia which appeared in our issue of September 10th, on page 596. It is one of the varieties of their excellent improved elegans class.

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LATE GOOSEBERRIES.

The season between the soft fruit and the early apples often presents a hiatus which has to be filled by the farinaceous banana or other fruit substitute, as many gardeners do not know that the later gooseberries are admirably adapted to fill this gap. Here in the last week of August the varieties, Sandwich Yellow, Glenton Green, Keen's Seedling and Ironmonger are still in good condition and worthy of the most critical palate.

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Shrubs for a Screen.

I want to shut out some windows that overlook, with large shrubs (trees would be too big) that would grow not less than 12ft. high, but not much above that. The soil, 2½ft. heavy loam, has been trenched to that depth and leaf-soil added. Clay subsoil. I have ordered some Corylus Avellana aurea (is this dense enough and how high?), a Prunus Pissardi and Viburnum Opulus. Philadelphus grandiflorus I do not think would be hardy enough. These are all the ones I can think of after a long search through books. Evergreens would have been better, but too slow growing. Shrubs that would do in England are not hardy enough here.—W. K., Edinburgh.

The common cherry laurel, Prunus Laurocerasus, is a fast-growing hardy evergreen, and should be suitable for your purpose. Cotoneaster frigida, Berberis vulgaris and lilacs are also fast growing, and should also be suitable. Corylus Avellana aurea can be pruned on the outside to make the centre close, though in any case close planting will be desirable.

How to Get Rid of Black Fly.

I am forwarding some specimens of black flies, which are in large numbers on my marigold and poppy plants, causing them to wilt. Will you please be good enough to advise me what they are and whether quassia and soft soap is the correct remedy?—J. W., Blackheath.

The best method of getting rid of the black aphides on your plants is by syringing them with a weak solution of tobacco water. This will dislodge them quickly and kill most of them. Repeat the syringing the following day. Tobacco powder, in water, stirred, will do.

Collecting Seeds of Annuals.

Can you please give me particulars of the time to collect, and the best way of doing so, seeds from annuals—say Shirley poppies. I have found your paper very useful and now take it every week.—R. T., Kilmarnock.

The seeds of annuals soon drop when they are ripe in the pods. This is natural to them, so you must watch all seed pods closely and gather them just before the first ones open, and place them on white sheets of paper in a dry, sunny position. A good place for them is on a shelf in a greenhouse. Separating seeds from husk afterwards is a very easy matter.

Pruning Roses and Planting Tulips.

I shall be much obliged if you will be good enough to advise me upon the following:—(1) How and when should the following varieties of climbing roses be pruned: Wichurianas, tea and hybrid tea and polyanthus. (2) Before replanting bulbs (tulips), should they be separate, and will they all bloom? I find as many as five formed on one bulb and all of a fair size. Further, as the beds will be occupied right up to the time of planting, how and when should fertiliser be used and what is the best form? (3) Could you let me have a list of inexpensive crocuses suitable for edging beds and borders of Darwin tulips, for planting October-November.—W. L., Ealing Common, W.5.

If your Wichurajana roses are vigorous, cut out the wood after flowering, training in fresh shoots from the base. If insufficient new growths are present, leave a few of the one year old canes to flower the next year and to fill up the space required to cover. Tea roses should be pruned during the month of April. The amount of pruning varies with the variety. All dead wood should be removed and weakly shoots cut right out. Cut back to six or eight "eyes" on each shoot for moderate growing varieties. Hybrid tea roses only differ from the above in the time of pruning, which is during the month of March. They may be pruned a little harder. Polyanthus should be pruned in March. Cut away old flower stems and thin out some of the old wood. When used for bedding prune close to the ground each year. The climbing varieties require the removal of dead shoots and some of the older shoots, to prevent overcrowding.

Tulip bulbs should be separated before replanting. The offsets, if sufficiently large, may flower the next year, but if not they should be grown on to make flowering-size bulbs the following year. We suggest that you fork in some bone-meal at the time of digging the beds preparatory to planting.

Some of the best crocuses for edgings are:—Cloth of Silver, Cloth of Gold, Bleu Celeste, King of Whites, Pallos, Minerva, Queen of Blues. If, however, named varieties are not required, we advise you to consult a nurseryman's catalogue or bulb list, where mixed varieties in a wide range of colours are offered at a cheaper rate.

Water Lilies for a Small Pool.

I have a cement basin in the garden, about 3ft. 6ins. by 2ft. 11ins. by 1ft. 2ins. deep. It is used as a pond, but I should like to grow water lilies. Would you kindly let me have particulars as to procedure and a few suitable types?—W. R., Cardiff.

Your basin is rather too shallow for the growing of nymphæas, unless you can let it into the ground and brick up for about 9ins., *i.e.*, two bricks, facing the bricks with cement. The best varieties for you to get are Nymphæa pygmæa and its pretty yellow variety, Helvola, which would probably do in the tank as it is. Other varieties which you may use belong to the section Laydekeri of the Marliac water lilies, and the varieties N. L. rosea, N. L. lilacea and N. L. fulgens, may be suggested. These varieties are well suited to shallow tubs or basins. Plant the roots in a rich loam to which a little cow manure has been added and let the mixture be contained in a flat basket, and then sunk into the basin. They should be planted at the beginning of May.

Some Trees and Shrubs for a New Garden.

I should appreciate a little advice in the furnishing of a new garden, soil very light, position open and sunny, with no shade from trees. The house faces south-west, and I propose a hedge of laurel in place of the more usual kinds. Will you recommend some good foliage and flowering trees, also evergreens, not too slow-growing? Would you also name some evergreen plants suitable for growing against a wall, under windows? I thought cratægus and cydonia would be good, and I think Clematis Nellie Moser and wistaria will be good for above windows. Do you consider beech would make a strong hedge for side of garden? At the back I have (still rather dry and very open and sunny) a broad bank with rockery. I think gorse would be effective on the top of it, and have planted some ordinary heaths, which seem to be at home. Perhaps you could recommend me some other ericas and low-growing shrubs, preferably evergreen.—W. M., Brooklands, Cheshire.

The following plants would be suitable for your purpose:

Foliage Trees.—Juglans nigra; Ginkgo biloba; Ulmus Louis Van Houtte; Fagus sylvatica purpurea.

Flowering Trees.—Catalpa bignonioides; Robinia Pseudacacia; Prunus persica Clara Meyer, P. Avium fl.-pl., P. serrulata Hizakura; Pyrus Eleyi, P. Scheideckeri, P. floribunda; Prunus cerasifera Pissardii; Cratægus Crus-Galli; laburnum.

Evergreen Shrubs for Wall.—Pyracantha Lalandei; Ceanothus thyrsiflorus, Jasminum officinale; Lonicera Halliana; Clematis Nellie Moser does not usually grow very tall; C. montana is the most vigorous, and the rosy red variety rubens.

Shrubs for Rockery.—Dabœcia polifolia; Erica St. Keverne, E. Maweana, E. carnea, E. darleyensis; helianthemums; Cistus corbariensis; Rhododendron impeditum.

Shrubs for a Trellis and Screen.

Will you please inform me the best flowering plants for trellis to be planted now, so as to cover the trellis for next summer. I should like one piece of trellis to be covered by an evergreen; is French honeysuckle suitable; also, the best place to obtain these plants. I have also some short trellis, 3ft. or 4ft. high; which is the best flowering climber for this? Also, to act as a screen. I should like to know the name of the dark red rambler (not pink) rose; also what would you suggest to grow in front of a fence to act as a screen from the road (flowering or variegated) shrubs. As a reader of THE GARDEN *I should thank you for information if my questions are not too numerous.—J. H., Newmarket.*

The French honeysuckle, Hedysarum coronarium, is a greenhouse plant, not a climber. As you require the trellis covered completely, next summer, you must plant an annual, such as the climbing nasturtium, to cover it while a plant, such as Lonicera Halliana, is covering it permanently. Any good nurseryman in your district will be able to supply you with plants.

Ceanothus dentatus would be very suitable for the screen 4ft. high.

The dark red rambler rose to which you refer is Excelsa.

Berberis stenophylla, yellow flowers; Pyracantha Lalandei, white flowers and red berries, or Viburnum Tinus (laurustinus), white flowers, are all evergreen, and in a few years would form an excellent screen against the fence.

HORTICULTURAL FIXTURES FOR OCTOBER.

October 1.—Wallington Horticultural Society Exhibition; Blackburn Horticultural Society meets.

October 2.—Wakefield and North of England Tulip Society meets.

October 3.—Romsey Gardeners' Association meets.

October 4.—Royal Caledonian Horticultural Society meets; Bolton Horticultural Society meets.

October 5.—Nottingham and Notts Chrysanthemum Society meets.

October 7.—Dundee Horticultural Society lecture; Accrington Chrysanthemum Society meets.

October 10.—United Horticultural Benevolent and Provident Society meets; National Chrysanthemum Society Floral Committee meets.

October 11.—R.H.S. Fruit Show (two days); Jersey Gardeners' Society meets.

October 12.—Sheffield Chrysanthemum Society meets; Wimbledon Gardeners' Society meets.

October 14.—R.H.S. of Ireland meets.

October 17.—National Chrysanthemum Society Floral and Exhibition Committees meet.

October 18.—R.H.S. Orchid Show (lecture) (two days).

October 19.—Royal Gardeners' Orphan Fund meets.

October 20.—Wallington Horticultural Society lecture; Ipswich Gardeners' Association meets.

October 21.—Association of Economic Biologists meet.

October 26.—Glasgow and West of Scotland Society meets; Sheffield Chrysanthemum Society meets; Wimbledon Society meets.

October 27.—Paisley Florists' Society meets.

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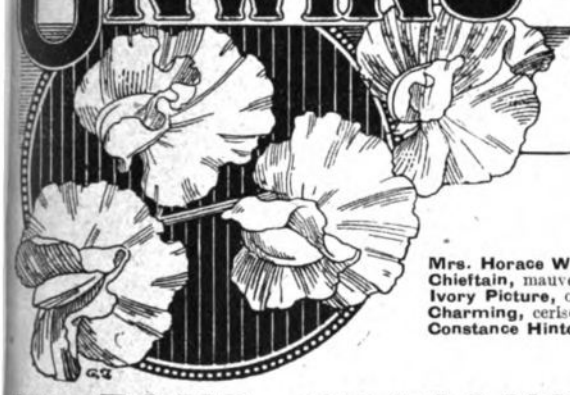

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DAHLIAS AT WESTMINSTER

ON September 14th the National Dahlia Society held, at the Royal Horticultural Hall, Westminster, the finest show of dahlias that has been seen for many a year. The Hall was entirely filled with the autumn flower, while each annexe contained collections of general flowers, so that the visitors had ample variety to engage their attention. Probably never before has there been so many novelties placed before the selection committee, for on the present occasion there were eighty-six, and of these eighteen were selected for trial at Wisley next year.

The trade growers of dahlias turned up in full force and entirely filled the staging around the Hall with glorious displays of dahlias of nearly all types. Although the large decorative type bear flowers of such size as to be too gigantic for the ordinary room, yet it must be agreed that in the ample space of the Hall they have great value. Mr. H. Woolman had a centre stand containing sixteen immense blooms of the cerise-crimson Mabel Lawrence, which "took the eye" and held it. He also showed Ullswater, vivid rose, and Locarno, orange-fawn, of the same showy type.

Specially interesting and instructive was the large exhibit by Mr. H. J. Jones, in which he had a number of entrancing colour schemes in dahlias. To mention only a few of the many, there were associations of Sheila Ward and Princess Louise, shades of mauve and yellow; Mary Houtman and Fairyland, a buff decorative and a rose and yellow cactus; Mrs. Carl Salbach and Turquoise, rosy pink and rosy mauve; and Purple King and the mauve Emma Groot.

Admirable collections were also set up by Mr. J. B. Riding, who specialised in such examples as George Mastick, velvety purple; Jersey Beauty, soft pink; Tommy Atkins, vivid scarlet; and Mme. E. Ludwig, glowing crimson; Mr. J. T. West, who had many of the useful small peony-flowered type; Messrs. Waterer, Son and Crisp, who included excellent stands of Prince of Ligne, Dr. H. Spath, Orange Boven and Mrs. W. Bennet; Messrs. J. Cheal and Sons, who had many of the small decorative and the star varieties; Messrs. Jarman and Co., who made the corner near the tea annexe very bright; Mr. J. Emberson, Mr. B. Waterhouse and Mr. H. Hemsley.

Although the competitive classes made a good display, it was noticeable that the number of exhibitors was very small, and in the various divisions the same names occurred frequently. There was quite a mild revival of the one-time favourite show of fancy dahlias and more were shown than for many years past. These do not possess the garden value of the modern types, but it would be a pity if they disappeared altogether, as they have a certain charm of form and colouring. Messrs. Wm. Treseder, Limited, were the largest exhibitors of these old dahlias, and they included perfectly formed blooms of T. W. Girdlestone, purple; Mrs. J. Downie, orange; and Tom Jones, cream tipped with rosy lilac, in their first prize exhibit.

The show cactus dahlias were especially good, and the best were staged by Mr. H. Woolman, who had excellent flowers of Beauty of Penshurst, pink; E. J. Robbins, brick-red; Mammoth, ruby-red; Yellow Bird; Ballet Girl, cream, edged with red. Messrs. J. Cheal and Sons were awarded many first prizes in these open classes. Their garden cactus dahlias were too large for the stems and so failed to disclose their beauty, but their pompon varieties were delightful, and these included Darkest of All; Daisy, rosy-fawn; Emily Hopper, yellow; Bacchus Scarlet, and Girlie, mauve.

Messrs. Cheal's single dahlias were also of considerable merit, especially Frank Galsworthy, pink, with a carmine zone; Winona, crimson-maroon; and Duchess, bright crimson.

The large decorative dahlias were splendid, and in his first-prize exhibit Mr. H. Woolman had Mabel Lawrence, Trentoniana, buff, lightly flushed with rose, and Amun Ra, orange-fawn. The best small decoratives were staged by Messrs. J. Cheal and Sons, who included Ustane, scarlet and yellow, and Bonfire

The amateurs' dahlias were also of great merit, even though, as in the trade section, the competitors were few. The chief prize-winners were the Earl Beatty, Mr. H. Lagden, Mr. F. Matthews, Mr. A. T. Barnes and Mr. W. G. Cramp. The dinner table decorations were very successful. Mrs. C. A. Tisdall, Woodford Green, won both first prizes. She used Lady Mackintosh in the one and Salmon Star in the class restricted to the star dahlias. The best bowl of dahlias was arranged by Mr. J. Emberson, who also had the best arrangement suitable for a sideboard. Messrs. Wm. Treseder, Limited, again won the Monro Challenge Cup with splendid examples of the decorator's art with dahlias.

THE VEGETABLE SHOW

THE annual show of home-grown vegetables, which is arranged by the Royal Horticultural Society, for some reason does not "catch on" with the Fellows to the extent that might be expected. The visitor would, not unnaturally, expect that the Hall would be filled with competitive exhibits of vegetables, but such was far from being the case on September 13th last. But the quality generally of the various vegetables left little, if nothing, to be desired. The five collections were all of considerable merit, and the first prize was won by the Right Hon. Viscount Hambleden, Greenlands, Henley-on-Thames, who showed All-the-Year-Round broccoli, Exhibition leeks, Ailsa Craig onions, Giant White celery and Tender and True parsnips of great excellence. Sir Randolf Baker, Bt., Ranston, Blandford, was second, and his best items were Autumn Mammoth cauliflower, New Red Intermediate carrots and Solid White celery.

There were six exhibits of smaller collections, and here the Right Hon. Lord Riddell, Walton Heath Golf Club, Tadworth, was decidedly first with a superb exhibit which included Autumn Mammoth cauliflowers, Exhibition celery, Ailsa Craig onions and The Bishop potatoes as near to perfection as is possible. Mr. R. Chetwynd-Stapylton, Berkhamsted, was second.

The collections of six distinct kinds of saladings were also of great merit, and the best was shown by Sir Joseph Tichborne, Bt., Tichborne Park, Alresford, who had mounds of mustard and cress, celery, endive and Best of All tomatoes. A class open only to amateurs who do not employ more than one gardener brought several very good collections of vegetables, and an especially meritorious exhibit won the first prize for Mr. F. Barratt of Eltham, who staged Prize Pink celery, Premier onions and Autumn Queen cauliflower of great excellence.

The potato exhibits were a great feature of the Show, and the twelve varieties shown by Mr. H. W. Henderson, Newbury, were of splendid appearance. His varieties were

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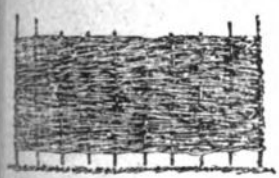

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Majestic, The Bishop, Up-to-Date, Crusader, Snowdrop, Tinwald Perfection, King Edward VII, Ben Lomond, Arran Chief, Catriona, Factor and Red King. Viscount Hambleden was first with six varieties of equally high merit and also with six varieties of onion. His dishes of Cranston's Excelsior, Ailsa Craig and Improved Reading were excellent.

Most of the single-dish classes contained admirable vegetables, the outstanding kinds being runner beans, celery, carrots, parsnips, onions and shallots. The cabbages and cauliflower were decidedly poor. In the various classes for potatoes it was noticeable that the coloured tubers did not find a deal of favour with exhibitors, though there were good dishes of Catriona and Di Vernon, two violet-eyed varieties, and in the latter the colour extends and becomes a flushing between the eyes. Arran Rose of blush colour has an uncommon appearance.

Forty-four varieties of potato were staged by Messrs. Dobbie and Co., and they also had four baskets of tubers illustrating the red soil of Dunbar. Their excellent tubers included Arran Chief, main crop; Arran Comrade, second early; Catriona, main crop; Golden Wonder, main crop; Katie Glover, second early; Kerr's Pink, main crop; Sharpe's Express, early; Witch Hill, early; and Wonderful, main crop.

A magnificent collection of general vegetables was set up with great art by Messrs. Sutton and Sons, and this was deservedly awarded the gold medal. This memorable exhibit was of 240 distinct kinds, and thus included almost every possible vegetable and salading. The shining purple colour of the aubergines and the vivid reds of the capsicums were exceedingly effective. The chief peas were Late Queen, Gladstone and Sutton's Peerless. The less common kinds included Kohl Rabi and Chinese rose radish, as well as the aubergines and capsicums.

SOCIETY NOTES

Autumn Blooms at Edinburgh Flower Show.

THE annual two days' exhibition of the Royal Caledonian Horticultural Society, which was held in the Waverley Market, on September 14 and 15, recalled something of the splendour associated with the event in pre-war days. In its exhibitive and competitive aspects the Show was a conspicuous success and in a season, too, when the weather was unfavourable to the production of high quality flowers and fruits. Trade growers did their bit. The exhibits provided by forty-four firms were, in themselves, an attractive display, representative of the various branches of horticulture and as an artistic effort probably excelled all previous standards. Since the war the support given by competitors has not been encouraging, but on the present occasion the number of entries rose to a level that had not been equalled since 1913.

The display of fruit has always been a prominent feature of the Edinburgh Show, and this year more than usual interest was taken in the competition for eight bunches of grapes, as the result decided the permanent destination of the Thomson Challenge Trophy, which had to be won three times before it became the absolute property of the competitor. The position was unique in this respect, that the leading expert growers of grapes in Scotland—Mr. Donald McInnes, gardener to the Earl of Strathmore, Glamis Castle, and Mr. G. F. Anderson, gardener to the Earl of Balfour, Whittingham—had each won the coveted trophy on two occasions, so that the conditions were equal in the final contest. Somewhat unexpectedly the Glamis grapes failed to secure the chief honours both at Southport and Glasgow, and shrewd observers concluded that Mrs. McInnes having set his mind on winning the Thomson Trophy, was reserving his strength for the Edinburgh Show. This summed up the position fairly accurately. It was a close and exciting contest between two giants and it was the finish and weight of the muscats which turned the scale in favour of the northern grower, who was awarded fifty-nine points against fifty-five given to his opponent.

The Edinburgh Show is always noted for its fine display of apples and, contrary to expectations, this year's exhibits did not suffer by comparison with the fruit staged on former occasions. Mr. Charles Webster, Gordon Castle, was easily first with a collection of twelve dishes of orchard-house grown apples that contained nine distinct varieties, which were outstanding in rich colour and great size. It is no exaggeration to say that they were perfect specimens of the following varieties: Roseberry, Lord Lambourne, Ellison's Orange, Chas. Ross, Bauman's Red Renette, Cutler Grieve, Queen Mary, Cox's Orange, Rival and Hoary Morning, the latter of which exceeded all others in dimensions and weight.

Roses provided a pleasant surprise in the cut flower section. In the open section trade growers concentrated their full strength in the class for six baskets of decorative sorts, which overflowed on to a second table. It was a sight that could not fail to satisfy the most enthusiastic rosarian. Strange as it may appear, the Scotch nurserymen were beaten by Messrs. Wheatcroft Bros., Nottingham, but some of the northern representatives disputed their superiority. Messrs. James Fairley and Co., Cairneyhill, Fife, were the runners up in what must have been a close competition.

Messrs. Matthew Campbell and Son, Blantyre, excelled in the big class of cactus dahlias; Mr. J. A. Grigor, Banff, added four first prizes to his list of sweet pea honours; Mr. Thomas Nelson, Rutherglen, won the Scottish Challenge Cup, awarded to the best display of chrysanthemums, while another west country competitor, Mr. Jas. Nisbet, Busby, scored in five of the remaining classes, and Mr. A. Frater, Kirkliston, was the most successful exhibitor of pansies and violas. Mr. W. A. Landreth, Coldstream, and Mr. W. A. Baldwin, Gordon, were prominent prize-winners in the herbaceous classes, and Messrs. Gray, Uddingston, followed up their Glasgow achievement by staging the best vegetable displays.

The decorative classes were poorly represented, but there was compensation in the specimen of a polished table set for dinner, a novelty for which Mrs. Watt, Craiglockart House, deserved credit.

TRADE AWARDS.

Gold medal and highest commendation.—Messrs. Austin and McAslan, Glasgow (cut flowers, potatoes and vegetables. This was an imposing exhibit with a background of gladioli arranged in vases of greenery). Messrs. C. Engelmann, Limited, Saffron Walden (carnations in variety, displayed with good effect). Messrs. Dobbie and Co., Edinburgh, dahlias and sweet peas. This was the most extensive exhibit in the Show.

Gold medal.—Messrs. Allwood Bros., Haywards Heath (carnations), Messrs. Dicksons and Co., Edinburgh (roses); Messrs. E. F. Fairbairn and Sons, Carlisle (phloxes and dahlias); Messrs. Isaac House and Sons, Bristol (herbaceous scabious and tritomas), Mr. R. Lawrie, Carnwath (begonia seedlings); Messrs. Storrie and Storrie, Glencarse (collection of orchard house and other fruits occupying 60ft. space), Messrs. Thyne and Son, Dundee (dahlias, herbaceous and alpines).

The Editor's Table.

WE have received from Messrs. Barrs of King Street, Covent Garden, a large bunch of their well known Michaelmas Daisy Barr's Pink, which is now in full flower at their nurseries at Taplow, near Maidenhead. This year the stems are long, owing to the wet weather; but the excessive stem growth has not in any way interfered with the abundance of blossom. The beauty of the flower will be noticed on our front cover next week. This variety, undoubtedly the best pink aster in the Novæ-Angliæ section, is certainly one of the most decorative of our autumn flowers, and is worthy of a place in every amateur's garden. Not only does it provide beauty in the garden border during September and early October, but it is also valuable as a cut flower for the house. The colouring of the flowers is greatly enriched under artificial light. Every amateur will find Barr's Pink a plant worth including in next year's garden scheme.

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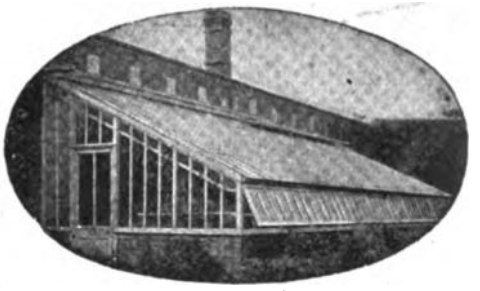

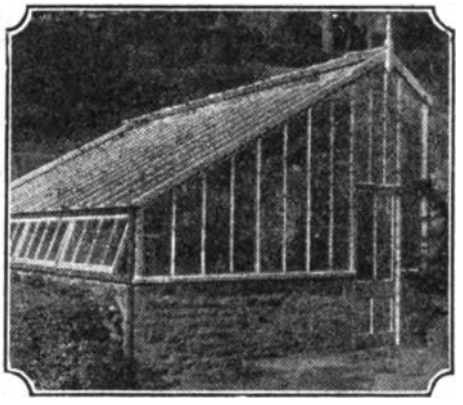

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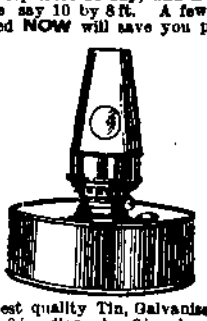

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were grown out of doors, this exhibit should induce many garden owners to obtain canes of some of the sorts to supplement the glass-house supplies, for the bunches on view were of good appearance and suggested good flavour. The many varieties included Esperine, Black Prince, Madresfield Court and the Strawberry Grape with black skins and Auvergne Frontignon, White Frontignon, Golden Drop and Royal Muscadine, of the white grapes. Messrs. Bunyard and Co. also staged many dishes of excellent apples and a lesser number of pears of equally good appearance. The apples included American Mother, Rival, Worcester Pearmain, Lady Sudeley, Walter Grieve, Ben's Red and Peasgood's Nonsuch in shapely fruits of brilliant colouring.

Another very good collection of apples was set up by Mr. J. C. Allgrove. The central feature was a large quantity of the variety S. T. Wright, a really beautiful culinary apple of first-rate quality. It received an award of merit over a dozen years ago, but is not grown so widely as its merits warrant. The Rev. W. Wilks, a contemporary culinary apple, was also included. This, also, is a desirable sort and a reliable cropper. Mr. Allgrove's other varieties included The Queen, Rosemary Russet and Ellison's Orange, two very good late dessert apples, Alexander, Monarch and Warner's King.

The collection of the Barnham Nurseries was noteworthy for the beautiful appearance of many apples with pale golden skins, as well as for the general high quality of the exhibit. These golden varieties included Golden Spire, Norfolk Beauty, Lord Suffield and Grenadier; while brilliant colour was present on Rougemont, Winter Pearmain, Ben's Red, Langley Pippin and Baumann's Red Reinette.

An attractively arranged collection of fruit was set up by Mr. Edward J. Parsons. Apples predominated, but he also showed pears, bullaces and his Worcester Berry. His apples included Newton Wonder, Annie Elizabeth and Red Victoria; while chief among the pears were Beurre Hardy, Doyenne du Comice, Charles Ernest and Pitmaston Duchess.

A good collection of pot figs was shown by Messrs. Stuart Low and Co. They had fruiting plants of Bourjosette Grise, White Ischia, Brown Turkey and White Marseilles, and also fruiting sprays of autumn raspberries. Mr. J. J. Kettle showed a good quantity of the well known variety Lloyd George raspberry.

The following firms were awarded gold medals for their exhibits:—Messrs. C. Engelmann, Ltd., for carnations; Messrs. Blackmore and Langdon, for begonias; Messrs. Dobbie and Co., for dahlias; Messrs. G. Bunyard and Co., Ltd., for fruit; and Messrs. S. McGredy and Son, for roses.

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We regret that in Mr. H. C. Palmer's advertisement on page vi. in our last week's issue an unfortunate typographical error occurred. The correct price of the Darwin tulips Clara Butt and William Copeland should have read 2s. per 100 and 15s. per 1000, instead of 1s. and 8s. 6d. respectively.

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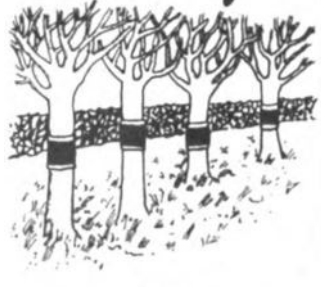

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Treatment of Gentiana sino-ornata.

I have a large bed of Gentiana sino-ornata, which last year had hundreds of flowers. This year the plants are many of them turning yellow, as enclosed. Can you tell me any reason for it? The bed is made up of peat-soil and leaf-mould entirely, and in the growing season was watered with soft water only. The bed lies open to the west, sheltered by a hedge from the east, but the winds have been very strong and cold; is that sufficient to account for it?—M. M., Winscombe.

Your gentians appear to be suffering from exhaustion of nourishment in the soil. Some loam should be added to it as a top dressing, and when replanting mix some loam with the peat and leaf soil.

Present Treatment of Arum Lilies.

I have several arum lilies in 6in. pots which have been allowed to dry off. I should be glad of information as to their present treatment, as I understand that they should be repotted.—E. S., Portsmouth.

You should apply water now to the dormant roots and crowns of your arum lilies. When the new growth is 1in. high or so, carefully shake off all soil and repot in small pots so that the plants can be moved to larger ones later. They should be kept in a greenhouse during the winter.

Shrubs and Climbers for a Front Garden.

The front of the house faces due north, and I should be glad to have the names of some shrubs, about 2ft. to 3ft. high, which would give some show of flowering, and also any climbing plant that would be suitable.—C. D., Burslem, Staffs.

We suggest that you try the following shrubs, which we think would be suitable for the position you mention: Philadelphus Lemoinei erectus, P. microphyllus, Hypericum calycinum and Patulum Henryi, Azalea viscosum and Mahonia Aquifolium. Among climbers we advise you to try the following: Jasminum nudiflorum, Rose Gloire de Dijon, Hydrangea scandens and Clematis Jackmannii.

NEW PLANTS AT THE HOLLAND PARK SHOW.

ALTHOUGH there was a goodly number of new and rare plants before the Floral Committee of the Royal Horticultural Society on the occasion of the great Autumn Show at the Holland Park Hall, London, very few were of outstanding interest. Awards of merit were given to four new chrysanthemums of market size and type. These were, of course, of the early-flowering section and were all disbudded flowers. The variety Gloria is a beautiful yellow with gracefully recurving tips to the florets. It was shown by Messrs. Cragg, Harrison and Cragg. Jack Robbins, shown by Mr. H. Woolman, has broader florets which incurve slightly, and the colour is a bright rosy bronze. Glow, shown by Mr. H. Shoesmith, is a pretty flower of reddish chestnut colour with golden tips to the florets. Daffodil, also from Mr. Shoesmith, is a neat flower of daffodil-yellow colouring. A very handsome canna, named Sweetheart and shown by the Hon. Vicary Gibbs, Aldenham House, Elstree, received an award of merit. Its large flowers are an uncommon shade of rosy salmon. Gaultheria Forrestii is a useful dwarf evergreen. The ovate leaves are stout, lightly serrate. Fremontia mexicana was shown by Mr. E. Hay and Mr. R. C. Notcutt, who share the award. This shrub can scarcely be considered hardy, except in very favoured places. It has small fig-like leaves and bears large, rounded, shining yellow flowers on the erect stems. Gentiana Pneumonanthe, variously termed the Calothian Violet or the Wind Flower, is a native species, fond of boggy places, and has funnel-shaped, five-cleft, dark blue flowers in clusters at the apex and in the axils of the lanceolate leaves. It was shown by Colonel R. Stephenson Clarke of Cuckfield, Sussex. Messrs. L. R. Russell, Limited, had awards for two stove plants. Bertolonia sericea cristata is a beautiful little foliage plant which requires a constant moist atmosphere, so must be grown under a bell glass. The leaves are beautifully veined and flushed with rose. Aphelandra squarrosa is of sturdy erect habit. The plant is erect, about 18ins. in height, and has large opposite green leaves with yellow veins and a terminal square-sided inflorescence of yellow.

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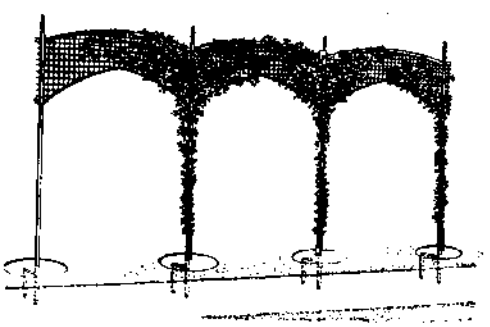

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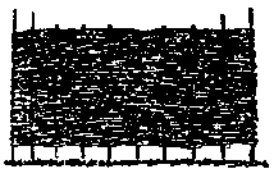

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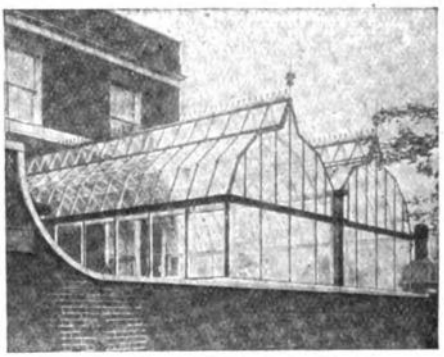

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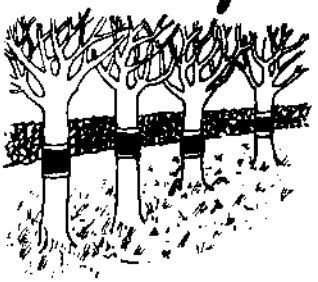

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Some Good Bearded Irises.

Will you oblige by giving, say, six of the improved tall irises? I have many that were considered good, but read that they can now be had with more striking colours—reds, scarlets, etc.—T. H., Birmingham.

The following six irises are new, but somewhat expensive: Amber, Aphrodite, Glamour, Dominion, Micheline and Mrs. Marion Cran. There are quite a number offered at a reasonable price, among the best of which are Albert Victor, Ambassadeur, Asia, Corrida, Crimson Glow, Dimity, Lady Sackville, Lady Foster, Lord of June, Magnifica, Quaker Lady and Titan. Tastes differ so much that it is best to choose your varieties when in flower, if possible. If this is not possible, you might select the colours you fancy from a good catalogue of an iris specialist.

Wire Netting for Covering Bush Fruit.

I propose covering in the section of my garden devoted to strawberries, gooseberries and red currants, and I should be obliged for information as to size of mesh for wire netting necessary. I presume no smaller bird than finches need be included in spite of popular denunciation of tits, but should be glad of confirmation. Should part of the top be removable, or will it be sufficient to arrange for large entrances for birds from August to Christmas?—J. W. S., Harpenden.

Half-inch mesh will be needed for covering the portion of your garden to which you refer with wire netting. When fixing the netting make provision for removing portions of the roof when necessary. This is essential, open doorways are quite inadequate.

Suckers on Plum Trees.

I have seven plum trees about seven years old, which are growing vigorously, but are not fruiting. I propose to root-prune them this autumn by digging them up and replanting them. All of them are sending up suckers in large numbers up to 4ft. or 5ft. away from the trunk. This has been going on for several seasons and I have pulled them up each year, but they are getting more numerous. Can you please tell me how to prevent them coming? The soil is light sandy soil.—P. B., Eltham.

Once plum trees start the suckering habit, it is difficult to cure the nuisance. Suckers appear wherever the roots are bruised or broken, as a rule, and a common cause of suckering is digging about the roots with a fork or spade. Some root-stocks sucker much more freely than do others, and undoubtedly your trees are on a stock that is particularly subject to suckering. There is nothing you can do to stop it, except by very shallow cultivation over the roots in place of any forking or digging that has hitherto been the practice. When you root-prune, cut back the coarse roots on which there is but little or no fibre and shorten beyond the point where it is seen suckers have been forming.

Diseased Roses and Wallflowers.

I enclose specimens of roses and wallflowers affected with some kind of disease. Can you tell me what it is and how I can cure it?—C. F., Norwich.

Your roses are affected with mildew. It is too late to apply any fungicide. If possible, collect all fallen leaves and burn, and destroy prunings. At the first sign of disease in spring, dust the bushes with green sulphur and continue at intervals throughout the summer. The wallflower is affected by a fungus disease. Cut off and burn all badly affected pieces and spray the plants with Bordeaux mixture. Destroy cruciferous weeds, especially shepherd's purse, in the vicinity of the borders, as the disease is prevalent on such wild plants.

THE R. H. S. FRUIT SHOW

THE annual Fruit Show of the Royal Horticultural Society was held at Vincent Square Hall on Tuesday, October 11th last, and was most successful both from the standpoint of the number of exhibitors and the attendance of visitors. There were over 400 more exhibits than at the previous Show last year, and the higher standard in the level of the exhibits was clearly apparent. The Fruit Show has increased in strength and quality on the last two or three occasions, and it is to be hoped that in future the level attained this year will be maintained in the future, if not surpassed. The exhibits were well arranged, and individual groups were seen to advantage. Most of the space in the hall was occupied by competitive exhibits, with the consequence that non-competitive displays staged by nurserymen were small in extent. They were most attractive in appearance and lent additional interest to the exhibition.

Among the prominent trade groups were Messrs. G. Bunyard and Co., with a well arranged exhibit of baskets of freshly gathered fruit, consisting principally of apples in variety, with pears, plums and varieties of the Frontignan grapes grown under glass without heat. The apples were of good size and well coloured, considering the sunless weather. An extensive display of hardy fruits was staged by Messrs. Allgrove, consisting of some eighty varieties, including apples, pears and plums; while Messrs. Cheals had a similar exhibit in which apples were predominant. In this exhibit Ellison's Orange was of fine quality and good colouring. Fruit trees in pots were shown by Messrs. T. Rivers, and the apples in particular were striking in their colouring, taken on so readily under glass. A fine collection of apples was staged by Messrs. Laxton, including the new varieties Lord Lambourne and Laxton's Superb. They also showed other fruit novelties, of which they have many, chief among which was their new strawberry-raspberry, which has every appearance of strawberry, and their new blackberry Edward Laxton. Apples in variety were attractively staged by Messrs. Barnham Nurseries; while Messrs. Daniels, Spooner and Sons, Seabrooke and Sons, and the Swanley Horticultural College also staged fine exhibits.

Not the least interesting part of the Show was the section devoted to exhibits by market growers. The improvement that has taken place in the grading, packing and marketing of home-grown fruit during the last few years has been most marked, and at last we have reached a stage when we can stage our fruit as attractively as that of our foreign competitors. The fruit staged in this section was of first-rate quality and the grading and packing were good. Among the prize-winners in this section were Mr. H. T. Mason, Mr. Glover Long, Mr. W. E. Bean, Mr. H. G. Kleenwort, the Hollesley Bay Labour Colony and the Horticultural Department, Reading University. An exhibit of interest and undoubted educational value was that staged by the Reading horticultural students. It showed the various methods of packing apples in boxes and baskets, and indicated the value of the grading and packing for marketing purposes. Pears and grapes were also represented in the market classes, with good exhibits.

The amateur competitive classes were well filled and competition was fairly keen in the majority of the classes. In the classes for grapes, only in a few cases were outstanding bunches produced such as one used to associate with grape exhibits. Size and finish were lacking in many instances. The Duke of Newcastle was again a prominent prize-winner for grapes, and his exhibit of three bunches of each of four varieties won the George Munro Memorial Cup offered for the best exhibit of grapes shown by an amateur. In the other grape classes, Lord Swaythling and Lady Durning-Lawrence were successful prize-winners.

The Duke of Newcastle (gardener, Mr. S. Barker) was awarded first prize for his collection of nine dishes of ripe dessert fruit. The quality of the fruit—which included apples, pears, peaches, grapes and a melon—was excellent. In the same class the second prize went to Captain M. Drummond. In the class for a collection of six dishes of dessert fruit, Lady Juliet Duff took first place with a well arranged group of admirable quality. Captain M. Drummond was awarded first prize for his magnificent group of thirty dishes of hardy fruits grown in the open air. The fruits consisted of apples, pears, plums, cherries, peaches and figs, and was of the best quality. The exhibit was fully worthy of the award of the Gordon Lennox Cup for the most meritorious display of fruit by an amateur. Sir Charles Nall-Cain was second in the same class. In the class for eighteen varieties of pears, Captain Drummond was first; while in the class for nine varieties Mr. F. C. Stoop of Byfleet staged the best exhibit. In the apple classes, Captain Drummond was first for twenty-four dishes, and Mr. J. A. Stidston for twelve dishes. The best collection of twelve dishes of hardy fruit was staged by Colonel F. J. B. Wingfield. With plums, Lady Mary Morrison was a successful prize-winner.

It was an admirable display in every way, and it is to be hoped that it is an event in the Society's activities which will go on from strength to strength, gaining in quality and increasing in size.

POTATO BLIGHT MENACE.

Suggested Methods of Control.

OF the many diseases which attack potatoes, blight (Phytophthora infestans) is singled out as "the potato disease," because it is so widespread, occurring wherever the tubers are grown and because it does the greatest amount of damage to the crop. This fungoid trouble is most prevalent in wet seasons, and this year's experience is no exception to the rule, for the crops all over the country are badly affected. Earlier in the season the Board of Agriculture estimated the loss at 10 per cent.; but as the result of the heavy rainfall and flooding of the drills, the disease has assumed epidemic form and it is now estimated that the loss of crop will approximate to 25 per cent.

At the conference which followed the inspection of over 100 seedlings raised by Messrs. McGill and Smith at Ayr, on Monday, the Chairman, Mr. J. F. McGill, stated that he had never known blight to be so bad as it is this year, and he estimated the financial loss in Scotland at £1,250,000.

Mr. A. Miller, of the seed-testing station at East Craigs, near Edinburgh, suggested three methods by which the disease could be controlled. A good plan consisted of lifting the tubers early in the season, and the same object could be attained by cutting off the shaws in July and in that way prevent the formation of the blight spores. This latter system had been successfully tried in the West of Scotland, but in his opinion the best and most economical method of controlling the disease was to burn down the shaws by spraying with a solution of pure copper sulphate—a treatment that had been adopted with satisfactory results by Mr. J. Spence, Dunbar. By following these preventive measures the development of the tubers would be stopped, but the farmer would be able to save the crop which he had already got.

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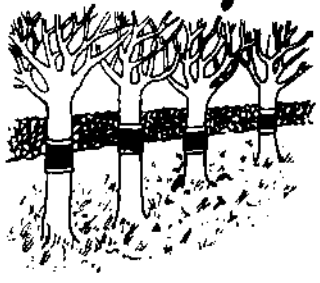

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Passion Flowers for a Cool Greenhouse.

I have a large earthenware pot 2ft. deep and 14ins. inside. Can I grow a passion flower in this pot in a cold glasshouse? If so, when is the best time to plant it?—P. F., Wigan.

There is no reason why you should not grow the passion flower in the size pot you mention, especially if you keep it well fed when it has well filled the pot with roots. You can place it in the pot now. It will grow well in any good potting soil, such, for example, as you would use for zonal pelargoniums. Keep the shoots trained up to wires close under the roof glass; if it gets too large for its allotted space you can safely prune it back.

Water-Lilies for a Small Pond.

I have a small circular pool, about 4ft. in diameter and about a foot deep, with a sinking a further 6ins. deep and about 14ins. square. This pool is half under a terrace, being domed over, and the other half cuts into a lawn. Is such a pool too small to house a water-lily? If so, is there anything in the way of water plants that I could utilise to make it look nice—its position being prominent and excellent.—G. B., Cheam.

Your pool, although somewhat shallow, would do for some of the smaller growing water-lilies, such as Nymphæa odorata minor, N. odorata var. Exquisita, N. odorata var. Luciana and sulphurea. N. pygmæa and its variety helvola, are best suited for a small shallow basin.

Plants for a Shady Garden.

I should be glad of a list of herbaceous plants for a border that gets only the morning sun up to midday. Plants that flower in August, September and October; also rock plants for the same months, in a partially shaded rock garden. Bright colours are preferable here in North Wales. Mauves seem to be colourless and vanish against soil and cold grey native stone.—R. L., Dolgelly.

The following is a suggested list of herbaceous plants which should flower well at the time required: Phloxes, Michaelmas daisies-heleniums, rudbeckias, solidago, coreopsis, œnothera, gaillardias, torch lilies (kniphofia), and a few early border chrysanthemums might be introduced. For rock plants we suggest: Gentianas sino-ornata, Farreri, Pneumonanthe, septemfida; Polygonums affine and vaccinifolium; the shrubby Potentilla fruticosa, Veronica Autumn Glory; a number of species of sedum, such as spathulifolium origanum, etc.; Cyclamen europæum, along with the autumn-flowering Colchicum speciosum. These should be sufficient to give you colour in the rock garden.

How to Tar a Garden Path.

Will you tell me the correct method of tarring a garden path? The path in question is simply a rough track. I have been told that if the surface is raked, tar brushed over and pebbles thrown on it, it will suffice. Is this so? Will it be a success without a proper foundation?—P. M., London, S.E.14.

A path may be tarred as you suggest, but it would not be very satisfactory. Such paths often break up during frosty weather. Provide a good base—one that is firm—and use either gravel or cinders and ashes. The tar should be simmered over a fire—in an old boiler, large bucket or similar receptacle—and mixed with sifted ashes. Spread this mixture 1in. thick before it cools, level and sprinkle pebbles on the surface, firming with the back of a spade. If a thin coating of hot tar is put on before the pebbles, a better finish would be secured. White and grey stone chips make beautifully finished paths, used instead of ordinary pebbles.

Preparing Shallow Soil for Herbaceous Borders.

I have just taken over a newly built house and have a piece of ground 64ft. by 5ft. which I intend to make into a herbaceous border, with roses. I started last week digging according to the advice given in THE GARDEN, *viz., deep digging and manuring; but I could only get down half a spade depth. I did a piece about 6ft. by 3ft. another spade deep with a pick, the ground was so hard and blue clay soil. Do you think plants will grow on this soil if I continue (it will take some time) turning up the soil a spade and a half deep, mixing in stable manure and leaving rough all winter? Would you advise me to get a cartload or two of fine earth later on for the surface?—F. W. Glasgow.*

You will be well advised to persevere with the digging as you are at present doing, trying to get down a spade and a half deep. Although it will take some considerable time at first, deep cultivation will pay you at the end, as plants will not grow satisfactorily if the roots can only get down about 6ins. We suggest that when digging you mix a little lime with the soil and leave it in a perfectly rough state, exposing a large part of the soil to the sweetening action of rain and frost. The lime will assist considerably in bringing the soil into a more workable condition. A cartload or two of good loam would certainly help if placed on the surface. We should advise you to dig over the heavy soil first this autumn. The roses can be planted any time in open weather up to February, and the herbaceous plants can be put in in spring. With deep cultivation in the winter plants will be benefited by getting a start in the spring months.

NEW PLANTS AT VINCENT SQUARE.

THERE was an unusual happening in connection with the awards to new and arre plants at the last fortnightly meeting of the Royal Horticultural Society. On June 15th of last year Sir Oscar Warburg, Headley, Epsom, submitted to the Floral Committee an uncommon rock rose as Halimium libanotis and it received an award of merit, subject to verification of name. It is now stated that the name should be Halimium libanotis var. latifolium; but the Index Kewensis gives Halimium Libanotis as, correctly, Helianthemum Libanotis. However, we remember that the plant was an attractive one, resembling H. umbellatum, except that the terminal flowers were yellow and the sepals were smooth.

Nerine Wales, which was sent to Wisley for trial by the late Rev. Joseph Jacob, is a handsome variety. It has a large umbel of orange-red flowers flushed with rose, and now receives an award of merit. Two very good Japanese chrysanthemums also received awards. Mrs. L. C. Marples is a large exhibition flower with broad yellow florets. It was shown by Mr. E. H. Pearce, Long Sutton, Basingstoke. Pinkest is a compact flower of market size. The stiff florets are lightly rolled and of rosy mauve colour. It was shown by Mr. H. Shoesmith, jun.

A very graceful Michaelmas daisy, shown by Mr. Ernest Ballard, was selected for trial at Wisley. It belongs to the cordifolium section and has tall, graceful sprays of almost white flowers. The name is Silver Spray, but in the light of the hall there seemed to be a suggestion of a lavender flushing.

SOCIETY NOTES.

THE London Gardens Guild (Headquarters Branch) will give the following lectures during the winter session, 1927–28:

October 27.—Mr. Alfred Dawkins. Subject: "Bulb Cultivation."

November 10.—Mr. W. Williams, Superintendent, Avery Hill (L.C.C.) Botanic Gardens. Subject: "School Gardens."

November 24.—Miss Kate Barratt, Principal, Swanley Horticultural College. Subject: "Gardening as a Career for Women."

December 8.—Mr. Hugh Main, B.Sc., F.E.S., F.Z.S. Subject: "Insect Friends and Foes of the Gardener."

January 5, 1928.—Mr. Archibald P. Balfour (of Messrs. Sutton and Sons). Subject: "The Raising of New Varieties of Flowers."

January 19th.—Mr. Arthur Osborn, Assistant Curator, Royal Botanic Gardens, Kew. Subject: "Shrubs for Town Gardens."

February 2.—Mr. W. L. Lavender (of James Carter and Co.). Subject: "Annuals for Cutting."

February 16.—Mr. H. J. Jones, F.R.H.S. Subject: "Chrysanthemums."

March 1.—Mr. G. C. Taylor, B.Sc., F.L.S., Editor THE GARDEN. Subject: "New Plants."

March 15.—Mr. J. D. Stewart, Librarian, Bermondsey Public Libraries. Subject: "Gardens in Literature."

March 29.—Mr. W. L. Lavender. Subject: "Annuals for Garden Decoration."

These lectures will be given in Prince Henry's Room, Fleet Street, E.C.4, commencing at 8 p.m. (The room opens at 7.30 for informal discussion.) In nearly every case the lectures will be illustrated by lantern slides.

Admission free to holders of Members' tickets, which are issued to subscribers of 10s. 6d. per annum. Admission without ticket, 1s. to each lecture.

PUBLICATIONS RECEIVED.

The Catalogue of the Lindley Library, published by the Royal Horticultural Society. Price, to Fellows of the R.H.S., 17s. 6d.; to non-Fellows, 21s. net.

As is well known, the Lindley Library is, perhaps, unique in its position as a horticultural library. The library now consists of about 12,000 volumes, manuscripts, pamphlets, etc., representative of horticultural and allied sciences. It represents one of the foremost activities of the Society, and it is to be regretted that the work of the library could not be associated with a horticultural herbarium, a feature of the work of the Society that is lacking. The present Catalogue contains a complete list of the library up to December 31st, 1926, and it makes an interesting and valuable reference guide to all who are sufficiently interested in horticulture. To those whose work involves research it will prove invaluable, for there in the space of a few moments can be found ready references to other books on the subject on which one is working. Unfortunately, there are no bibliographical notes given, and while, in a catalogue such as this, this is a serious omission, it does not in any way lessen the value of the Catalogue to the majority of those who may wish to use it for consulting the works of the library.

"Latin Names of Common Plants," by F. Dawtrey Drewitt, M.A., M.D. (H. F. and G. Witherby, London, W.C.; price 3s. 6d. net.) An interesting little book which gives the derivation and history of many of the Latin names of common plants. It is a subject which might have been dealt with in a more comprehensive manner.

"Roses and Rose Gardens," by W. P. Wright. (George Allen and Unwin, Limited, price 15s.). This is a revised edition of this well known work on roses. It has been thoroughly brought up to date, and includes references to all the modern varieties.

"Common British Wild Flowers Easily Named," by Ernest Waltham. (Oxford University Press, 3s. 6d.) A key to the identification of a number of our more common native plants.

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CATALOGUES RECEIVED.

Despite the increasing interest in rhododendrons, there has never been anything like a complete catalogue of species and hybrids issued by any firm and the need for one has been felt for some time. The waiting period has been worth while, however, as Messrs. Gill of Falmouth have recently published a new catalogue mainly devoted to rhododendrons. It is a well produced brochure, excellently printed and profusely illustrated with really first-rate photographs. An idea of the field covered in this catalogue may be gleaned from the fact that the contents cover information on cultivation of rhododendrons, suitable species for the rock garden, for the cool greenhouse, a list of hybrids of Messrs. Gill's own raising, together with an extensive list of all the newer and better hybrids worth growing, and an extensive list of rhododendron species, running to about thirty pages. Over 250 species are listed and described. The essential information, such as flower colour and description of foliage, is given with each plant, and any little peculiarities that the plants may have. In many cases the section to which the species belongs is given. It is evident that much care and time have been expended in the compilation and we congratulate Messrs. Gill on the accuracy shown in the naming and information given. In addition to the rhododendron list are selections of new Chinese and other rare ornamental trees and shrubs, a section that will prove of interest to all shrub lovers, since many rare plants are offered. It is an excellent catalogue and one that all interested in rhododendrons and in their cultivation should see before a selection of plants is made. The catalogue is one that approaches our idea of what a catalogue should be—not merely a list, but a useful and helpful guide.

Messrs. Wm. Artindale and Son, Nether Green, Sheffield.—A well illustrated catalogue of hardy herbaceous and florists' flowers, including a fine collection of peonies and lupins.

Messrs. J. Waterer, Sons and Crisp, Twyford, Berks.—An interesting catalogue of roses and fruit trees. Roses for all purposes and a number of old-fashioned roses are included.

FOREIGN.

Messrs. Walcott, Alpine Specialists, Michigan, U.S.A.—Alpine gardening in America is as yet in its infancy, and there are few nurserymen who specialise in the raising and growing of rock plants. In the eastern seaboard, however, there is one firm of repute who have been engaged in this class of work for many years, and that is Messrs. Walcott, whose catalogue we have received. The firm has for many years been doing pioneer work in spreading information concerning alpines and in trying to stimulate amateur gardeners to take up their culture. They have to some extent succeeded in their task, but there is still much to be done. We recommend all our American readers to obtain their catalogue, which, as well as giving an extensive list of rock plants suitable for American gardens, contains a vast amount of important and interesting cultural information on how to grow the plants successfully. The information is the outcome of several years' of growing the plants under the varying conditions of soil and climate that are to be found in the States. There are a number of good half-tone illustrations in this well printed brochure and a few illustrations in colour. American readers should note, also, that Messrs. Walcott are endeavouring to arouse interest among amateurs in their district by offering for sale books on various horticultural subjects specially written for the amateur and published by Messrs. Dulau and Co. of London. Full particulars of the books offered are given in their catalogue.

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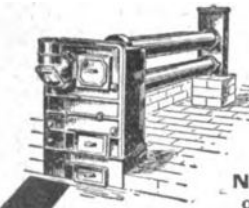

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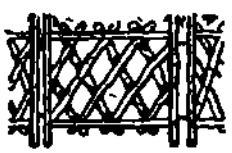

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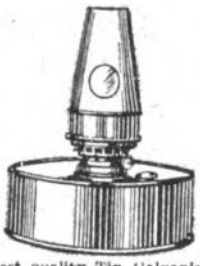

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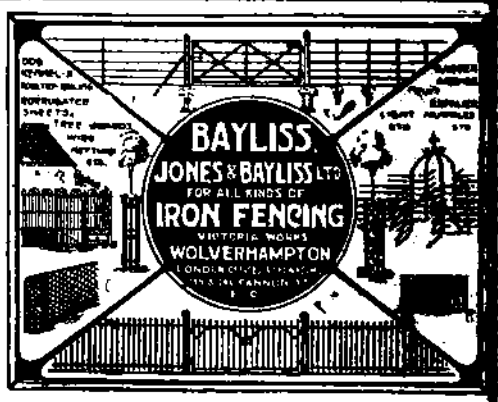

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SOCIETY NOTES

Ayrshire Produce Show.

THE seventy-third annual Show of the Ayrshire Agricultural Association was held at Kilmarnock on Thursday and Friday, October 20th and 21st, when the entries numbered 1,341 as against 1,334 in 1926.

The Championship Medal for the best dish of potatoes in the Show was awarded to Mr. William Laidlaw, Sanquhar, for an exhibit of Kerr's Pink which, in respect of size, colour and the shallowness of the eyes, approximated to the perfect tubers. Next in importance was the big class for twenty-five varieties, and these were representative of the most popular potatoes in commerce. Here Mr. Laidlaw was again successful with a splendid collection of well grown tubers, of which White City, Field Marshal, Catriona, King Edward, Up-to-date and Arran Comrade were outstanding. Mr. C. Macdonald, Darvel, who ran the winner very close, had no fewer than five first prizes to his credit in the classes for twelve, nine, six and four varieties and in the contest for the best white kidney potato. Mr. James Caldwell, Tarbolton, excelled in the competition for six round white tubers, with large specimens of Arran Comrade; while Mr. Laidlaw secured the chief honours in the coloured round class with Climax, and the coloured kidney class with Catriona.

The fruit and vegetable classes were judged by Mr. James Currie, Barskimming Gardens, Mauchline. Pears were not numerous, but apples made a fine show. Mr. Alexander Coutts, Dildawn Gardens, Castle-Douglas, scored with a collection of culinary varieties; and Mr. James Duff, Threave Gardens, Castle-Douglas, provided the best collection of dessert fruits, with dishes of Ben's Red, Cutler Grieve and Caradoc Scarlet. In the class for three varieties of kitchen apples, Mr. A. Harvey, Rozelle, Ayr, scored with weighty examples of Peasgood's Nonsuch, Rev. W. Wilks and Warner's King. Mr. James Duff led from eight other competitors in the class for three varieties of dessert apples; and Mr. A. Harvey staged the dish of heaviest apples (Warner's King). The honours in the pear section were shared between Mr. A. Harvey, whose examples of Louis Bonne were preferred in the class for six pears; and Mr. A. T. Harrison, Culzean Castle Gardens, who won the class for twelve fruits with Beurre Hardy, Conference, Durendeau and Fondante de Therriot. The latter competitor also staged the heaviest pears (Marie Benoist).

The prize winners in the tomato class were: First, James Thomson, Sanquhar (Ailsa Craig); second, Robert Brown, Catrine; and third, J. Loan, Coldstream.

The first prize in the onion class went to Mr. Harrison, and Mr. Laidlaw carried off the chief honours for a collection of eight vegetables.

Trade exhibits were of a novel character. As an indication of the open season, Messrs. Austin and McAslan, Glasgow, staged a collection of roses and gladioli which would have done credit to an early September show; and the rose blooms were noteworthy for size, cleanliness and colour, the latter quality being truer to character than the summer flowers. Messrs. Samsons, Limited, Kilmarnock, were represented by an interesting miscellaneous exhibit in which dahlias, chrysanthemums, roses, fruit and shrubs were prominent.

Horticultural Fixtures.

November 9.—Wimbledon Gardeners' Society's Exhibition; Gloucestershire Root, Fruit and Grain Society's Exhibition; Sheffield Chrysanthemum Society's Exhibition (3 days); Harrogate Horticultural Association's Exhibition; Oxfordshire Flower Show 2 days).

November 10.—Jersey Gardeners' Society's Exhibition; Hitchin Chrysanthemum Society's Exhibition; Nottingham and Notts Chrysanthemum Society's Exhibition (3 days).

November 11.—Blackburn Horticultural Society's Exhibition (2 days); Whitley Bay Chrysanthemum Society's Exhibition (2 days).

November 12.—Burton-on-Trent Chrysanthemum Society's Exhibition.

November 14.—National Chrysanthemum Society's Floral and Exhibition Committees meet.

November 15.—R.H.S. Show (Lecture); Lancaster Horticultural Society's Exhibition.

November 16.—Buxton Chrysanthemum Society's Exhibition; Hull Chrysanthemum Show (2 days).

November 17.—Ipswich Gardeners' Association's Exhibition; Newport (Monmouth) Horticultural Society's Exhibition.

November 18.—Bolton Horticultural Society's Exhibition (2 days); Leicester Chrysanthemum Society's Exhibition (2 days).

November 23.—Wimbledon Gardeners' Society meets.

November 24.—Paisley Florists' Society meets.

November 28.—National Chrysanthemum Society's Floral Committee meets.

November 29.—R.H.S. Show (Lecture); National Dahlia Society's Annual Meeting.

December 2.—Accrington Chrysanthemum Society meets.

A NEW POTATO.

THE award of the Lord Derby gold medal to the new potato Arran Banner distinguishes Mr. McKelvie's latest introduction as the best immune seedling at the Ormskirk trials. It is one of four candidates for registration honours in connection with the Board of Agriculture's Scottish tests, and it is generally expected that the synonym committee will confirm the English decision, for the merits of Arran Banner have been consistently recognised during the three years' trials in England, Ireland and Scotland. Throughout that period it has been demonstrated that the tubers are highly resistant to virus diseases and its record as a cropper has never been equalled. In the second year's trials at Philpstoun in 1926 14lbs. of ware potatoes were produced at a single root, and this year the average yield was in the vicinity of 10lbs. per root. The latest member of the Arran group may be described as an improved immune Arran Chief, which in its earlier days was the most popular potato in the country. It is round in shape and white in flesh like the older variety, and as regards maturity it comes under the category of the early main crop class. It says much for Mr. McKelvie's success as a potato breeder that Arran Consul, the predecessor of Arran Banner, is the only potato that has yet been registered by the Board of Agriculture for Scotland, and it also received the gold medal award at Ormskirk two years ago.

CATALOGUES RECEIVED.

Messrs. Boulton and Paul, Limited, Norwich.—An illustrated booklet on glasshouses. Many small greenhouses, such as would meet the requirements of the amateur, are illustrated.

Mr. E. Treasure, York.—A pamphlet on the "York" Bituminous Hard Porous Tennis Court, in which Mr. Treasure specialises. This type of court needs no watering and the cost of its upkeep is nil.

Mr. T. N. Harvey, Fibrex Nurseries, Evesham.—A list of plants that can be obtained in "Fibrex" pots. Plants grown on the Fibrex system can be planted at any time of the year.

Messrs. Joseph Fison and Co., Ipswich.—A booklet on autumn treatment of grass. Various lawn sands and lawn fertilisers, grass seed for different soils, and "Tarbol," a preparation for destroying leather jackets, worms and other ground pests are included.

The Jersey Nurseries, Limited, High View, Queen's Road, Jersey.—Fruit trees, roses, phloxes, peonies, carnations, etc.

Messrs. J. Carter and Co., Raynes Park, London, S.W.20.—A most useful manual entitled "The Practical Greenkeeper," by Reginald Beale, F.L.S. Sections are devoted to construction of greens, upkeep of greens, weeding, feeding, and much valuable information is included within the pages of this manual.

Messrs. Abol, Beltring, Paddock Wood, Kent.—A list of this firm's famous insecticides, weed killers, garden syringes and fumigating materials.

Messrs. Cooper, Pegler and Co., 24, Christopher Street, Finsbury Square, London, E.C.2.—A list of spraying, lime washing and disinfecting machines.

Messrs. John Waterer, Sons and Crisp, Twyford, Berks.—A comprehensive and well classified list of hardy herbaceous perennials and rock plants. Excellent half-tone illustrations are included.

Messrs. Amos Perry, Hardy Plant Farm, Enfield.—An interesting list of new and rare alpines and perennials, as well as a special collection of hardy ferns, long lists of herbaceous phloxes, Michaelmas daisies, border plants, climbers and hardy lilies.

Messrs. William Watson and Sons, Killiney Nurseries, Killiney, Co. Dublin.—A catalogue of roses for all purposes.

Messrs. McHattie and Co., Chester.—Roses, fruit trees and shrubs of all kinds.

Messrs. Andrew Ireland and Hitchcock, Mark's Tey, Essex.—Bulbs and home-grown sweet peas. A good list of novelties is given.

Messrs. John E. Knight and Son, Wolverhampton.—Two illustrated catalogues on bulbs and roses which should interest all amateurs. Numerous colour blocks are included.

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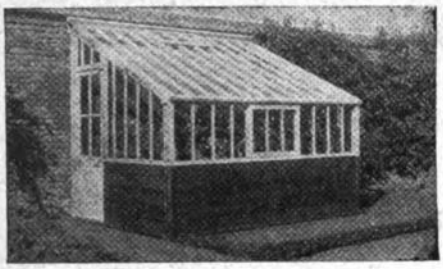

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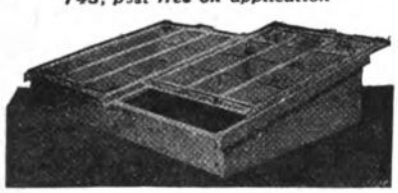

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Difficulties with Roses.

Referring to the article, "How to Succeed with Roses," in your issue of October 15th inst., the following has been my experience in trying to grow roses here during the last four years. I first of all started a small bed to hold about twenty-five, dug it deeply and put horse manure in the bottom spit, and a sprinkling of bone meal in each hole when planting. Every year since I have had to renew three or four of them and only about three have really made good growth. Last autumn I prepared another bed of similar size, this time putting in cow manure instead of horse and the bone meal as before. Out of the twenty-five roses, eleven died outright and practically all the others are miserably weak, with growths like match sticks. I must have purchased nearly one hundred roses, bushes and standards, during the last four years and those that are left are not what I call strong, healthy trees, and I cannot understand why they don't grow. Some of the old roses that were in when I went grow very strongly and bloom profusely; one sends up a shoot about 6ft. to 7ft. as thick as my thumb every other year. The roses purchased by me were all from well known growers and from various parts of the country, as when one lot failed I tried another locality. The soil is light and is down to practically solid chalk at about 18ins., but the rose beds, being raised, gives them a depth of about 2ft. I have planted tulips in one bed and narcissus in the other, but cannot see that the bulbs should have any harmful effect on roses. In addition to the manure when planting, I give them a mulch over the bed after the first crop of blooms, but did not do so this year with the new bed as they were so weak I thought it would probably be too much for them. I may say that I get excellent crops of all sorts of vegetables, also of fruit and the usual perennial and annual flowers do well. The conclusion I have come to is that the present day roses are not so strong or hardy as the older sorts, and this is rather borne out by my neighbour, who has lived here for about twelve years. He has some fine old standards which do splendidly, but any new ones he puts in are just as bad as mine.—A. S., Cheam, Surrey.

The fact that the old roses in your garden are growing strongly is quite sufficient to indicate that it is quite possible to grow others satisfactorily. There must be something wrong initially and it should be possible to get at the trouble. First of all, are you certain that the plants are put in firmly enough? If you take out the soil in the course of preparing your beds, are you certain that it has been thoroughly firmed up before planting? You are wrong in your conclusion as to the hardiness of modern roses. Some of the Pernetianas, such as Golden Emblem, are not quite hardy, but most of our new sorts are thoroughly so. Try your standards on rugosa stocks, and plant these very firmly as well as the bushes. The old plants that are doing well will be in soil that is thoroughly consolidated.

Hardy Hybrid Rhododendrons.

I am planting a small spinney of trees and want to border it with rhododendrons, in rather an exposed position. Some of the varieties chosen are Pink Pearl and Mrs. John Waterer. Can you give me names of other pinks and crimsons and reds that will tone nicely with these and yet be hardy.—K. W., Otley, Yorks.

We suggest that in addition to Rhododendrons Pink Pearl and Mrs. John Waterer, several good, hardy hybrids for your purpose are:—Alice, rose pink; Bagshot Ruby, ruby red; Cynthia, deep rose; Ascot Brilliant, red crimson; Lady Clementina Mitford, pale orange pink; Earl of Athlone, blood red; Mrs. E. C. Stirling, pink; and Noblianum, red.

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NEW PLANTS AT VINCENT SQUARE

THERE was quite an interesting collection of plants and flowers before the Floral Committee of the Royal Horticultural Society at Vincent Square on November 15th, when six of them received awards of merit. The outstanding novelty was Acacia Cunninghamii, a mimosa of such beauty that few would have disagreed if a first-class certificate had been the award. The lovely, richly fragrant sprays were shown by Mr. Lionel de Rothschild of Exbury, Southampton. It is, of course, an Australian tree, though the seeds were received from Kenya Colony. Nearly all the mimosas grow rapidly, and this is no exception to the rule. Mr. A. Bedford told us that the seed was sown four years ago, and already the plants were 30ft. high, under glass, at Exbury. Acacia Cunninghamii is quite distinct from any other species cultivated in this country. The ovate-acuminate leaves are only about 1½ins. long and 1in. across at the broadest part, and are soft and silky. The round stems are densely covered with fine white hairs, and the whole plant has a silvery grey appearance. The bright canary-yellow flowers are borne in fluffy balls on axillary racemes.

Two greenhouse carnations shown by Messrs. Allwood Brothers also received awards of merit. The variety named Cattleya Mauve is a large flower of an uncommon bright mauve colour, and is very fragrant. The petals have large numbers of tiny carmine spots, making the flower appear as though lightly dusted with carmine. Maud Allwood is a medium-sized flower of rich orange colouring with just sufficient lines of a darker shade to make it a fancy carnation, but the general colour impression is a rich orange self. It does not appear to possess any fragrance.

Three chrysanthemums were selected for award. These were the rich terra-cotta coloured single named Enid and the huge incurving Japanese variety Mrs. E. H. Pearce, which received the National Chrysanthemum Society's first-class certificate on the previous day, and Mrs. Elsie Crook, a large single, shown by Mr. G. Carpenter, West Hall Gardens, Byfleet. This is a shapely, substantial flower made up of several rows of broad, deep cream florets which have just a suggestion of peach-pink around the "eye" of the flower.

NEW CHRYSANTHEMUMS.

The Floral Committee of the National Chrysanthemum Society considered the merits of eighteen new varieties on November 14th last and awarded first-class certificates to the following:

ALBION.—This is a distinct improvement on the white-flowered Japanese varieties of useful, medium size. The flowers are of graceful habit and appear to possess great lasting properties. Shown by Mr. H. Shoesmith, jun.

ANNICE.—A very pretty little incurved variety which, though too small for the exhibitor has considerable decorative value. The flowers are of perfect incurved shape. The upper colour of the florets is a rosy shade, but it is the under surfaces which are seen in this type, and these are an uncommon and fascinating silvery lilac. Shown by Messrs. Cragg, Harrison and Cragg.

ENID.—A medium-sized to large single chrysanthemum of good round shape. The broad florets are of rich terra-cotta colour. Shown by Mr. H. Shoesmith, jun.

LEICESTER.—A large exhibition Japanese variety which has broad, bright chestnut florets which droop and curl attractively at the tips. The flower has a bright gold reverse. Shown by Mr. H. Woolman.

DARK LADY.—This Japanese variety is of graceful type. The colour is a beautiful ruby crimson. Shown by Messrs. Cragg, Harrison and Cragg.

MRS. E. H. PEARCE.—An enormous exhibition incurving Japanese variety which has little but its size to commend it. We suspect that, unless particularly well grown, the flowers would be shapeless. The variety was described officially as ivory, tinted with green. Shown by Mr. E. H. Pearce.

New Carnations Registered with the British Carnation Society.

LADY DARESBURY, delicate rosy blush. Registered by Messrs. Stuart Low and Co., Bush Hill Park.

LADY LAMINGTON, deep cerise. Mr. Thos. Turnbull, Lamington.

G. F. PHILIPS, crimson maroon. Messrs. Hewitt and Co., Solihull.

BLANCHE, white. Messrs. C. Englemann, Limited, Saffron Walden.

BATH BEAUTY, buff, marked carmine. Mr. Chas. Wall, Bath.

PETUNIA, light purple. Mr. Chas. Wall, Bath.

HERMIONE HASTINGS, deep salmon pink. Mr. T. Turnbull, Lamington.

THE HON. MRS. HASTINGS (Fancy), pink, round crimson spots. Mr. T. Turnbull, Lamington.

FELICITY HASTINGS, claret. Mr. T. Turnbull, Lamington.

GLORIOUS, which was raised by Mr. Chas. Wall of Bath, and which has been in commerce for some time, received the award of merit, with 76 points out of a possible 100. This was awarded at Southport Show.

CATALOGUES RECEIVED.

Messrs. E. W. Gurden and Son, Headington Hill, Oxford.—A catalogue of hardy plants suitable for the herbaceous border or wild garden.

Messrs. E. P. Dixon and Sons, Hull.—Comprehensive lists of British grown fruit trees, selected roses, evergreen and deciduous shrubs, climbers and herbaceous and rock plants.

Messrs. W. T. Unwin, Histon, Cambs.—A catalogue of sweet peas for autumn sowing, together with roses and bulbs for present planting. Seeds of annuals and perennials for autumn sowing also included.

Messrs. Bowell and Skarratt, Cemetery Road, Cheltenham.—Descriptive catalogue of alpines and other dwarf-growing plants suitable for the rock garden. Dwarf shrubs, bulbs for rockeries and hardy ferns also are listed.

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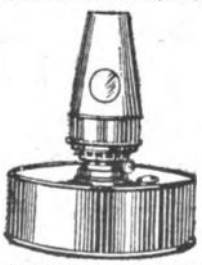

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Suits all soils producing very few small tubers.

Norna (A. Findlay).—A second early which can no longer be styled a new potato, but those who have not yet grown it should give it a trial. The tubers are long, oval-shaped, with very shallow eyes and on the point. The flesh and skin white. The foliage resembles that of Royal Kidney, but much more upright in habit of growth. The tubers are also more resistant to blight. Excellent quality and good for exhibition purposes.

Response (C. Brown).—Another of Messrs. Dobbie and Co.'s introductions. An early maincrop. The tubers are oval in shape, white with shallow eyes. Strong grower, producing an abundance of white flowers. For garden purposes this variety is certainly a great acquisition. Excellent quality and very resistant to blight. It is well worth growing and will be in great demand when it becomes better known.

The above selections are among which one would term the cream of the newer varieties. Unfortunately there are no early varieties on the list of recent introductions, but I believe we are on the eve of an early potato which is said to eclipse all first earlies, being a heavy cropper and immune from wart disease. Raised by Mr. D. McKelvie, Lamlash, Arran.—GEO. STUART, *Edinburgh*.

SERVICE BUREAU

All communications should be addressed to the Service Department, THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. A stamped addressed envelope and the coupon, that will always be found in each issue, must be sent with the enquiry.*

We have selected the following enquiries with their answers, as being of more general interest, and therefore worthy of publication.

Manuring a Kitchen Garden.

I shall much appreciate it if you can give me some information regarding the manuring of my kitchen garden, which measures 22ft. by 26yds. The subsoil is clay and the surface soil a fair tilth, but inclined to heaviness; the garden has been (to my knowledge) only lightly manured in 1925 and not at all in 1926, when, however, it was limed. The ground has been heavily cropped, has borne fairly well, but should do better. I can obtain farmyard manure, probably a mixture of cow and pig, and I wish to know how many farm cartloads (tip-up carts) I should require to do the job thoroughly? Or if it is easier to calculate, how many barrow loads? A hint or two as to the best method of storage to prevent wastage before digging in would be appreciated.—A. B., Northwood.

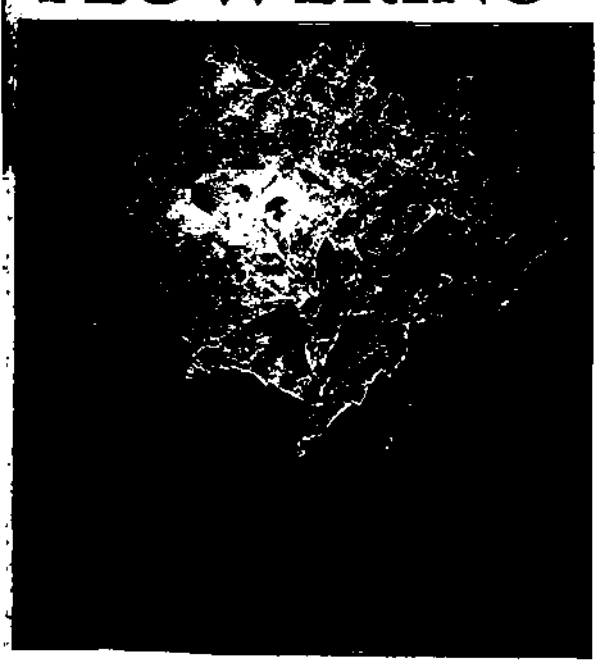
Your soil is of the kind that can be greatly improved by deep trenching, combined with liming and manuring. The autumn time is best for applying both lime and manure, but not both the same year. You would require five barrow loads of manure per square rod of ground. Manure is best kept in a cool, dry shed. If stored in the open, form a conical-shaped heap and cover with 6ins. of ordinary soil; make smooth to keep out rain.

Transplanting Currants.

A friend has given me eleven red and black currant bushes which, in her garden, shaded heavily by pine trees, have never borne fruit. I have planted them, and wish to know if, and when, they should be pruned, and if so, how? Do you think the change of soil and situation will have any effect on their fruiting? They look healthy enough, though their roots were curly, as if they had been cramped. I sowed some grass seed early in September. Should this be hand cut and weeded before next spring? —H. B., Bournemouth.

If the removal of the plants was carried out carefully we do not think the bushes will suffer any injury in the change of soil and situation. Black currants succeed in a fairly moist loamy soil, while red currants will do well in a moderately light one which has to some extent been enriched with manure. If you have not already done so, we suggest that you might apply a surface mulch of manure, with advantage, round the bushes. As regards pruning, black currants should only have the old and exhausted wood removed and any of the two year old shoots thinned out, so that the centre of the bushes can be kept open to promote air circulation. Red currants, on the other hand, should have all the old and weak growths cut out and the

FLOWERING SHRUBS



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lateral shoots shortened to within ½in. of the base. Again, endeavour to keep the centre of the bushes open. If the grass seed has germinated well and you think requires cutting, this can be done by hand very lightly. If there are any weeds, these can be removed by hand. There will be little more growth now this season, and, unless there is a fairly thick and bushy growth, it might not be advisable to cut until later on. The weeds, however, can be removed to prevent any spread of them.

How to Succeed with Roses.

Under the above heading, Mr. Taylor, in his article says, "The question of manuring is one of extreme importance, and I generally find that the average amateur is too often inclined to be far too generous in this respect to newly planted roses." Also, "If cow manure can be obtained, it ought to be applied very sparingly." In view of the above criticism and advice; and the difficulties of obtaining this valuable plant feeding material, I should be very pleased to know Mr. Taylor's reasons for advocating the following: (a) Putting 4ins. or 5ins. of manure at the foot of the bottom spit, and at the bottom of the top spit 3ins. of the same material. (b) Burying the manure, especially the major portion, so deep. (c) If two layers of manure making a total of 7ins. or 8ins. in thickness is using manure sparingly; what does Mr. Taylor recommend and apply as a heavy dressing? Using leaf-mould or decayed spent hop manure, instead of cow manure, Mr. Taylor supplements these with, "bone meal applied at the rate of 4oz. to the square yard of surface.' This rate of bone meal works out at over half a ton per acre. This is double the rate at which bone meal is usually applied both in gardens and on farms, therefore, this application is hardly within the meaning of "using manure sparingly." —J. H., Edinburgh.

(*a*) and (*b*) The reason for putting a layer of manure 3ins. thick 1ft. down and another layer 4ins. to 5ins. thick 2ft. down is to encourage the roses to establish themselves thoroughly in the soil. Once they have done that there is seldom any trouble. Subsequent dressings, as you will have noted, are applied from the surface. (*c*) Quite true, the total is 7ins. or 8ins. In a solid block in the trench the roses would suffer injury. A thin layer should be placed 1ft. down, and another about 2ft. down. The latter will induce the roots downwards and so help to establish the roses. If the roots penetrate right into a layer of 8ins. there would be trouble. As to bone meal. You are quite right, 4oz. to the square yard is, approximately, half a ton to the acre. In some nurseries they apply one ton to the acre. Four ounces of bone meal to the square yard, applied in conjunction with leaf mould or spent hops, is by no means generous for a first application.

Rambler Roses for an East Wall.

Would you advise me what are the best rambler roses to plant in order to hide an east wall.—R. A. H., King's Lynn.

We suggest that you plant the following climbing roses:—American Pillar, Alberic Barbier, Emily Gray, Hiawatha and Scarlet Climber. Any of these varieties grow well on trellis work, and would flourish in the position you mention.

AYR CHRYSANTHEMUM SHOW.

INAUGURATED twenty-one years ago Ayr Chrysanthemum Society holds the unique record of organising the only show of winter flowering plants, flowers, fruit and vegetables in the west of Scotland, and some idea of its success may be gained by the fact that the number of entries received for the exhibition held a fortnight ago exceeded those of the previous year by sixty-two, and necessitated the vegetables being accommodated in a room by themselves. All the classes in the chrysanthemum section were well filled, and despite the late and unfavourable season, the quality of the prize blooms was of a very high order.

The honours in the pot classes were shared by Mr. Robert J. Clark, Ayr, and Mr. George McCartney, Monkton, and while the former won the Pollock Cup with two well grown specimens of Yellow Thorpe, the latter was credited with providing the best pot plant in the show. In the amateur division, Mr. Norman Jamie, Ayr, who was the most successful competitor, secured six first prizes.

An encouraging feature of the show was the good record of Thomas Cload, gardener to Lieutenant-Colonel Charles Brook, Kinmont, Annan, in the open classes for cut blooms. This was his first appearance as a competitor and he carried off five of the leading events, including the Land of Burns Chrysanthemum Cup, in the big class for four vases of three blooms each, with exquisite examples of Mrs. H. Wells, Majestic, Julia, Princess Mary, Mrs. S. Chichester, Golden Champion, His Majesty and Mrs. B. Carpenter. His vase of the latter variety, which was first in the pink class, was awarded the special prize for the best bloom in the show. It measured 10ins. deep and 2½ft. in circumference.

Mr. R. Allan, Whiting Bay, Arran, excelled with twelve blooms shown on a board and he also won the crimson colour class with outstanding blooms of His Majesty, and on this occasion Mr. Cload had to be content with second place. The popular yellow variety, Mrs. R. C. Pulling, staged by Mr. J. W. Kerr, Ayr, was selected as the best bloom in the amateur section. It measured 24ins. in circumference, although the flower was not fully developed. Mr. W. Chorley, Irvine, carried off the silver cup for twelve blooms confined to Ayrshire, and Mr. R. Rae's successes included a rose bowl awarded to the best three vases of single chrysanthemums.

Entries in the fruit section were not numerous and except in the apple classes, the quality was under the average. Vegetables on the other hand were strongly represented and the principle prize winners were Messrs. John S. Cowan, James Dunlop, James Kerr and W. S. Muir, Ayr; G. McIlwraith, Buth; Chas. Ross, Tarbolton; M. Halbert, Maybole; James Dick, Kilmarnock; A. J. Dunlop, Galston; James Hay, Tarbolton; A. C. Simpson, Dalmallington; W. Manson, Whitletts; and Hugh Devlin, Dunure.

Awards of merit were made as follows:—Messrs. Marshall and Son, Ayr, for an interesting collection of twenty-nine varieties of chrysanthemums; Samsons, Limited, Kilmarnock (shrubs); Learmont, Hunter and King, Dumfries (fruit and berried shrubs); and Austin and McAslan, Glasgow (carnations, cyclamen and ferns). The latter exhibit produced a pretty colour effect.

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CONTENTS.

	PAGE
Vale—Atque Ave	805
Planting for Succession in Small Gardens	806
A Shrub Border for Autumn Effect ..	807
Notes on the Flower Garden	808
Gardening in Town and Suburb	810
Nurseries of the British Isles.—XV, Messrs. W. J. Unwin	811
For Scottish Gardens	813
Novelties in Sweet Peas	813
Fruit and Kitchen Garden	814
Greenhouse Notes	815

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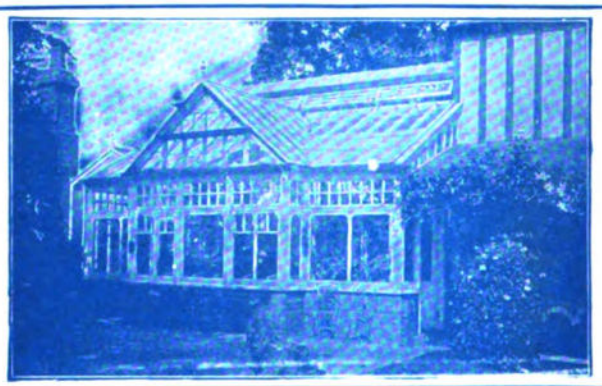

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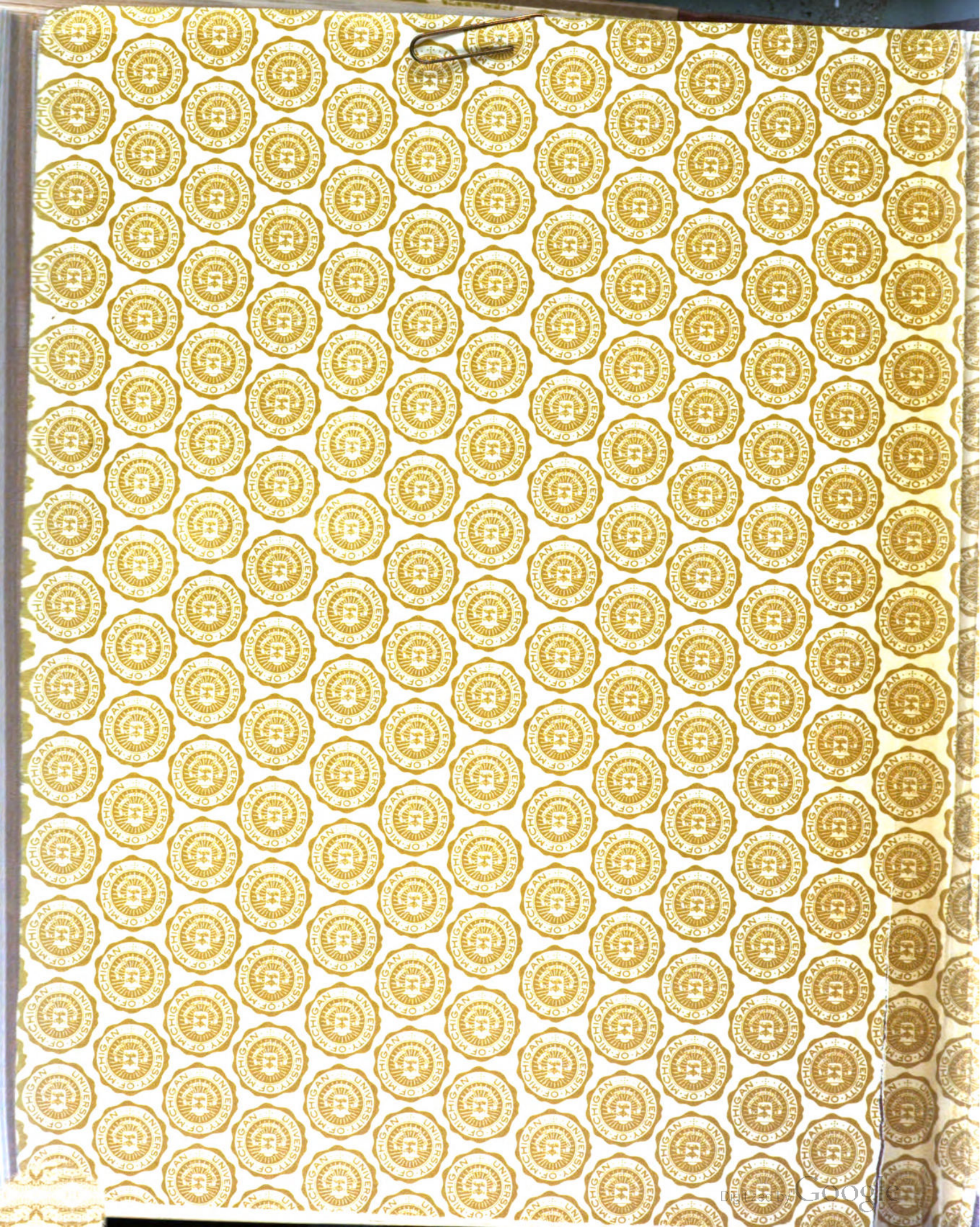
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